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REPORT

OF THE

COMMISSIONER OF PATENTS

FOR

THE YEAR 1868.

VOLUME I.

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REPORT

OF

THE COMMISSIONER OF PATENTS

FOR

THE YEAR 1868.

JANUARY 21, 1869.—Referred to the Committee on Patents and ordered to be printed.

DEPARTMENT OF THE INTERIOR,
Patent Office, Washington, D. C., January 21, 1869.

SIR: In compliance with the requirement of section 14 of the Patent Act, approved March 3, 1837, I have the honor to forward, herewith, my annual report upon the state and condition of the Patent Office.

* * * * * * *

With great respect, your most obedient servant,

ELISHA FOOTE,
Commissioner.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

UNITED STATES PATENT OFFICE,
Washington, D. C., January 20, 1869.

SIR: During the year ending December 31, 1868, there have been filed in the Patent Office 3,705 caveats, and 20,445 applications for patents; 12,959 patents have been issued, 419 have been re-issued, and 140 extended.

Compared with other years, the business of the office has been greater than that of any preceding period. The number of patents issued has been more than double the number of 1865, and more than three and one-half times that of 1858.

Since the Patent Office was first established its business has had a rapid growth in amount and in importance. In 1836, eight or ten persons were enough to transact all its business. Now between three and four hundred are required.

This increase has arisen in part from the growth of the country, but more from the stimulus that our patent laws have given to invention. The rewards which they have held out for successful improvements have increased in value with the progress of the country and with the more proper appreciation and greater security of patented property. A really successful invention now brings to its author a competency for life; and, as a consequence, the efforts of almost every class in community are directed in search of useful improvements.

In all those improvements of life to which patent laws relate our own age has witnessed more advance than all the preceding ages of the world taken together. One improvement seems to have begotten another. New fields for exploration have been constantly opening. And so far from reaching any limit of invention, we seem but on the way to other advances and improvements beyond our present comprehension.

I am, however, unable to attribute the extraordinary increase of the last few years in the number of patents issued to an equal increase of real improvements; for I apprehend that much of apparent prosperity has arisen from the allowance of patents that should never have been granted.

Several causes have contributed to this:

1st. A practice has recently grown up of subdividing inventions and issuing several patents for what was formerly embraced in one. It has served to increase the receipts of the office, but at the same time it has greatly increased the expenses of the inventor, not only for office fees, but for all the other expenditures incurred in obtaining patents. Had the practice been confined to separate and distinct improvements upon different parts of a machine, no exception could be taken to it; but it has been carried to the extent of several patents for the same invention, and patents for parts, which taken alone constituted no invention. It has tended to complicate and confuse patented rights, and, in some instances, I apprehend, been a source of frauds upon the public. I am not aware of any useful purpose that it has served, and believe it should be regarded with disfavor.

2d. Ample provisions have been made from time to time to guard against the improper rejection of applications for patents. In case of a refusal, the examiner in charge must assign his reasons for it, and specifically point out and refer the party to any previous device which, in his view, anticipates the invention. These grounds the applicant may controvert and have a second examination and a second decision. If still rejected, he may appeal to the board of examiners-in-chief, and have their investigation and decision upon his case. From the examiners-in-chief he may appeal to the Commissioner in person, and from the Commissioner to one of the judges of the supreme court of the District of Columbia.

An examiner's action receives no such scrutiny when he allows a patent. If he be pressed for time, or be indifferent as to his duties, he may put an end to his labors by a simple indorsement. If he lack capacity, there will then be no exposure of his ignorance or of the unsoundness of his views. It may have happened that in some instances the allowance of patents has served to cloak incapacity and indifference to duty.

I have endeavored to provide some means for reviewing briefly favorable decisions before patents were issued upon them, but found that the force in the office was inadequate to such work in addition to the perform-

ance of other indispensable duties. The only reliance we have to guard against the issue of improper patents is upon the ability and integrity of examiners and their assistants.

3d. The great increase of the business of the office has not been accompanied with a corresponding increase of the examining corps. Examiners, in some cases, have had thrown upon them an amount of labor they could not perform well; and, from the necessity of the case, patents have been hurriedly allowed without the full investigation they should have received. Formerly thirty or forty cases per month were deemed to be as many as an examiner with an assistant could thoroughly investigate and decide. Now it is not unusual for the same examiner, with two or three assistants, to dispose of as many as two hundred cases in the same time. In one room during the past year more applications have been decided than by the whole office in 1855, or in any previous year.

The granting of improper and illegal patents defeats every object and purpose of patent laws. It serves to mislead and deceive the public, and to subject them to the annoyance of unjust and invalid claims. It throws distrust and discredit upon patented property, and injures the salable value of meritorious inventions. Did the practice of the office fully accord with the intent of the law, and its investigations command the entire confidence of the community, so that business operations and the investment of capital could with safety be founded upon them, it would do more to enhance the rewards which the laws contemplate for valuable improvements than any other measure that could be devised.

To improve the qualifications of examiners and obtain a high order of ability in the examining corps, has been deemed by me an object of the first importance—one, indeed, upon which the success of the office greatly depended.

A committee of three gentlemen, selected for their ability and fitness for the purpose, was appointed to examine into the qualifications of such of the employés as had received their appointments without the examinations required by law. The duty has been, so far, faithfully and judiciously performed, and several changes in the office have resulted therefrom.

Great care has been exercised in supplying vacancies. The positions of examiners' clerks and assistants have been regarded as the schools of the office, in which to qualify gentlemen of ability and culture for higher places; and the qualities sought for in appointees to those positions have been such as, in due time, will make them able and well-instructed examiners.

Questions as to the patentability of inventions become more difficult with the increase in the number of previous devices. An examiner must familiarize himself with all the inventions that have been made in his class—not only in this country, but in Europe. Their great number and complexity have rendered the study of them a profession to be acquired by years of labor. An examiner's decisions involve nice questions of law, of science, and of mechanics. The more recondite principles upon which depend the practical success of processes and machinery, must be familiar to him. Large amounts of property often depend directly or indirectly upon his action. The ability and acquirements necessary to the proper discharge of his duties must be of a high order—scarcely less than those we expect in a judge of the higher courts of law.

I have been strongly impressed with the belief that the salaries now paid these gentlemen are inadequate to procure and retain the best services. They were prescribed in 1848. At that time they would obtain of all the necessaries and conveniences of life more than double of what

the same money will purchase now. For all practical purposes it is the same as if those salaries had been reduced one-half. As a consequence, gentlemen who have become experienced and expert in the performance of their duties resign their places for more lucrative employments. Within the short time that I have been connected with the office, several whose services were invaluable have resigned, and it is apprehended that others will soon follow their example. I think I know the wishes of inventors well enough to say that, if the sums they now pay into the Patent Office are insufficient, they would gladly increase them to secure prompt and correct action upon their cases.

The reduction in the value of the currency has also operated with hardship upon other employés of the office. So long as the funds of the office admit it without tax upon the country, it is believed that their salaries should be made to approximate what they were before 1861.

The act of Congress relative to the Patent Office passed in July, 1836, provided for a machinist at a salary of $1,200 per year. For several years thereafter this was construed to mean a real mechanic to repair and keep in order the models deposited in the office. Afterwards it came to imply a clerk to take charge of the model room. For many years past there have been few or no repairs of breakages and other injuries to models, and large numbers of them are now more or less damaged; some have been totally destroyed. To put them in proper order will require the labor of two men for several years.

Injuries should be repaired at the time they are done, and the persons causing them held accountable therefor. To do such work, and keep in repair furniture and other articles used in the office, would occupy two men continuously.

Certified copies for models are frequently ordered to be used in courts and for other purposes. To supply them the models are sent to some of the machine shops in the city. Questions involving large interests sometimes depend upon features shown in these models. They lose their force as testimony when suffered to go beyond the supervision of the office. Suspicions of changes have, in some instances, been strongly entertained.

It is believed that the interests of the office will be promoted by establishing within it a machine shop and employing competent persons to do the work I have indicated.

Notwithstanding the ample room for models in the Patent Office, the cases to hold them are now filled, and some of them crowded. More provision for them will have to be immediately made. By narrowing a little the present cases, an additional one may be placed between them and still leave sufficient space for passages. Another shelf may be added and some of the cases lengthened. By these means their present capacity may be more than doubled, and that will meet the wants of the office for many years to come. The time will eventually arrive when the models of those machines that have proved useless will have to be selected out and discarded.

It is recommended to employ a few men in the office to alter these cases and make new ones as fast as the wants of the office shall require and its funds permit.

The subject of copying the drawings of patented devices is one of much importance to the office. There are now about 85,000 of them, and they increase at the rate of about 14,000 per year. There are also about 30,000 belonging to rejected applications. They are kept in drawers in what is called the draughtsman's room. There the examiners and their assistants resort to make their investigations. By long experience in

examining drawings, they acquire the habit of readily detecting in them any device that may anticipate an invention. Those that are deemed pertinent to the subject of inquiry are taken to the examiners' rooms and submitted to the inspection of parties interested. On appeals they are used in the room of the examiners-in-chief, in the Commissioner's room, and by the judges of the supreme court of the District. For the purpose of being copied for the annual report, and for other purposes, they are also taken from the draughtsman's room. Sometimes two or three thousand are absent from their places, and this has led to errors much to be lamented on the part of examiners.

Were all the drawings which each examiner has to consult bound in volumes, and placed in his room, convenient for him to study and refer to without leaving his desk, it is estimated that he could dispatch twice as much business as he now does, and with greater accuracy and freedom from mistakes.

The great number of examiners and their assistants who have to resort to the draughtsman's room for investigations, and the liability of drawings getting misplaced by accident or by design, have rendered it imperatively necessary to the proper dispatch of business to exclude the public from that room. Patent agents and attorneys are thus deprived of their most ready means of investigating the novelty of inventions, and properly preparing specifications for patents. A convenient room for them, provided with copies of drawings, specifications, and other works of reference, would be a great convenience to the public, and promote the interests of the office.

Some of the drawings by long use have been much worn, and parts of them obliterated. Unless copied in time they will be lost.

Twenty copies of each specification are now printed. Were there copies of drawings to accompany them, they could be furnished to public libraries, where investigations could be made without the necessity of resorting to Washington.

The Patent Office makes exchanges of its publications with several foreign governments. From Great Britain we receive full copies of their specifications and drawings. In our library we can investigate an English invention as well as can be done in the Patent Office of Great Britain. The volumes are handsomely bound and now fill a large room in the library. For them we make but the poor return of a copy of our annual report.

The copies of drawings ordered and paid for by the public now number about seven hundred per month, and the expense to the office of making them is about $1,400 per month. A reduction of price would probably much increase the number.

Several plans have been proposed for making these copies. Were there as many as fifty of each drawing wanted, the new art of photo-lithography would afford by far the best and cheapest means. It makes a fac-simile of line drawings, of any size desired, and when once the stone is prepared copies may be taken with little expense. Specimens have been furnished the office which show the wonderful perfection to which this important art has attained. The only difficulty in the way lies in the great number of drawings to be copied. Without reference to those on hand, the current issues will amount to nearly fifty a day. At the low rate of ten cents apiece, without any charge for specifications, fifteen or twenty thousand per year would cost more than many libraries could well expend for them; and the fifty or sixty large volumes annually which they would make would soon require more room than many libraries would have to spare.

For a few copies, enough for the use of the Patent Office, ordinary photography, or some of the late processes, would afford a cheaper means of supplying them.

A photographic establishment in the Patent Office, adapted to copying drawings of large size, would supply the orders for them much more cheaply and accurately than by the method of tracing heretofore pursued.

The receipts of the Patent Office from July last to the 1st of January have exceeded its expenditures by about $53,000. It is confidently expected that for the year to come the excess will not be less than $100,000. By strict economy and system in the management of the office, it is believed that salaries may be raised, necessary changes and improvements made, and every needful expenditure to raise the office up to its highest state of efficiency and usefulness incurred, without any charge or tax upon the public.

The large and growing business of the Patent Office has thrown more labor on the Commissioner than any one person can perform. As some relief, it is recommended that appeals from the board of examiners-in-chief be made directly to the chief justice of the supreme court of the District of Columbia.

The act of Congress relating to the Patent Office, passed March 2, 1861, I have regarded as abolishing all fees on appeals from the Commissioner; and, since examining the subject, I have not felt myself authorized to receive or to pay over to the judges of the supreme court of the District the moneys they have been accustomed to receive for the hearing of such appeals. A different view of the act has been taken by one at least of the judges. It is important that the question should be settled; and it is respectfully submitted that it will be more in accordance with the general practice of the country, and better suited to the dignity of the court, to increase the salary of the judge performing the duties than to make his compensation dependent upon the business that comes before him.

The business of the Patent Office has outgrown the several acts creating it. It is difficult to find authority for the employment of several of its important and indispensable officers. The gentleman who superintends the preparation of abstracts and drawings for the annual report was appointed as an examiner. The Commissioner's assistant has the grade and compensation of a first assistant examiner. The gentleman who purchases the supplies of the office and upon whom its expenditures greatly depend is but a temporary clerk. More than one-half of the employés of the office are temporary clerks—an office intended by statute for copyist merely. A revision of the several acts, with proper amendments, would conduce much to the interests of the office and the convenience of the public.

I have deemed it advisable to make several changes in the practice of the office with a view of simplifying its proceedings and producing more accuracy and promptness in its business. As was to be expected, some inconvenience was at first felt; but experience has justified the changes, and with few exceptions they are now universally approved and commended. System and accountability has been introduced in reference to the expenditures of the office. The mode of receiving and accounting for moneys paid into the office has been entirely changed, and such checks provided as will, it is hoped, prevent mistakes and errors. In reference to applications for patents, the principle adopted is to aid and assist the applicant in obtaining what properly belongs to him rather

than to obstruct or delay him. The objects of our patent laws will, it is believed, be best attained by securing to each inventor, with as little expense and trouble as possible, the full benefits of his invention so far as he may be entitled to them.

Respectfully submitted:

ELISHA FOOTE,
Commissioner.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

PATENTEES AND PATENTS.

ALPHABETICAL LIST

OF

PERSONS WHOSE PATENTS FOR INVENTIONS AND DISCOVERIES HAVE EXPIRED DURING THE YEAR 1868.

No.	Name and invention.	Date.	Class.
11,592	Abbe, Robert M. Hog pens	Aug. 29, 1854	I.
13,560	Abbott, Amos. Heremoters	Sept. 20, 1854	VII.
11,057	Abos, Casimir. Spark arresters	June 13, 1854	V.
11,958	Absterdam John. Arrangement of means for lubricating the cylinders of steam engines	Nov. 21, 1854	VI.
10,573	Absterdam, John, and William Burnett. Use of fusible disks in steam boilers	Feb. 28, 1854	VI.
10,703	Absterdam, John, and William B. Merrill, assignors to J. A Woodbury and William B. Merrill. Device for tonguing and grooving tapering boards	Mar. 28, 1854	XIV.
11,986	Adams, Alden. Hay and cotton presses	Nov. 28, 1854	XII.
10,438	Adams, Calvin. Copying press	Jan. 24, 1854	XVII.
11,685	Adams, Henry W. Breech-loading fire-arms	Sept. 19, 1854	XIX.
10,851	Adams, John W. Cotton	May 2, 1854	III.
10,952	Adams, Ransom P. Excavator for fence posts	May 23, 1854	IX.
11,405	Adler, Elkan. Machinery for making matches	Aug. 1, 1854	IV.
11,636	Ager, Wilson. Mill-stone dress for cleaning grain	Sept. 5, 1854	XIII.
11,637	Akins, William H. Flour bolt	Sept. 5, 1854	XIII.
10,728	Akins, William H., assignor to Samuel J. Parker. Cops for sewing machine	Apr. 4, 1854	III.
11,563	Alburger, Charles M. Hydrant, hose, hitching post, and pavement washer	Aug. 22, 1854	XI.
11,738	Aldrick, Arad, assignor to John L. Cooper and Arad Aldrick. Machines for cutting irregular forms	Sept. 26, 1854	XIV.
11,922	Allen, Edwin. Machinery for carving stone	Nov. 14, 1854	XV.
11,107	Same.....Veneer polisher	June 20, 1854	XIV.
11,006	Allen, Henry. Machine for dressing polygonal timber	June 6, 1854	XIV.
10,768	Same.....Boring and mortising machine	Apr. 11, 1854	XIV.
10,853	Allender, John. Operating catches in tool holders	May 2, 1854	II.
11,959	Alvord, Clark. Hand brick molds	Nov. 21, 1854	XV.
11,110	Ambler, D. C. Setting of steam boilers	June 20, 1854	VI.
11,109	Same.....Quartz crushers	June 20, 1854	II.
11,884	Ambler, Daniel C. Sewing machines	Nov. 7, 1854	III.
10,530	Ambler, George B. Saddle trees	Feb. 14, 1854	XVI.
10,675	Ament, C. V. Devices for preserving hens' eggs in the nest	Mar. 21, 1854	I.
12,048	Ames, Nathan. Polygraph	Dec. 12, 1854	XVIII.
12,049	Same.....Polygraphs	Dec. 12, 1854	XVIII.
11,150	Amory, Jonathan, and William F. Parrett. Furnace of steam boiler	June 27, 1854	VI.
11,452	Anderson, William. Harrow	Aug. 1, 1854	I.
10,538	Andrews, Frederick T. Method of operating saws	Feb. 21, 1854	XIV.
12,084	Andrews, John, assignor to J. Andrews, N. A. Richardson, and Gardner Symmes. Seed planters	Dec. 12, 1854	I.
10,439	Andrews, R. & A. F. Wood saws	Jan. 24, 1854	XIV.
10,616	Andrews, Robert W. Britannia tea and coffee pots	Mar. 7, 1854	XVII.
10,720	Andrews, Solomon. Drop and die forging and punching machines	Apr. 4, 1854	II.
11,348	Same.....Mail-bag labels	July 25, 1854	XXII.
	Same.....Manner of constructing padlocks for mail-bags and other uses, called the clam-shell padlock. (Extended Nov. 15, 1854)	Dec. 5, 1840	
10,465	Anthony, Henry T, Presses for making miniature cases	Jan. 31, 1854	XVIII.
10,953	Anthony, Henry T., and Frank Phœbus. Apparatus for the manufacture of daguerreotype cases, &c	May 23, 1854	XVIII.
10,664	Appleton, Charles F. Processes for dyeing	Mar. 21, 1854	IV.
10,677	Same.....Dyeing apparatus. (Patented in England Jan. 7, 1854)	Mar. 21, 1854	IV.
10,978	Same.....Dyeing processes	May 30, 1854	IV.
10,797	Armitage, Thomas. Portable ladder or fire escape	Apr. 18, 1854	XXII.
10,769	Arnold, Francis. Lanterns combining foot stoves, &c	Apr. 11, 1854	V.
10,852	Arnold, William E. Couplings in endless chain horse-powers	May 2, 1854	XIII.
11,513	Arthur, Robert. Closing the mouths of air-tight bottles, &c	Aug. 15, 1854	XXII.
10,490	Asay, A. M. Dental chairs	Feb. 7, 1854	XX.
10,715	Ashcroft, Edward H. Track cleaners for railroads	Mar. 28, 1854	X.
11,055	Ashcroft, Thomas. Operating cut-off valves for steam engines	June 13, 1854	VI.
11,851	Atherton, Nathan. Steam engines	Oct. 31, 1854	VI.
11,714	Aubin, N. Gas generators	Sept. 26, 1854	IV.
10,787	Aulick, George. Car couplings	Apr. 18, 1854	X.
10,819	Avery, John P. Mode of securing stones in foundations	Apr. 25, 1854	IX.
11,921	Avery, John P., assignor to Joseph B. Bromley. Stone-dressing machine	Nov. 7, 1854	XV.
10,880	Avery, Otis. Sowing machines	May 9, 1854	III.
10,954	Babbitt, Isaac. Hones. (Patented in England March 30, 1854)	May 23, 1854	XXII.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,853	Babcock, A. M. and G. H. Press for printing in colors	Oct. 31, 1854	XVIII.
11,466	Babcock, William S. Dumping wagons	Aug. 8, 1854	X.
11,987	Bachstein, Gottleib. Arrangement of device for applying power to fire engines	Nov. 28, 1854	XI.
10,562	Bachelor, S. B. Scythe fastenings	Feb. 28, 1854	I.
11,686	Badger, Elliot C. Machines for dressing mill-stones	Sept. 19, 1854	XIII.
11,854	Baeder, Charles. Knife die for cutting leather straps for whips	Oct. 31, 1854	XXII.
10,441	Bailey, Charles P. Dumping cars	Jan. 24, 1854	X.
10,698	Bailey, C. P. Head-rest for portable chairs	Mar. 28, 1854	XVII.
11,772	Bailey, Charles P. Railroad car seats	Oct. 10, 1854	X.
12,088	Same.....Apparatus to a machine for cutting irregular forms.	Dec. 19, 1854	XIV.
11,349	Bailey, Thomas R. and George. Device in machines for cutting round tenons	July 25, 1854	XIV.
11,408	Baker, Collins B. Brick presses	Aug. 1, 1854	XV.
10,922	Baker, Frank. Lathe for irregular forms	May 16, 1854	XIV.
11,821	Baker, Henry F. Plows	Oct. 24, 1854	I.
11,960	Same.....Papering walls	Nov. 21, 1854	XVIII.
10,699	Balding, Anson. Submarine scoops	Mar. 28, 1854	IX.
10,919	Baldwin, D. P. Shower bath	May 16, 1854	XVII.
11,283	Baldwin, Eden A., 2d, administrator of Eden Baldwin, deceased. Fire-arms	July 11, 1854	XIX.
11,467	Baldwin, Eden A. Tubular bridges	Aug. 8, 1854	IX.
10,955	Baldwin, Hiram. Ratchet lever	May 23, 1854	XII.
10,514	Baldwin, M. W., and David Clark. Arrangements of vertical tube feed-water heaters in locomotive smoke-stacks	Feb. 14, 1854	VI.
10,731	Ball, Eastman R. Bedstead fastenings	Apr. 4, 1854	XVII.
11,264	Ball, Jonathan. Water pipes	July 11, 1854	XI.
11,923	Ball, Levi B. Smut machines	Nov. 14, 1854	VIII.
11,983	Ball, Thomas C., assignor to Nathaniel Lamson. Scythe fastening	Nov. 21, 1854	I.
10,754	Ball, William. Mills for grinding ores, &c	Apr. 11, 1854	II.
10,799	Ballard, James. Slitting gauges	Apr. 18, 1854	XIV.
10,854	Ballard, William. Ships' knees	May 2, 1854	VII.
11,007	Same.....Bent timbers for ship frames	June 6, 1854	VII.
10,491	Bancroft, Edward, and Wm. Sellers. Turning lathes	Feb. 7, 1854	XIV.
11,924	Bancroft, William. Cultivators	Nov. 14, 1854	I.
10,629	Bard, Edwin M. Mold boards for plows	Mar. 14, 1854	I.
11,855	Barker, Joseph. Grain winnowers	Oct. 31, 1854	I.
11,114	Barlow, Thomas H. Cut-nail machines	June 20, 1854	II.
11,804	Barnes, Joseph T. Power looms	Oct. 17, 1854	III.
11,805	Barnum, Daniel. Machinery for forming hat bodies	Oct. 17, 1854	III.
10,489	Barrows, Ebenezer. Rotary engines. (Patented in England July 3, 1851)	Feb. 7, 1854	VI.
10,980	Barsanter, John H. Knitting machines	May 30, 1854	III.
10,418	Barth, John H. Bedsteads	Jan. 10, 1854	XVII.
10,531	Bartholomew, Frederick H. Water closets	Feb. 14, 1854	XXII.
11,288	Bartlett, Russell D. Machine for making the heads of shovel handles	July 11, 1854	II.
11,465	Same.....Machine for making bricks	Aug. 8, 1854	XV.
10,532	Barton, Jason. Horse bells	Feb. 14, 1854	XXII.
10,539	Same.....Mode of attaching horse bells to straps	Feb. 21, 1854	XXII.
10,908	Bass, William L. Tables for ships' cabins	May 16, 1854	VII.
10,537	Bassett, Joel R., assignor to C. H. Williams. Valves for pumps	Feb. 14, 1854	XI.
11,115	Bassett, Mark S. Flour sifter and renovator	June 20, 1854	XIII.
11,822	Same.....Sifting and bolting	Oct. 24, 1854	XIII.
11,852	Bassford, Abraham. Key for tuning piano-fortes	Oct. 31, 1854	XVIII.
10,496	Batchelder, John M., and M. G. Farmer. Mode of making battery connection with an electro-magnetic coil on the traveling carriage of a telegraphic register	Feb. 7, 1854	VIII.
11,058	Batchelder, John M. Insulating telegraphic wires	June 13, 1854	VIII.
11,744	Batchelder, Thomas. Machines for manufacturing frames of wood-saws	Oct. 13, 1854	XIV.
10,440	Batcheller, Lucien B. Railroad car brakes	Jan. 24, 1854	X.
11,925	Bates, Henry. Slide valves for the exhaust steam	Nov. 14, 1854	VI.
10,425	Bates, Perry G. Spiral or worm-joint hinge	Jan. 17, 1854	III.
11,407	Bauersfeld, Charles F. Bits for carving machines	Aug. 1, 1854	II.
11,151	Bauman, Jesse. Cider mills	June 27, 1854	XIII.
10,719	Baxendale, James, assignor to J. Baxendale and J. Ferguson. Method of operating the doctors of printing cylinders	Mar. 28, 1854	XVIII.
11,593	Bazemore, William T. Cultivators	Aug. 29, 1854	I.
11,512	Bazin, James A., assignor to A. B. Ely. Braiding machines	Aug. 8, 1854	III.
11,585	Same.....Cog gearing	Aug. 22, 1854	XIII.
11,543	Beach, Henry H. Winnowers	Aug. 15, 1854	I.
10,956	Beach, John. Cheese hoops	May 23, 1854	I.
10,979	Beal, William. Corn crushers	May 30, 1854	XIII.
11,715	Beals, Fordyce. Fire-arms	Sept. 26, 1854	XIX.
11,152	Beatty, Charles H. Coffee mills	June 27, 1854	XVII.
10,656	Beaumont, Victor. Machine for distributing types	Mar. 21, 1854	XVIII.
11,743	Same.....Steam gauge	Oct. 3, 1854	VI.
11,823	Bedwell, John D. Smut machine	Oct. 24, 1854	XIII.
11,926	Beebe, William. Double cylinder boilers for hot-water apparatus	Nov. 14, 1854	V.
11,433	Bee, Benjamin F. Feed-water apparatus to steam boilers	Aug. 1, 1854	VI.
11,016	Beers, Smith. Method of turning hubs, &c	June 6, 1854	XIV.
11,927	Bell, Martin, and E. B. Isett. Furnaces for making iron direct from the ore	Nov. 14, 1854	II.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10,581	Bell, Solyman. Harvesters	Feb. 28, 1854	I.
11,928	Bell, William. Lamp caps	Nov. 14, 1854	V.
10,466	Benedict, Philander H. Daguerreotype plate holder	Jan. 31, 1854	XVIII.
10,662	Benton, R. P. Machine for dressing spokes	Mar. 21, 1854	XIV.
15,159	Bertram, William. Welding iron plates	Dec. 21, 1854	II.
10,630	Berry, James. Method of constructing molds for making printing blocks	Mar. 14, 1854	XVIII.
11,101	Bevan, John. Railroad car ventilator	June 13, 1854	V.
11,594	Biddle, William. Washing machines	Aug. 29, 1854	XVII.
11,803	Bigelow, E. B. Loom for weaving cut-pile fabrics. (Patented in England December 31, 1851)	Oct. 17, 1854	III.
11,350	Bill, H. N. and J. C. Method of securing axe helves, &c	July 25, 1854	XIV.
10,632	Billings, Charles W. Seed planters	Mar. 14, 1854	I.
11,316	Bird, Will E. Steam boiler	July 18, 1854	VI.
12,406	Bissell, Levi. Improvement in metallic springs	Aug. 20, 1854	X.
11,458	Black, Horatio M. Machine for cleaning and drying grain	Aug. 1, 1854	XIII.
11,687	Black, William. Steam engines	Sept. 19, 1854	VI.
10,648	Blake, Mansell, assignor to M. Blake, J. B. McAlester and E. Blake. Folding blinds	Mar. 14, 1854	IX.
10,798	Blake, Philos. Oyster knife	Apr. 18, 1854	XVII.
10,497	Blanchard, Thomas. Machines for polishing plow handles and other articles	Feb. 7, 1854	I.
10,540	Bliss, J. W. Window cord pulleys	Feb. 21, 1854	XII.
10,663	Bliss, Jeremy W. Lifting jacks	Mar. 21, 1854	XII.
12,018	Blodgett, G. S., and P. T. Sweet. Ovens for baking	Dec. 5, 1854	V.
10,386	Blodgett, Sherburn C. Hemming and cording umbrella covers. (Antedated July 3, 1853)	Jan. 3, 1854	XXI.
11,111	Blondin, Gabriel. Process for treating paints	June 20, 1854	IV.
11,112	Same.....Composition paint	June 20, 1854	IV.
11,353	Boeklen, R., and H. T. Brown. Bottles	July 25, 1854	XXII.
10,793	Boggett, Wm., and G. B. Pettit. Heating, warming, and cooking by gas. (Patented in England October 22, 1851)	Apr. 18, 1854	V.
11,116	Bone, Joseph. Grain winnowers	June 20, 1854	I.
12,050	Bonelli, Gaetan. Operating looms by electricity. (Patented in France August 15, 1853)	Dec. 12, 1854	III.
11,468	Bonney, William. Process of imitating marble and other substances	Aug. 8, 1854	IV.
10,732	Booth, Solomon G. Machines for corrugating sheet metal	Apr. 4, 1854	II.
	Bosworth, G. W., *et al.* (*See* D. Wilson, assignor.)		
10,467	Boughton, Enos. Cultivators	Jan. 31, 1854	I.
10,800	Bouton, R. M. Faucet	Apr. 18, 1854	XI.
11,824	Bowen, Archibald. Straw and grain separator	Oct. 24, 1854	I.
11,825	Boyack, Robert. Machinery for softening hemp and flax	Oct. 24, 1854	III.
10,468	Boyd, William. Mode of fixing likenesses in monuments	Jan. 31, 1854	XVIII.
11,318	Boynton, Leander W. Machines for preparing flocks for felting	July 18, 1854	III.
11,659	Same.....Machines for cleaning wool	Sept. 12, 1854	III.
11,773	Same.....Machinery for making hat bodies	Oct. 10, 1854	III.
11,469	Boynton, Nathaniel A. Air heating stoves	Aug. 8, 1854	V.
11,545	Same.....Hot air furnace	Aug. 22, 1854	V.
12,014	Boynton, Osgood G., assignor to Nehemiah Hunt. Guide for sewing machine	June 6, 1864	III.
11,531	Bradley, William. Nutmeg graters	July 25, 1854	XVII.
11,514	Bradshaw, John A. Machines for pegging boots and shoes	Aug. 15, 1854	XVI.
11,774	Same.....Shingle machine	Oct. 10, 1854	XIV.
11,018	Brady, Alfred. Vault covers	June 6, 1854	IX.
10,983	Breaer, Abel. Fastening the disk and rims of car wheels	May 30, 1854	X.
11,885	Brennan, John B. Locks	Nov. 7, 1854	II.
10,419	Brewer, Harvey. Torch lamps	Jan. 10, 1854	V.
11,248	Brewer, John W. Arrangement for moving and managing balloons	July 1, 1854	XI.
11,547	Bridendolph, Benjamin. Hominy mills	Aug. 22, 1854	XIII.
11,660	Bridgham, H. C., and James H. Stewart. Apparatus for turning the leaves of books	Sept. 12, 1854	XVIII.
11,717	Briggs, Schuyler, and John G. Talbot. Neck yoke	Sept. 26, 1854	I.
11,409	Bristol, Richard C. Steam boiler tubes	Aug. 1, 1854	VI.
11,546	Same.....Rotary engines	Aug. 22, 1854	VI.
10,587	Brodhead, James F., assignor to Thomas Ritch. Forcep saw-sets	Feb. 28, 1854	XIV.
11,515	Brooke, William. Glass molds	Aug. 15, 1854	XV.
11,596	Brooks, Lebbeus. Spirit levels	Aug. 29, 1854	VIII.
10,770	Brooks, Stephen P. Iron frame upright piano-forte	Apr. 11, 1854	XVIII.
11,886	Broughton, Albert. Machinery for polishing stone. (Antedated October 24, 1854)	Nov. 7, 1854	XV.
11,302	Brown, Adolphe and Felix. Hat shapers	July 4, 1854	XVII.
11,658	Brown, Alexander H. Brick presses	Sept. 5, 1854	XV.
12,155	Brown, William Hogg. Suspender purchases	Oct. 2, 1854	XII.
11,001	Brown, Charles F. Instruments for taking deep-sea soundings	June 6, 1854	VII.
11,250	Same.....Blasting rocks	July 11, 1854	IX.
11,191	Brown, David, assignor to J. F. Clark and D. Brown. Machines for molding for metal castings	June 27, 1854	II.
10,943	Brown, Edward, assignor to "The Scovill Manufacturing Company." Machines for making hinges	May 16, 1854	II.
11,856	Brown, Ephraim. Burglars' alarm	Oct. 31, 1854	XXII.
11,470	Brown, Isaac W. Fire-arms	Aug. 8, 1854	XIX.
11,317	Brown, Israel F. Cotton gin ribs	July 18, 1854	III.
10,686	Brown, J. W., assignor to Samuel M. Folsom. Rotary smoothing iron	Mar. 21, 1854	XVII
10,464	Brown, John E., and S. S. Bartlett. Mortising machine	Jan. 24, 1854	XIV.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,929	Brown, Job. Cultivators	Nov. 14, 1854	I.
10,400	Brown, L. A. and J. W. Press for veneering	Jan. 10, 1854	XIV.
11,826	Brown, Samuel W. Machinery for cleaning cotton	Oct. 24, 1854	III.
12,089	Same.....Condensers	Dec. 19, 1854	VI.
11,404	Brown, Thomas. Arrangement of means for working and stoppering chain cables. (Patented in England April 20, 1847)	July 25, 1854	VII.
10,820	Brown, Thomas W. File or bill holder	Apr. 25, 1854	XXII.
10,972	Brown, Thomas W., assignor to William W. Mead. Button-hole cutters	May 23, 1854	XXI.
11,595	Bruce, Gardner A. Maize harvesters	Aug. 29, 1854	I.
11,955	Bruce, George. Casting type	Nov. 14, 1854	XVIII.
11,487	Bryent, Walter, assignor to John B. Kelsey. Air-heating furnace	Oct. 24, 1854	V.
10,771	Buel, Julio T. Attachment for fish-hooks and artificial flies	Apr. 11, 1854	XXII.
10,658	Bulkley, Ralph. Compounds for extinguishing fires	Mar. 21, 1854	IV.
	Same.....Life-preserver. (Extended May 6, 1854)	May 8, 1840	
11,207	Bulkley, Henry G. Construction of salt evaporators	July 4, 1854	IV.
11,597	Bullard, E. W. Window-blind holder	Aug. 29, 1854	IX.
10,570	Bullock, Smith W., assignor to Stillman, Allen & Co. Quartz crushers	Feb. 28, 1854	II.
11,464	Bullock, William, assignor to Burton G. Morss. Seed planter	Aug. 1, 1854	I.
11,206	Bundy, Galusha J. Potato diggers	July 4, 1854	I.
10,945	Burch, Joseph. Constructing ships for safety and escape	May 23, 1854	VII.
10,533	Burdick, J. L. Machinery for paging blank books	Feb. 14, 1854	XVIII.
10,822	Burdine, R. Rotary pump	Apr. 25, 1854	XI.
11,319	Burgess, Hugh. Coating iron with brass or copper. (Patented in England February 17, 1854)	July 18, 1854	II.
13,565	Burgess, William. Mowing harvesters	Aug. 16, 1854	I.
10,589	Burnett, William. Arrangement of fusible plugs or disks for steam boilers	Mar. 7, 1854	VI.
11,688	Burnham, James S. Maize harvesters	Sept. 19, 1854	I.
11,345	Burns, Mary, administratrix of Robert Burns, deceased. Carriage springs for light vehicles. (Patented in England June 7, 1853)	July 18, 1854	X.
10,654	Burrage, Jonathan, assignor to J. Burrage and F. W. Newton. Processes for making varnishes	Mar. 14, 1854	IV.
10,442	Burt, Enoch. Fancy-check looms	Jan. 24, 1854	III.
10,915	Burt, Henry, assignor to Newark Patent Hosiery Company. Knitting machines	May 16, 1854	III.
11,238	Same.....same	July 3, 1854	III.
11,301	Burwell, Alfred. Machinery for stretching shoes, &c	July 11, 1854	XVI.
10,821	Buss, Charles. Fire-arms	Apr. 25, 1854	XIX.
11,957	Cadwell, J. W. Arrangement of lever and catch for tow lines of canal boats	Nov. 14, 1854	VII.
11,516	Cahill, John H. Hot-air range and side ovens	Aug. 15, 1854	V.
10,678	Cameron, David A. Belt saws	Mar. 21, 1854	XIV.
11,003	Campbell, Henry R. Combination of railroad tracks and wheels	June 6, 1854	IX.
10,401	Campbell, Leonard. Cotton gins	Jan. 10, 1854	III.
11,848	Campbell, William, assignor to W. Campbell and E. W. Shippen. Bearings for loose pulleys	Oct. 24, 1854	XII.
10,665	Cary, Augustus C., and Jeremiah Smith. Hydraulic engine	Mar. 21, 1854	XI.
11,413	Carhart, Jeremiah. Method of uniting plates of metal of unequal thickness	Aug. 1, 1854	II.
11,661	Carpenter, D. Surface condensers for marine engines	Sept. 12, 1854	VI.
11,775	Carpenter, Jesse. Spinning rope and cordage	Oct. 10, 1854	III.
11,354	Carpenter, L. B. Lamp fastenings	July 25, 1854	V.
11,777	Carpenter, Samuel. Machine for turning hubs, tool handles, &c	Oct. 10, 1854	XIV.
11,776	Carpenter, Stephen D. Rotary pump	Oct. 10, 1854	XI.
10,667	Carpenter, Thomas. Concave clover hullers	Mar. 21, 1854	I.
11,192	Carter, Ira. Pump	June 27, 1854	XI.
10,775	Carter, Thomas. Seed planters	Apr. 11, 1854	I.
11,414	Carton, John, and Joseph Briggs. Hot-air furnaces	Aug. 1, 1854	V.
10,513	Caryl, A. H. Picking and cleaning flax	Feb. 14, 1854	III.
10,882	Casselman, William J. Hub borer	May 9, 1854	XIV.
11,286	Casselman, William J., assignor to E. A. Swan. Machine for carving marble, stone, &c	July 11, 1854	XV.
11,039	Caun, William. Cleaning bolts of flouring mills	June 6, 1854	XIII.
11,412	Cayce, William. Door locks	Aug. 1, 1854	II.
11,299	Chadwick, William P. Oil or blubber presses	July 11, 1854	XII.
10,374	Chamberlain, Dexter H., assignor to Chamberlain & Hunt. Mode of banding pulleys for saws	Jan. 3, 1854	XIV.
10,499	Chamberlain, Dexter H. Bit or drill stocks	Feb. 7, 1854	II.
10,500	Same.....Tool holders	Feb. 7, 1854	II.
10,666	Same.....Screw wrenches	Mar. 21, 1854	II.
11,633	Chamberlain, Dexter H., assignor to William R. Meshural. Lard lamps	Aug. 29, 1854	V.
10,359	Champion, Samuel and Thomas. Feathering paddle wheels	Jan. 3, 1854	VII.
11,322	Same.....Bridges	July 18, 1854	IX.
11,031	Same.....Feathering paddle wheels	June 6, 1854	VII.
11,356	Chapin, Thomas F. Plow	July 25, 1854	I.
11,741	Chapman, Abner. Paddle wheels	Oct. 3, 1854	VII.
11,472	Chapman, Nathan. Cotton presses	Aug. 8, 1854	XII.
11,930	Chapman, Thomas M. Device for adjusting mill saws	Nov. 14, 1854	XIV.
11,471	Chapman, William S. Preventing rattling in carriages	Aug. 8, 1854	X.
10,958	Chase, Henry A. Counterpoise to cast locomotive wheels	May 23, 1854	X.
10,700	Chatfield, Thomas W. Hot-air furnaces	Mar. 28, 1854	V.
11,410	Cheny, G. W. Stone saws	Aug. 1, 1854	XVI.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10,515	Chichester, Lewis S. Machine for cleaning wool	Feb. 14, 1854	III.
10,772	Same ..... Dressing flax and hemp	Apr. 11, 1854	III.
11,355	Same ..... Cotton gins	July 25, 1854	III.
11,059	Childs, Samuel. Stills for distilling fatty bodies	June 13, 1854	IV.
10,563	Chittenden, John W., and William C. Mead. Machines for splitting hoops	Feb. 28, 1854	XIV.
12,090	Chubb, Thomas J. Metal separators	Dec. 19, 1854	II.
10,855	Churchman, W. H. Hydraulic heaters	May 2, 1854	V.
10,928	Cilley, N. W. Method of hanging gates, &c	May 16, 1854	IX.
11,639	Clareni, Charles. Attaching pulleys to shafts	Sept. 5, 1854	XII.
10,957	Clark, Alfred T. Mode of balancing window sashes	May 23, 1854	IX.
10,399	Clark, David. Oil cups for steam engines	Jan. 10, 1854	VI.
12,092	Clark, D. W., and S. H. Gray. Double-acting force pumps	Dec. 19, 1854	XI.
11,015	Clark, Edwin and James M. Flouring mills	June 6, 1854	XIII.
11,037	Clark, Harrison O. Lathe	June 6, 1854	XIV.
11,656	Clark, Henry L. Doors of baggage cars	Sept. 5, 1854	X.
11,358	Clark, John. Arrangement of spring and spring catch for closing doors	July 25, 1854	II.
11,640	Same....Chimney caps	Sept. 5, 1854	V.
11,078	Clark, Lyman, assignor to L. Clark and Joseph Sawyer. Instrument for trimming welts of boots, shoes, &c	June 13, 1854	XVI.
10,387	Clark, Patrick. Regulating the damper of steam boilers, by the pressure of the steam	Jan. 3, 1854	VI.
11,030	Same..... Water-level indicator for steam boilers	June 6, 1854	VI.
12,019	Same..... Steam-boiler alarms	Dec. 5, 1854	VI.
11,357	Clark, Wm. Bottles	July 25, 1854	XXII.
12,091	Clarke, Major B. Cleaning seed cotton and feeding it to the gin	Dec. 19, 1854	III.
10,623	Clegg, Thomas, assignor to Thomas Clegg and Nathaniel Stevens. Wire heddle eyes for looms	Mar. 7, 1854	III.
11,285	Same..... Machine for making wire heddle eyes	July 11, 1854	III.
11,300	Clemens, S. A. Arrangement for diaphragm valvular pumps	July 11, 1854	XI.
11,857	Clemson, Wm. Apparatus for tempering and flattening saws	Oct. 31, 1854	XIV.
10,469	Cleveland, Wm. Fountain pens	Jan. 31, 1854	XVIII.
11,473	Close, Daniel. Planing and sawing machine	Aug. 8, 1854	XIV.
11,988	Cochran, J. W. Quartz crusher. (Patented in England Nov. 21, 1853)	Nov. 28, 1854	II.
11,208	Coes, Amry G. Screw wrenches	July 4, 1854	II.
11,359	Colehammer, George A. Lubricating compound	July 25, 1854	XII.
11,360	Coles, Thomas. Omnibus-step protector	July 25, 1854	X.
11,188	Collier, Wm. F., assignor to W. F. Collier and Jos. Boyden. Machines for feeding paper to printing presses	June 27, 1854	XVIII.
11,146	Collins, S. V., assignor to W. O. Hickok. Mode of setting and holding pens for ruling paper	June 20, 1854	XVIII.
10,361	Collman, John. Ruling machine	Jan. 3, 1854	XVIII.
10,388	Collyer, Robert H. Quartz pulverizer	Jan. 3, 1854	II.
11,034	Same..... Gold amalgamators	June 6, 1854	II.
10,565	Colver, Lewis W. Seed planters	Feb. 28, 1854	I.
11,662	Colver, Nathaniel. Boots and shoes	Sept. 12, 1854	XVI.
10,756	Colwell, Stephen. Iron buildings	Apr. 11, 1854	IX.
11,320	Conard, Lewis R. Slide-block valves for steam engines	July 18, 1854	VI.
10,564	Conger, John P. Salt kilns	Feb. 28, 1854	IV.
10,541	Connelly, E. G. Curved sash bolt	Feb. 21, 1854	II.
10,791	Conner, G. M. Water wheel	Apr. 18, 1854	XI.
11,689	Conrad, Charles J. Method of sawing shingles	Sept. 19, 1854	XIV.
10,443	Constant, Silas. Rosin-oil lamps	Jan. 24, 1854	V.
11,060	Same..... Lamp-chimney lens	June 13, 1854	V.
11,474	Same..... Rosin-oil lamps	Aug. 8, 1854	V.
10,691	Cook, A. J. Discharge apparatus of harvesters	Mar. 28, 1854	I.
10,358	Cook, Alfred C. Machine for sawing bevel surfaces	Jan. 3, 1854	XIV.
10,591	Cook, Caleb. Arrangement of valve motion for locomotive engines	Mar. 7, 1854	VI.
10,520	Cook, Thomas, assignor to Starkie & Livesay. Fire-arms	Feb. 14, 1854	XIX.
10,875	Coon, Simeon. Sewing machines	May 9, 1854	III.
10,781	Coons, Matthias P. Iron fences	Apr. 18, 1854	II.
11,012	Same..... Rivet clamp for wire fences	June 6, 1854	II.
11,517	Same..... Railroad-car brakes	Aug. 15, 1854	X.
11,931	Same..... Multigrade iron fence	Nov. 14, 1854	II.
10,595	Cooper, George W. Cotton-seed planters	Mar. 7, 1854	I.
11,210	Copeland, A. S. Y. Mechanism for operating saw-mill carriages	July 4, 1854	XIV.
11,719	Copeland, George. Clasps for loom harness	Sept. 26, 1854	III.
10,773	Corliss, Albert G. Swell-mute attachments for piano-fortes	Apr. 11, 1854	XVIII.
11,663	Cornell, John B. Metallic slab shutters	Sept. 12, 1854	IX.
11,720	Corwin, Joseph A. Knitting machines	Sept. 26, 1854	III.
10,825	Cottam, George H. Portable folding-chair bedsteads	Apr. 25, 1854	XVII.
11,050	Coutaret, Dominique E. Manufacture of sulphuric acid	June 13, 1854	IV.
11,209	Cox, Thomas. Machine for bending felloes	July 4, 1854	XIV.
10,856	Crabtree, John. Adjusting the packing of pistons for steam engines	May 2, 1854	VI.
11,887	Craig, Robert S. Traps for animals	Nov. 7, 1854	XXII.
11,664	Craig, William. Oscillating engines	Sept. 12, 1854	VI.
11,989	Cram, John. Towel stand or clothes horse	Nov. 28, 1854	XVII.
11,932	Crandall, Horace J. Mode of adjusting the keel blocks of dry, sectional, or railway docks	Nov. 14, 1854	IX.
12,020	Same..... Arrangement for reefing topsails	Dec. 5, 1854	VII.
12,093	Same..... Bilge supporters for holding vessels in docks	Dec. 19, 1854	IX.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10,360	Crandall, Isaac. Running gear of wagons, &c	Jan. 3, 1854	X.
11,518	Crane, Aaron D. Machines for turning irregular forms	Aug. 15, 1854	XIV.
11,990	Crawford, A. B. Clover hullers	Nov. 28, 1854	I.
11,117	Crawford, Benjamin. High-pressure steam engines	June 20, 1854	VI.
11,742	Cresson, Chas. M. Form of gas retorts	Oct. 3, 1854	IV.
12,052	Cridge, Matthew, and Samuel Wordsworth. Oscillating steam engines	Dec. 12, 1854	VI.
11,956	Crompton, George, and M. A. Furbush. Rollers for pattern-chain looms	Nov. 14, 1854	III.
	Crompton, William, assignor to Furbush & Crompton. Power looms. (Patent extended and re-issued Sept. 13, 1853; disclaimer entered Feb. 1, 1854.)	Nov. 25, 1837	Discl'r.
10,501	Crook, John J. Tin foils or sheets	Feb. 7, 1854	II.
11,265	Crosby, Harvey & S. E. Mode of arranging arch boards for cistern arches	July 11, 1854	IX.
10,878	Crosby, Heman, jr. Sewing machines	May 9, 1854	III.
10,633	Cross, Joshua. Faucets for measuring liquids	Mar. 14, 1854	XI.
11,153	Cross, S. Oscar. Grape frame	June 27, 1854	I.
11,038	Crossley, Thomas. Weaving cut-pile fabrics	June 6, 1854	III.
11,118	Same.....Machine for printing wool and other goods	July 18, 1854	XVIII.
11,321	Same.....Method of making printing blocks	July 18, 1854	XVIII.
11,564	Same.....Manufacturing two-ply carpets	Aug. 22, 1854	III.
11,634	Crowell, James E., assignor to J. E. Crowell, E. Smith, and C. T. Stickney. Machine for dressing ship timber	Aug. 29, 1854	XIV.
12,021	Crowell, Joseph D. Steering apparatus	Dec. 5, 1854	VII.
11,211	Crozier, Archibald H. Machine for creasing and beveling barrels	July 4, 1854	XIV.
11,247	Crozier, C. W. Camphor wash mixtures	July 11, 1854	IV.
12,053	Cumberland, William W. Machines for bending metal	Dec. 12, 1854	II.
10,403	Cummings, D. M. Machinery for mortising frames and window blinds	Jan. 10, 1854	XIV.
11,519	Same.....Rakes	Aug. 15, 1854	I.
10,444	Cunningham, William. Washing machines	Jan. 24, 1854	XVII.
10,959	Curtis, James. Wind mill	May 23, 1854	XIII.
11,212	Currier, Thomas W. Bedsteads, cribs, and sofas	July 4, 1854	XVII.
11,411	Cushman, E., and J. R. Drying thick paper	Aug. 1, 1854	V.
10,476	Cutler, T. O. Quartz crushers	Jan. 31, 1854	II.
12,054	Same....For crushing and grinding mineral and other substances. (Patented in England January 23, 1854)	Dec. 12, 1854	II.
11,213	Cutting, James A. The preparation of collodion for photographic pictures	July 4, 1854	XVIII.
11,267	Same.....Photographic pictures on glass	July 11, 1854	XVIII.
11,475	Cutting, Lewis. Stop motion for speeders	Aug. 8, 1854	III.
10,924	Daboll, Charles M., assignor to C. M. and A. P. Daboll. Catch for holding the bit in brace stocks	May 16, 1854	II.
11,778	Dale, John D. Planing machines	Oct. 10, 1854	XIV.
11,193	Dalson, A. F. Milk and other evaporators	June 27, 1854	IV.
11,721	Dame, John. Parrel and bows	Sept. 26, 1854	VII.
10,833	Damorel, William. Extension bit guard key for door locks	May 9, 1854	II.
10,926	Dana, Chas. H. Potato diggers	May 16, 1854	I.
11,361	Same.....Cultivator	July 25, 1854	I.
11,641	Same.....Seed plantors	Sept. 5, 1854	I.
10,961	Danforth, Loring. Machines for making book covers	May 23, 1854	XVIII.
11,888	Daniels, Reuben. Improved joint in water wheels	Nov. 7, 1854	XI.
10,649	Daniels, Westel S. Obstetrical supporters	Mar. 14, 1854	XX.
11,521	Darling, Cook. Mode of securing hubs to axles	Aug. 15, 1854	X.
10,402	Darling, Daniel S. Preventing dust from entering railroad cars	Jan. 10, 1854	V.
11,246	Darling, Martin V. B. Motion of slide-valve steam engines	July 11, 1854	VI.
12,045	Darracott, Franklin, assignor to Geo. Darracott. Dry gas meters	Dec. 5, 1854	IV.
11,462	Daser, Louis. Seed planters	Sept. 5, 1854	I.
10,679	Daugherty, Thomas. Shoe lasts	Mar. 21, 1854	XVI.
11,453	Same.....Lasting instruments	Aug. 1, 1854	XVI.
11,961	David, Henry Farson. Sauce pans	Nov. 21, 1854	XVII.
10,788	Davis, Ari. Box machine	Apr. 18, 1854	XIV.
11,415	Same...Magneto-electric machines	Aug. 1, 1854	VIII.
10,960	Davis, Elias. Self-acting power press	May 23, 1854	XII.
10,902	Davis, Francis, assignor to J. M. Reed. Screw jacks	May 9, 1854	XII.
11,690	Davis, John. Telegraphic keys	Sept. 19, 1854	VIII.
11,476	Davis, Joseph H. Manufacturing pigments from iron ore	Aug. 8, 1854	IV.
10,502	Davis, Lewis S. Blocks for horse collars	Feb. 7, 1854	XVI.
10,566	Davis, Robert W. Churns	Feb. 28, 1854	I.
11,032	Davis, Waitman. Seed planters	June 6, 1854	I.
10,470	Davis, William O. Presses for molding glass	Jan. 31, 1854	XII.
10,426	Davison, F. Saliva pumps	Jan. 17, 1854	XX.
11,889	Davison, Ferdinand. Stone-drilling machines	Nov. 7, 1854	XV
11,119	Day, Benjamin F. Steam engines	June 20, 1854	VI.
11,520	Day, B. Franklin. Hand press	Aug. 15, 1854	XVIII
11,022	Day, Edward P. Machine to print subscribers' names, &c., on newspapers	June 6, 1854	XVIII.
11,477	Day, Joseph C. Fire-arms	Aug. 8, 1854	XIX.
10,884	Dean, Heman H. Felloe machine	May 9, 1854	XIV.
12,190	De Bergue, Charles. Propeller	Apr. 6, 1854	VII.
10,920	Dederick, Levi. Hay and cotton presses	May 16, 1854	XII.
11,014	Deegan, Ross. Machine for cleaning and watering streets	June 6, 1854	XXII.
11,746	Deering, Richard, sr. Circular stone saws	Oct. 3, 1854	XV.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10,471	Denney, Samuel L. Divided railroad axles	Jan. 31, 1854	X.
11,214	Dennis, Dexter. Finishing palm-leaf hats	July 4, 1854	III.
10,445	Dennis, John H. Beehives	Jan. 24, 1854	I.
11,522	Dennison, Aaron L. Punches and dies for punching watch hands	Aug. 15, 1854	II.
11,416	Deputy, H. C. Draughting and modeling vessels	Aug. 1, 1854	VII.
10,381	Desbeaux, Claude. Apparatus for turning leaves of books	Jan. 3, 1854	XVIII.
10,503	Deschamps, F. O. Omnibus registers	Feb. 7, 1854	X.
11,362	Deuble, George. Striking-part of steeple clocks	July 25, 1854	VIII.
11,745	Devlan, Patrick S. Brick machines	Oct. 3, 1854	XV.
11,827	Same ....Chairs for round rails	Oct. 24, 1854	IX.
10,794	De Saxe, Charles, assignor to Thomas H. Bate. Fishing rods and floats	Apr. 18, 1854	XXII.
10,795	Same....Landing net for anglers	Apr. 18, 1854	XXII.
11,598	Dickey, Julius C. Fastening skirts to saddle trees	Aug. 29, 1854	XVI.
11,363	Dickinson, Charles W. Finishing-dies in machines for making rings from sheet metal	July 25, 1854	II.
10,487	Dickinson, Isaac L. Churns	Jan. 31, 1854	I.
11,665	Dickson, Perry. Mill-stone dress	Sept. 12, 1854	XIII.
10,362	Dillehay, William S. Straw cutters	Jan. 3, 1854	I.
10,364	Dimpfel, F. P. Steam-boiler furnaces	Jan. 3, 1854	VI.
10,786	Dixwell, Basil, and J. A. Dorr. Gas regulators	Apr. 18, 1854	V.
11,061	Dodge, Nathaniel. Construction of tanning apparatus	June 13, 1854	XVI.
11,154	Dodge, Thomas H. Gas and liquid regulators	June 27, 1854	IV.
10,363	Donlevy, John. Method of forming plates for polychromatic printing	Jan. 3, 1854	XVIII
11,048	Donovan, D., administrator of W. G. Hallman and D. Donovan, assignors to Henry White. Cooking range	June 6, 1854	V.
11,722	Drayton, John. Bedstead fastenings	Sept. 26, 1854	XVII.
11,239	Drayton, Thomas, assignor to Geo. W. McCready, jr. Purifying oil	July 4, 1854	IV.
10,446	Driggs, Spencer B. Attachment to piano-fortes	Jan. 24, 1854	XVIII
11,021	Dudley, Samuel H. Road scrapers	June 6, 1854	IX.
11,599	Dudrey, J. B. Stave machine	Aug. 29, 1854	XIV.
11,600	Same.....same	Aug. 29, 1854	XIV.
11,828	Dulaney, George L. Mill bushes	Oct. 24, 1854	XIII.
11,779	Dunham, Edwin G. Rock drill	Oct. 10, 1854	XV.
10,733	Eakins, Benjamin. Valve cock	Apr. 4, 1854	XI.
11,548	Earle, Absalom B. Straw cutters	Aug. 22, 1854	I.
11,829	Same.....Seed planters	Oct. 24, 1854	I.
11,420	Earle, John E. Compasses and calipers	Aug. 1, 1854	VIII.
11,643	Eastman, Augustus M. Making ribbon of strips of cloth	Sept. 5, 1854	III.
10,567	Eaton, A. K. Machines for pulverizing ores	Feb. 28, 1854	II.
10,734	Same ....Amalgamating gold and silver	Apr. 4, 1854	II.
10,925	Eaton, Ward. Machines for cutting glaziers' points	May 16, 1854	II.
11,194	Eberhardt, Jonas. Preparation of archil	June 27, 1854	II.
11,780	Eckert, Augustus. Magnetic alarm bells	Oct. 10, 1854	XXII.
11,691	Eddy, Henry. Beehives	Sept. 19, 1854	I.
10,941	Edmondson, Joseph, and C. Haworth, executors of T. Edmondson, deceased. Case for holding railway and other tickets	May 16, 1854	X.
10,947	Same.....Machine for printing railway and other tickets	May 23, 1854	XVIII.
10,746	Edson, Jacob. Pumps	Apr. 4, 1854	XI.
10,855	Same.....same	May 9, 1854	XI.
11,417	Efferenn, John J. Machine for sawing fire wood	Aug. 1, 1854	XIV.
11,215	Eisenbrandt, C. H. Valve for wind musical instruments	July 4, 1854	XVIII.
10,774	Elgar, John. Door hinges	Apr. 11, 1854	II.
11,991	Eliaers, Augustus. Seats for public buildings	Nov. 28, 1854	IX.
11,806	Elliott, Joseph D. Water meter	Oct. 17, 1854	XI.
11,692	Elliott, William G. Making slag ware	Sept. 19, 1854	II.
11,156	Ellis, J. A. H., and Alexander Gordon. Reversible capstans	June 27, 1854	VII.
11,323	Same.....Mode of operating excavating machines	July 18, 1854	IX.
11,549	Ellis, William M. Arrangement of the steam engine	Aug. 22, 1854	VI.
10,812	Ells, Josiah. Revolving fire-arms	Apr. 25, 1854	XIX.
11,419	Same....Revolving-breech fire-arms	Aug. 1, 1854	XIX.
10,692	Ellsworth, H. G. Belt clasps for machinery	Mar. 28, 1854	XII.
11,046	Ely, H., assignor to S. P. Ely. Drying flour	June 6, 1854	V.
10,775	Emerson, R. H. Earth cars	Apr. 11, 1854	X.
12,197	Emery, William B. Mode of arranging and driving circular saws	Nov. 13, 1854	XIV.
11,418	Emmons, Phineas. Machines for molding crackers	Aug. 1, 1854	XVII.
10,389	Englebrecht, Theodore F. Double-acting spring hinges	Jan. 3, 1854	II.
11,023	English, Francis M. Whiffletrees	June 6, 1854	X.
10,881	Enoch, George T., and Daniel Wissinger. Seed planters	May 16, 1854	I.
11,325	Enos, Roswell. Tanning	July 18, 1854	XVI.
11,324	Erdle, Jacob. Windmill	July 18, 1854	XI.
10,634	Espenchade, Frederick. Tapering nozzles to the exhaust pipes of locomotives	Mar. 14, 1854	VI.
11,155	Esterly, George. Grass harvesters	June 27, 1854	I.
11,436	Everett, Eliza A., and S. T. Thomas, administrators of Edward Everett, deceased. Warping and dressing yarns	Aug. 1, 1854	III.
11,962	Everitt, Chas. G. Machine for closing sheet-metal boxes	Nov. 21, 1854	II.
11,601	Ewing, O. G. Plows	Aug. 29, 1854	I.
11,062	Faas, Anthony. Accordeons	June 13, 1854	XVIII.
10,650	Fagin, Lewis. Smut machines	Mar. 14, 1854	XIII.
10,796	Fairchild, J. H., and Sylvanus Richardson. Potato-washing machine	Apr. 18, 1854	XVII.
10,984	Fairchild, J. H. Hooks and eyes	May 30, 1854	XXI.
11,603	Fanning, Richard. Method of grinding cross-cut saws	Aug. 29, 1854	XIV

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10,735	Farley, Henry W. Railway-frog guards	Apr. 4, 1854	IX.
10,857	Same....Means for adjusting the valves of locomotive engines	May 2, 1854	VI.
10,886	Farr, Chas. K. Cultivators	May 9, 1854	I.
11,454	Same.....same	Aug. 1, 1854	I.
11,602	Fawkes, Joseph W. Manure and lime spreaders	Aug. 29, 1854	I.
10,472	Fay, Cyrus J. Cotton presses	Jan. 31, 1854	XII.
10,120	Fay, Samuel. Weaving double cloth	June 20, 1854	III.
11,992	Felter, Fletcher. Feathering paddle wheels	Nov. 28, 1854	VII.
10,817	Field, Frederick. Traveling bridges	Apr. 25, 1854	IX.
10,624	Field, George B. Rotary cultivators	Mar. 14, 1854	I.
10,789	Field, Samuel J. Apparatus for painting window blinds, &c	Apr. 18, 1854	XVIII.
10,404	Fillmore, Charles W. Clamps for holding steel plates while being hardened	Jan. 10, 1854	II.
11,216	Finkle, William. Mill-stone dress	July 4, 1854	XIII.
10,607	Fisher, Luther B. Seed planters	Mar. 7, 1854	I.
10,694	Same.....same	Mar. 28, 1854	I.
11,365	Fishwick, James and John. Mode of driving and straining saws	July 25, 1854	XIV.
11,478	Fisk, George C. Device for grooving boards	Aug. 8, 1854	XIV.
11,313	Fiske, Orin W. Machinery for making pasteboard	July 11, 1854	XVIII
10,695	Fitts, Benaiah. Feed-water apparatus for steam boilers	Mar. 28, 1854	VI.
12,094	Fitzgerald, Daniel, Thomas Rogers, and William C. Walker. Guards for ferry boats	Dec. 19, 1854	VII.
10,693	Fitzhugh, Benjamin G. Harvesters of grain	Mar. 28, 1854	I.
10,801	Flanders, David and Samuel K. Fly trap	Apr. 18, 1854	XXII.
10,736	Flanders, Phanuel. Cranberry winnowers	Apr. 4, 1854	I.
11,013	Flanders, W. A. Moth killer	June 6, 1854	I.
11,366	Folsom, Charles. Reading tables	July 25, 1854	XVII.
10,668	Fonda, Charles H., and Thomas B. Lyons. Dredging machines	Mar. 21, 1854	IX.
11,268	Foote, George F. Ventilating railroad cars	July 18, 1854	V.
11,605	Forbes, J. T. Bedsteads for invalids	Aug. 29, 1854	XVII.
11,217	Forbes, Robert B. Lightning rods for vessels	July 4, 1854	VIII.
11,830	Ford, Ebenezer. Granaries	Oct. 24, 1854	I.
10,782	Forsythe, Thomas P. Machines for winding and folding cloth	Apr. 18, 1854	III.
10,554	Foster, James, jr., assignor to Platt Evens, jr. Seal presses	Feb. 21, 1854	XII.
10,542	Foster, John T. Stone-picking machines	Feb. 21, 1854	XV.
11,859	Foster, Junius. Burglars' alarm	Oct. 31, 1854	XXII.
11,644	Foster, William H. Arrangement of topsails from the deck of the vessel	Sept. 5, 1854	VII.
11,781	Fowler, Thaddeus. Sewing pin	Oct. 10, 1854	XXII.
10,888	Fox, Charles R. Journal box for saw-mill carriage	May 9, 1854	XIV.
11,479	Frary, Orange N. Melodeons	Aug. 8, 1854	XVIII
11,963	Freeland, James. Valve gear for locomotive engines	Nov. 21, 1854	VI.
11,245	French, Elisha. Coal sifter	July 11, 1854	V.
12,056	French, G. W., and William Wagstaff. Method of destroying vermin	Dec. 12, 1854	XXII.
11,218	Frey, Joseph, and D. B. Burnham. Submarine battery	July 4, 1854	IX.
10,905	Frisbee, Hiram. Lath machine	May 16, 1854	XIV.
11,270	Fry, Robert T. The construction of inkstands	July 4, 1854	XVIII
11,693	Fulghum, Benjamin. Sawing machine	Sept. 19, 1854	XIV.
11,277	Fullerton, William H. Hackling corn husks	July 11, 1854	III.
11,480	Fulton, John G. Salt-packing machines	Aug. 8, 1854	XII.
12,095	Gage, John S. Clover harvesters	Dec. 19, 1854	I.
11,372	Gaines, E. P. Mill-stone dress	July 25, 1854	XIII.
11,367	Gale, Alanson. Mowing machine	July 25, 1854	I.
11,993	Gallagher, C. B. Converting reciprocating into rotary motion	Nov. 28, 1854	II.
10,858	Gallagher, John. Cutter for metallic bars and rods	May 2, 1854	II.
11,287	Gallahue, A. C. Machines for pegging boots and shoes	July 11, 1854	XVI.
12,469	Gambrill, H. N., and S. F. Burgee. Carding machines	Aug. 22, 1854	III.
13,389	Gamewell, John N. Apparatus for discharging atmospheric electricity from telegraph wires	Sept. 1, 1854	VIII.
10,865	Gardiner, Heman. Quartz crushers	July 4, 1854	II.
11,219	Same.....same	Mar. 21, 1854	II.
11,368	Gardiner, Samuel, jr. Machinery for crushing and pulverizing ores, &c.	July 25, 1854	II.
10,669	Garlington, J. L. Grain threshers	Mar. 21, 1854	I.
10,608	Gaston, J. C. Seed planters	Mar. 7, 1854	I.
12,057	Gates, Moses. Hoes	Dec. 12, 1854	I.
11,606	Gates, Nelson. Cast hinges	Aug. 29, 1854	II.
10,737	Gates, William, jr., and H. J. Harwood. Machines for making friction matches	Apr. 4, 1854	IV.
11,860	Gates, William, jr. Machine for filling match frames	Oct. 31, 1854	IV.
11,666	Gatley, Joseph. Piston or valve for rotary pumps, &c	Sept. 12, 1854	XI.
11,481	Gemmil, John. Radiators	Aug. 8, 1854	V.
11,269	Gengembre, H. P. Cement of boiled coal tar and earth	July 11, 1854	IV.
11,298	Genung, Robert W. Lifting jacks	July 11, 1854	XII.
11,203	Gesner, Abraham, assignor to the Asphalt Mining and Kerosene Gas Company. Kerosene burning fluids, A	June 27, 1854	IV.
11,204	Same.....Kerosene burning fluids, C	June 27, 1854	IV.
11,205	Same.....Kerosene burning fluids, B	June 27, 1854	IV.
11,369	Gibson, Abram J. Vehicles	July 25, 1854	X.
11,424	Same.....Mode of attaching thills and poles to vehicles	Aug. 1, 1854	X.
11,425	Same.....Mode of attaching whiffletrees to vehicles	Aug. 1, 1854	X.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,668	Gibson, A. J. Coupling for carriages	Sept. 12, 1854	X.
10,390	Gilbert, Banford. Corn shellers	Jan. 3, 1854	I.
11,645	Ginn, Jonathan C. Machinery for worming rigging	Sept. 5, 1854	VII.
11,739	Gitchell, D. W., assignor to John C. Wagstaff. Uniting bats for making seamless felt garments	Sept. 26, 1854	III.
10,543	Glading, William P. Car locks	Feb. 21, 1854	VII.
10,816	Glass, George W. Cast-iron car wheels	Apr. 25, 1854	X.
11,121	Gleason, F. A. Construction of reed musical instruments	June 20, 1854	XVIII.
11,221	Gleason, Joel. Milk strainer	July 4, 1854	XVII.
11,607	Gleason, John. Slide valves for steam engines	Aug. 29, 1854	VI.
10,555	Gledhill, John. Treating hair for weaving	Feb. 21, 1854	III.
11,421	Glover, W. R. Pen	Aug. 1, 1854	XVIII.
10,859	Goddard, Curtis. Machine for making bed pins	May 2, 1854	XIV.
10,405	Goffin, F. C., assignor to A. B. Ely. Attaching cross-bar fastenings to vault and safe doors	Jan. 10, 1854	II.
10,660	Samo.....Safe locks	Mar. 21, 1854	II.
11,190	Same.....Powder channel to doors of vaults, safes, and banks	June 27, 1854	II.
10,517	Same.....Fire and burglar-proof safes	Feb. 14, 1854	II.
11,423	Gold, B. F. Lathing buildings	Aug. 1, 1854	IX.
12,058	Good, John. Coffins	Dec. 12, 1854	XXII.
10,536	Goodman, Allen, and Lyman Wheeler. Machine for scraping and toothing veneer	Feb. 14, 1854	XIV.
10,729	Goodwin, Lorenzo D. Water wheels	Apr. 4, 1854	XI.
10,738	Goodyear, Charles. Treating vulcanizable gums	Apr. 4, 1854	IV.
11,694	Goolman, William P., and Samuel Morris. Portable staging	Sept. 19, 1854	IX.
11,064	Gordon, George P. Printing press	June 13, 1854	XVIII.
11,370	Gore, Ezekiel. Butter workers	July 25, 1854	XVII.
11,783	Gossen, Benjamin F. Railroad-chair machinery	Oct. 10, 1854	IX.
11,782	Gossin, Louisa A. Construction of sugar-making apparatus	Oct. 10, 1854	IV.
15,291	Goulding, John. Jacquard looms	Nov. 22, 1854	XI.
12,096	Grader, George W., and Benjamin F. Cowan. Grain mills	Dec. 19, 1854	XIII.
10,044	Graham, Edmund H., assignor to E. Graham and Artemus Wheeler. Magazine guns	May 16, 1854	XIX.
11,724	Graham, Wm., and L. McLaren. Railroad-car seats	Sept. 26, 1854	X.
11,770	Grant, John E., assignor to Cyrus Carpenter and A. D. Shaw. Hot-air furnaces	Oct. 3, 1854	V.
11,455	Grant, Robert. Hydraulic press	Aug. 1, 1854	XI.
11,785	Samo .....Brakes for checking and starting cars	Oct. 10, 1854	IX.
11,587	Graves, Benjamin F., assignor to Wm. C. Knowlton. Tool for boring recesses for casters, &c	Aug. 22, 1854	XIV.
12,022	Gray, Joshua. Rotary pump	Dec. 5, 1854	XI.
10,571	Gray, Michael M. Railroad-chair machines	Feb. 28, 1854	IX.
11,042	Green, Edwin J. Joint-bodied buggies	June 6, 1854	X.
11,063	Green, Ely H. Carriage axle	June 13, 1854	X.
11,890	Green, Jacob. Glass furnace	Nov. 7, 1854	XV.
11,297	Green, Joel. Apparatus for sealing cans	July 11, 1854	XXII.
10,657	Greene, Henry. Grain and grass harvesters. (Antedated September 21, 1853)	Mar. 21, 1854	I.
10,391	Greene, J. Durell. Breech-loading fire-arms	Jan. 3, 1854	XIX.
11,157	Same.....same. (Patented in England May 12, 1854)	June 27, 1854	XIX.
11,964	Greene, Samuel. Cleaning cards of carding engines	Nov. 21, 1854	III.
10,916	Greenleaf, A. Water wheel	May 16, 1854	XI.
11,296	Samo .....Impact water wheel	July 11, 1854	XI.
10,427	Greenough, John J. Machines for pegging boots and shoes	Jan. 17, 1854	XVI.
11,220	Greer, Thomas. Steam boiler	July 4, 1854	VI.
10,985	Gregg, Charles. Vises or chucks for holding cylindrical bodies	May 30, 1854	II.
11,422	Gregg, Isaac. Brick presses	Aug. 1, 1854	XV.
11,784	Griffith, John W. Construction of ships	Oct. 10, 1854	VII.
10,516	Griffiths, John. Valve cocks	Feb. 14, 1854	XI.
12,112	Griffiths & Shields, assignors to Robert Griffiths. Machine for forging horseshoes	Dec. 19, 1854	II.
10,435	Griswold, Geo. W. Amputating apparatus	Jan. 17, 1854	XX.
11,122	Samo .....Tool handles	June 20, 1854	II.
11,326	Same .....Process of separating impalpable powder for paints	July 18, 1854	IV.
11,371	Same .....Grates	July 25, 1854	V.
11,646	Samo .....Portable door-fastener	Sept. 5, 1854	II.
11,244	Guild, Charles M. Gas-heating apparatus	July 11, 1854	V.
10,406	Gullett, Benj. D. Cotton gins	Jan. 10, 1854	III.
11,891	Gumaer, Samuel. Corn sheller	Nov. 7, 1854	I.
12,097	Hadley, Stephen, jr. Direct-action water wheel	Dec. 19, 1854	XI.
12,059	Hagar, E. L. Harrows	Dec. 12, 1854	I.
11,222	Hague, John R. Machine for punching rivet holes in hoso	July 4, 1854	XVI.
10,457	Haight, Daniel, jr. Attaching shafts to wagons	Jan. 24, 1854	X.
10,568	Hall, Abijah, and Sylvanus Sturtevant. Snow plow for railroads	Feb. 28, 1854	X.
10,456	Hall, Alexander. Piano-fortes	Jan. 24, 1854	XVIII.
10,776	Same .....Piano-forte action	Apr. 11, 1854	XVIII.
11,723	Samo .....Electric clocks	Sept. 26, 1854	VIII.
11,373	Hall, B. T. Water wheel	July 25, 1854	XI.
10,504	Hall, Elias. Tool holder	Feb. 7, 1854	II.
11,456	Hall, John S. Plows	Feb. 7, 1854	I.
10,505	Same.....same	Aug. 1, 1854	I.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,158	Hall, William. Bank locks	June 27, 1854	II.
10,802	Hallenbeck, Martin. Grass harvesters	Apr. 18, 1854	I.
11,725	Halsey, Moses E. Chair frames	Sept. 26, 1854	XVII.
10,407	Halvorson, Halvor. Machines for pegging boots and shoes	Jan. 10, 1854	XVI.
11,435	Halvorson, H., assignor to H. Halvorson and H. Barnes. Mechanism for measuring cloth on looms	Aug. 1, 1854	III.
10,849	Halvorson, Halvor, assignor to H. Halvorson and J. T. Heard. Processes for distilling rosin oil	May 2, 1854	IV.
10,850	Same.....Distilling apparatus	May 2, 1854	IV.
10,365	Hamilton, James. Quartz-crushing machines	Jan. 3, 1854	II.
12,023	Hammitt, John T. Railroad-car seats	Dec. 5, 1854	X.
10,918	Hammon, Heman B. Ox yokes	May 16, 1854	I.
16,544	Hanson, James. Gas-generating apparatus	Mar. 21, 1854	IV.
11,727	Hardman, Thomas, and Albert Vose. Whiffletrees	Sept. 26, 1854	X.
11,374	Harig, A. C., and D. C. Stoy. Bank locks	July 25, 1854	II.
11,669	Harley, J. L., and Samuel Maxwell. Ventilating ship timbers	Sept. 12, 1854	V.
10,986	Harraday, John. Machine for cutting out cloth. (Patented in England January 20, 1854)	May 30, 1854	XXI.
11,123	Harris, Charles S. Producing continuous circular motion from reciprocating rectilinear	June 20, 1854	XIII.
11,934	Harris, Daniel, assignor to John P. Bowker, jr. Sewing machines	Nov. 14, 1854	III.
11,065	Harris, F. M. Tail boards of wagons	June 13, 1854	X.
11,863	Harris, J., J. B. Scott, and G. Richmond. Machinery for making rope and cordage	Oct. 31, 1854	III.
11,524	Harris, Joseph, jr. Lamps	Aug. 15, 1854	V.
11,749	Harris, Thomas J., jr. Fastenings for garments	Oct. 3, 1854	XXI.
10,763	Harrison, James, jr. Sewing machines	Apr. 11, 1854	III.
10,690	Harrison, R. H., assignor to R. H. Harrison and J. J. Gallagher, jr. Churns	Mar. 28, 1854	I.
11,243	Hartson, George B. Making wrought-iron car wheels	July 11, 1854	X.
11,584	Harvey, H. A., and Edward P. Cowles, administrators of Thomas W. Harvey, assignors to the Harvey Steel and Iron Company. Furnaces for making wrought iron directly from the ore	Aug. 22, 1854	II.
10,385	Harvey, Thomas W., assignor to John B. Terry. Machine for sticking pins	Jan. 3, 1854	II.
10,814	Harvie, A., and C. Guild. Vinous fermenting in close vessels	Apr. 25, 1854	IV.
10,635	Haskins, E. S. Spring clasps for clothes lines	Mar. 14, 1854	XVII.
10,636	Hastings, Elbridge G. Machines for dressing stone	Mar. 14, 1854	XV.
11,314	Hatcher, Jacob J. Pen and pencil case	July 11, 1854	XVIII.
11,150	Hatcher, William Z. Stop and waste cocks	Aug. 22, 1854	XI.
11,726	Hatfield, Aaron L. Machine for adding numbers	Sept. 26, 1854	VIII.
11,427	Hathaway, John M. Shot pouches	Aug. 1, 1854	XIX.
11,748	Hawes, R. L. Drying cloth	Oct. 3, 1854	III.
10,670	Hawkes, Charles W. Nippers for printing presses	Mar. 21, 1854	XVIII.
11,893	Hay, A. K. Glass furnaces	Nov. 7, 1854	XV.
11,263	Hayden, Hiram W. Ornamenting metallic buttons	July 11, 1854	XXI.
10,506	Hayden, J. B. Metallic hubs	Feb. 7, 1854	X.
10,962	Hayes, John P. Hot-air furnaces	May 23, 1854	V.
10,594	Heacock, Joel P. Apparatus for rounding and beveling barrel heads	Mar. 7, 1854	XIV.
11,375	Heath, Mark A. Windows	July 25, 1854	IX.
10,740	Hedges, Stephen. Table and chair combined	Apr. 4, 1854	XVII.
10,366	Helton, Michael W. Method of hanging and operating saw gates	Jan. 3, 1854	XIV.
10,452	Hench, Peter, W. S., and J. J. Mills for grinding sumac	Jan. 24, 1854	XIII.
11,861	Heneage, Robert. Tooth-clothing for picker cylinder	Oct. 31, 1854	III.
11,124	Henry, John. Cast-iron car wheels	June 20, 1854	X.
10,572	Henson, Thomas D., and George Rohr. Seed planters	Feb. 28, 1854	I.
11,831	Herriet, Julius, assignor to John Gaylord Wills. Gutta-percha stereotype composition	Oct. 24, 1854	XVIII.
11,551	Heywood, Levi, J. L. Ross, and James K. Otis. Portable bureaus	Aug. 22, 1854	XVII.
11,994	Hibbard, Elias A. Rotary cooking stove	Nov. 28, 1854	V.
11,223	Hibbard, William C. Regulating the motion of steam engines	July 4, 1854	VI.
11,935	Hibbs, Jonathan. Plows	Nov. 14, 1854	I.
11,224	Hidden, Enoch. Reading and writing stands	July 4, 1854	XVIII.
10,921	Higgins, George E. Fastenings for ear rings	May 16, 1854	XVIII.
11,894	Higgins, Horace S. Barrel machinery	Nov. 7, 1854	XIV.
11,159	Hill, Daniel. Seed planter	June 27, 1854	I.
11,807	Hill, E. A. Smoke-consuming stove	Oct. 17, 1854	V.
11,565	Hill, Joseph. Daguerreotype-plate holder	Aug. 22, 1854	XVIII.
11,147	Hill, Luther, assignor to L. Hill and L. Stratton. Machine for cutting out boot soles	June 20, 1854	XVI.
11,010	Hill, William W. Arrangement of dampers in rotary stoves	June 6, 1854	V.
11,647	Hinde, John. Machines for breaking flax and hemp	Sept. 5, 1854	III.
10,384	Hine, R. M., assignor to Silsby & Hine. Shanks of hay and manure forks	Jan. 3, 1854	I.
10,598	Hinman, George C. Sash sustainers	Mar. 7, 1854	II.
10,428	Hitchcock, Daniel T. Diaphragm pumps	Jan. 17, 1854	XI.
12,060	Hoard, J. W. Anglers' combined float and sinker	Dec. 12, 1854	XXII.
10,988	Hobson, Carmi. Stave machine	May 30, 1854	XIV.
11,728	Hochstrasser, Henry. Machine for paging books	Sept. 26, 1854	XVIII.
10,637	Hock, A. Gilding or plating fibrous substances. (Patented in France Dec. 15, 1852)	Mar. 14, 1854	XVIII.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,609	Hockman, Samuel M. Seed planters	Aug. 29, 1854	I.
10,860	Hodgin, Robert. Straw cutter	May 2, 1854	I.
10,622	Hodgkins, Christopher, assignor to N. Hunt. Sewing machines	Mar. 7, 1854	III.
10,879	Same ..... same	May 9, 1854	III.
11,936	Hodgkinson, George. Paging machine	Nov. 14, 1854	XVIII
13,116	Hodgson, Thomas. Manufacture of artificial stone	May 9, 1854	XV.
10,547	Holbrook, Samuel F. Contrivances for protecting passengers in railroad cars	Feb. 21, 1854	X.
11,995	Hollen, Joseph. Knitting machines	Nov. 28, 1854	III.
12,470	Hollingsworth, J., and R. S. Mershon. Fire-arms	Aug. 1, 1854	XIX.
12,471	Same ..... Repeating fire-arms	Aug. 1, 1854	XIX.
11,403	Holly, B., assignor to Silsby, Race & Holly. Mortising machine	July 25, 1854	XIV.
10,392	Holmes, James B. Machines for nailing washboards	Jan. 3, 1854	XIV.
10,987	Holmes, Silas A. Cameras for taking stereoscope or other daguerreotypes	May 30, 1854	XVIII.
10,804	Hopkins, David A. Ticket box for railroad cars	Apr. 18, 1854	X.
11,428	Same ..... Railroad-car couplings	Aug. 1, 1854	X.
10,910	Hopkins, Israel M. Knitting machines	May 16, 1854	III.
11,786	Horsford, E. N. Compounds for neutralizing chlorine	Oct. 10, 1854	IV.
11,808	Horton, D. W. Shoemakers' edge planes	Oct. 17, 1854	XVI.
10,619	Hotchkin, Ashley. Hanging gates	Mar. 7, 1854	IX.
11,160	Hotchkiss, Julius. Manufacturing suspender ends	June 27, 1854	XXI.
11,802	Howd, Samuel B., assignor to T. T. Davis, J. L. Leach, and R. F. Stevens. Apparatus for the manufacture of salt	Oct. 10, 1854	IV.
12,098	Howe, Isaac B. Machines for straightening heavy metal bars	Dec. 19, 1854	II.
11,862	Howe, John C. Fire-arms	Oct. 31, 1854	XIX.
11,054	Howe, Tyler. Bed bottoms	June 13, 1854	XVII.
10,534	Howell, John W. Stuffing horse collars	Feb. 14, 1854	XVI.
11,125	Howes, Frederick. Extra yard to topsails	June 20, 1854	VII.
10,938	Howes, Peter S. Self-heating smoothing irons	May 16, 1854	XVII.
11,648	Hubbard, Moses G. Method of hanging plane stocks	Sept. 5, 1854	XIV.
10,548	Hughes, Amos P. Tool for dovetailing	Feb. 21, 1854	XIV.
10,923	Hughes, Bernard. Trip hammers	May 16, 1854	II.
10,067	Same ..... Vises	June 13, 1854	II.
11,553	Same ..... Actuating engines by bisulphuret of carbon	Aug. 22, 1854	VI.
10,927	Hults, James. Gun locks	May 16, 1854	XIX.
11,225	Humphrey, Fenton. Spike machines	July 4, 1854	II.
11,066	Hudley, Benjamin R. Bed bottoms	June 13, 1854	XVII.
11,262	Hunt, Samuel. Apparatus for detaching harness from horses	July 11, 1854	XVI.
11,161	Hunt, Walter. Sewing machine	June 27, 1854	III.
11,376	Same ..... Shirt collars	July 25, 1854	XXI.
11,126	Huntington, Solomon F. Carriage tops	June 20, 1854	X.
10,803	Hurd, Julius C. Cleaning cotton and other fibrous substances	Apr. 18, 1854	III.
11,610	Hurst, Abraham R. Manure excavators	Aug. 29, 1854	I.
10,590	Hussey, Isaac. Machines for plastering	Mar. 7, 1854	IX.
11,327	Huston, Felix. Mode of raising vessels	July 18, 1854	VII.
10,429	Hyatt, E. C., and C. Meyer. Manufacture of boot and shoe soles of gutta-percha or India-rubber	Jan. 17, 1854	XVI.
11,695	Hyatt, Thaddeus. Vault lights	Sept. 19, 1854	IX.
11,426	Hyde, Joseph. Washboards	Aug. 1, 1854	XVII.
11,552	Hyde, J. Burrows. Apparatus for coating telegraph wires	Aug. 22, 1854	VIII.
11,226	Ide, Samuel. Seed planter	July 4, 1854	I.
11,053	Iler, James, and William Fitzpatrick. Nail-plate feeders	June 13, 1854	II.
11,227	Ingalls, Joshua K. Catch for vault covers	July 4, 1854	IX.
10,890	Ingersoll, Platt C. Arrangement of pestle with the mortar	May 9, 1854	XX.
11,787	Ingersoll, Simon. Pawl drills	Oct. 10, 1854	II.
11,788	Jack, John. Saw gummer	Oct. 10, 1854	XIV.
12,061	Jackman, Enoch. Securing carpets to floors	Dec. 12, 1854	XVII.
11,457	Jackson, Abraham. Horse-power hoisting machinery	Aug. 1, 1854	XIII.
11,554	Jackson, George. Knitting machines	Aug. 22, 1854	III.
11,377	Jackson, Henry. Steam boiler	July 25, 1854	VI.
10,569	Jackson, Timothy D. Dies for making seamless metal tubes	Feb. 28, 1854	II.
10,963	Jackson, Amos. Apparatus for regulating the supply of feed water to steam boilers	May 23, 1854	VI.
11,331	Jaeger, William G. W. Manufacture of lampblack	July 18, 1854	IV.
11,195	James, Henry B. Smut machines	June 27, 1854	XIII.
11,864	Jarnagin, Chesley. Seats for wagons	Oct. 31, 1854	X.
11,954	Jarosson, Leon. Method of constructing printing blocks	Nov. 4, 1854	XVIII.
11,833	Jenks, Barton H. Looms	Oct. 24, 1854	III.
12,062	Jenkins, J., and J. R. Cooke. Hub bands for carriages	Dec. 12, 1854	X.
11,920	Jenkins, John, assignor to Roe, Horton & Co. Carriage lifting jacks	Nov. 7, 1854	XII.
10,453	Jennings, James H., and Thomas Brierly. Machinery for fulling cloth	Jan. 24, 1854	III.
11,789	Jennings, Lyman. Cans for holding liquids	Oct. 10, 1854	XVI.
11,566	Jinkins, Joseph C. Tuning forks	Aug. 22, 1854	XVIII.
10,805	Johnson, Abram C. Operating dumping cars	Apr. 18, 1854	X.
12,063	Johnson, Edward C. Fliers	Dec. 12, 1854	III.
10,473	Johnson, Eleazer W. Saw mills	Jan. 31, 1854	XIV.
10,575	Johnson, Frank G. Table to hold bank notes when cut	Feb. 28, 1854	XVIII.
11,162	Johnson, H. M. Rotary cultivator	June 27, 1854	I.
11,482	Johnson, Josie. Brick presses	Aug. 8, 1854	XV.
11,127	Johnson, Nathan. Mode of molding bricks	June 20, 1854	XV.
11,029	Johnson, William B. Seed planter	June 6, 1854	I.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10,597	Johnson, Wm. H. Sewing machines	Mar. 7, 1854	III.
10,408	Johnston, James J. Heaters for smoothing irons	Jan. 10, 1854	XVII.
11,044	Johnston, James J., and J. V. Cunningham. Molding hollow ware	June 6, 1854	II.
10,409	Johnston, John. Self-heating smoothing irons	Jan. 10, 1854	XVII.
11,832	Johnston, Joseph. Bran duster. (Antedated April 24, 1854)	Oct. 24, 1854	XIII.
11,567	Jones, Abner W. Means for preventing the explosion of boilers	Aug. 22, 1854	VI.
10,826	Jones, G. C., and P. King. Wedge machine	Apr. 25, 1854	XIV.
10,696	Jones, Richard. Making zinc white	Mar. 28, 1854	IV.
10,424	Jones, Thomas L., assignor, through Horace Dresser and self, to James B. Jones. Feathering paddle wheels	Jan. 10, 1854	VII.
11,068	Jones, William E. Saddle trees	June 13, 1854	XVI.
11,525	Judd, Albert H. Safety apparatus for steam boilers	Aug. 15, 1854	VI.
10,806	Keach, Lawson P. Cooking oysters, &c	Apr. 18, 1854	XVII.
11,228	Keck, Philip H. Washboards	July 4, 1854	XVII.
10,420	Kedzie, John. Filters	Jan. 10, 1854	XI.
11,069	Keech, Jos., and Stephen Stillwell. Winnowing machines	June 13, 1854	I.
11,729	Keeler, J. F. Platform scales	Sept. 26, 1854	XII.
10,807	Keller, George W. Fire escape	Apr. 18, 1854	XXII.
11,196	Kelley, Alfred D. Heel cutters. (Antedated March 20, 1854)	June 27, 1854	XVI.
10,671	Kells, Philip H. Harvesters	Mar. 21, 1854	I.
11,649	Kendall, A. Riving machine	Sept. 5, 1854	XVI.
11,965	Kendall, Adoniram. Shingle machine	Nov. 21, 1854	XIV.
11,895	Kendall, Thomas. Bottle stoppers	Nov. 7, 1854	XXII.
11,183	Kennedy, D. W. Drying cloth	June 27, 1854	V.
11,295	Kennedy, James C. Elevated oven	July 11, 1854	V.
10,861	Ketchum, A. C. Car trucks with adjustable axles	May 2, 1854	X.
10,697	Ketchum, Seymour. Smut machines	Mar. 28, 1854	XIII.
11,429	Ketchum, Wm. F. Submerged paddle wheels	Aug. 1, 1854	VII.
10,841	Ketchum, Wm. F., assignor to R. L. Howard. Guard fingers of harvesters	Apr. 25, 1854	I.
12,113	Same.....Grain and grass harvesters	Dec. 19, 1854	I.
11,996	Kidd, Whitten E. Molds for pressing bonnet fronts	Nov. 28, 1854	XXI.
11,542	Kidder, William, assignor to Wm. Kidder and N. Hunt. Machine for pegging boots and shoes	Aug. 15, 1854	XVI.
10,651	Kimball, Alpheus. Securing window sashes	Mar. 14, 1854	II.
11,750	Kimbel, John. Dumping car	Oct. 3, 1854	X.
10,596	Kimble, Henry B. Sash fasteners	Mar. 7, 1854	II.
11,966	King, Jerome B. Kettles for calcining plaster of Paris	Nov. 21, 1854	IV.
11,611	King, John H., jr. Seed planters	Aug. 29, 1854	I.
12,024	Kittle, Samuel P. Railroad switches	Dec. 5, 1854	IX.
11,865	Kitson, Richard. Machinery for picking cotton and other fibrous substances	Oct. 31, 1854	III.
10,508	Kneet, Reuben. Daguerreotype-plate holder	Feb. 7, 1854	XVIII.
11,483	Knight, Daniel. Fire-arms	Aug. 8, 1854	XIX.
10,518	Knowles, Jonathan. Process of treating vegetable fibers. (Patented in France April 4, 1853)	Feb. 14, 1854	IV.
11,077	Kownover, D. N., assignor to R. L. Kownover. Mode of closing wickets in canal gates	June 13, 1854	IX.
11,866	Krider, John M. Tailors' measuring instrument	Oct. 31, 1854	XXI.
11,049	Knupp, Alfred. Making car and other wheel tires	June 6, 1854	II.
10,828	Kuhlersmedt, W., and W. Hauff. Apparatus for feeding paper to printing presses	Apr. 25, 1854	XVIII.
10,845	Lachemaier, Mathias. Device in constructing strap-iron railing	May 2, 1854	II.
10,917	Lackey, Leander. Machines for pegging boots and shoes	May 16, 1854	XVI.
10,750	Lafetra, Tyler W. Machine for drying tobacco	Apr. 4, 1854	XXII.
11,229	Laird, Joseph F. Ore-stamping machine	July 4, 1854	II.
11,612	Landman, C. R. Lamp fillers	Aug. 29, 1854	V.
11,730	Same.....Safety lamp	Sept. 26, 1854	V.
11,289	Lanegan, Andrew. Lanterns	July 11, 1854	V.
10,811	Lapham, William, executor of Seneca Lapham, deceased. Maize harvesters	Apr. 18, 1854	I.
10,638	Larwill, J. B., and J. Cross. Faucets for measuring liquids	Mar. 14, 1854	XI.
11,165	Latta, Alexander B. Hydro-pneumatic force pump	June 27, 1854	XI.
11,075	Latourette, David L. Mills	June 13, 1854	XIII.
11,378	Lavers, Wm. G. Device for securing ends of wires in fence posts	July 25, 1854	II.
11,731	Laville, John Baptiste. Machinery for felting hats and hat bodies. (Patented in France August 20, 1852)	Sept. 26, 1854	III.
10,792	La Bau, Geo. W. Cleaning machine for blinds, &c	Apr. 18, 1854	XIV.
11,809	Same.....Miter machine	June 27, 1854	XIV.
11,164	La Mothe, Bernard J. Iron buildings	Oct. 17, 1854	IX.
11,937	Leach, George T. Method of engaging and disengaging self-acting car brakes	Nov. 14, 1854	X.
10,474	Leach, Harry. Propellers	Jan. 31, 1854	VII.
10,762	Leavitt, Charles, assignor to S. R. Cockrill. Machines for cleaning cotton	Apr. 18, 1854	III.
11,379	Lechtenthaler, Griffith. Cultivator	July 25, 1854	I.
10,948	Lee, Elon A. Piano-forte action	May 23, 1854	XVIII.
11,967	Lee, George W. Seed planters	Nov. 21, 1854	I.
10,716	Leeds, Joseph. Cooking stoves	Mar. 28, 1854	V.
11,230	Same.....Controlling draught in brick and lime kilns	July 4, 1854	XV.
11,896	Same.....Furnaces for heating buildings	Nov. 7, 1854	V.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10,942	Leeds, L. W., and R. M. Smith. Hydraulic heaters	May 16, 1854	V.
11,613	L'Hommedieu, Ezra. Dies for making augers	Aug. 29, 1854	II.
11,867	Lenher, Samuel. Attachment to siphon	Oct. 31, 1854	XI.
12,099	Leonard, Wm. B. Registering dynanometer	Dec. 19, 1854	VIII.
10,625	Lesley, Oliver. Saw set	Mar. 14, 1854	II.
11,751	Leslie, James Y. Knitting machines	Oct. 3, 1854	III.
10,410	Lester, Ebenezer A. Squeezing and compressing machines for metallic bodies	Jan. 10, 1854	II.
11,599	Levan, George. Reeling machines	Mar. 7, 1854	III.
11,555	Lewis, Abel F. Floating anchors, or drags	Aug. 22, 1854	VII.
12,085	Lieberman, M. Jacob, subject of the Emperor of Russia, at present residing in New York, assignor to George S. Hanford & Co. Waterproofing cloths, &c	Dec. 12, 1854	III.
12,025	Lilley, John. Machinery for separating the fiber from the woody portion of tropical plants. (Patented in England July 21, 1853)	Dec. 5, 1854	III.
11,864	Lillibridge, Warren and Chas. Tailors' measure	Oct. 31, 1854	XXI.
11,197	Lindner, Edward. Repeating magazine and needle-gun	June 27, 1854	XIX.
11,197	Lipman, Hymen L. Eyelet machine	June 6, 1854	XXI.
10,827	Little, George. Mode of operating the feed tables of printing presses	Apr. 25, 1854	XVIII.
10,937	Little, Isaac W. Ox yokes	May 16, 1854	I.
11,406	Little, Wm. Lubricating material. (Patented in England July 14, 1853)	Aug. 1, 1854	XII.
10,448	Littlefield, Dennis G. Stoves	Jan. 24, 1854	V.
10,680	Livermore, George W. Machinery for making barrels	Mar. 21, 1854	XIV.
10,749	Livermore, George W. Machines for crozing the ends of staves. (Patented in England Aug. 31, 1853)	Apr. 4, 1854	XIV.
11,381	Livingston, N. B. Coupling for carriages	July 25, 1854	X.
11,128	Lloyd, Charles C. Gas meters and regulators	June 20, 1854	IV.
10,375	Longbotham, James H. Bookbinders' drying boards	Jan. 3, 1854	XVIII.
10,475	Longking, Thomas. Apparatus for cleaning and buffing daguerreotype plates	Jan. 31, 1854	XVIII.
11,982	Loomis, Joseph G., Mary Ann Loomis, executrix and assignor to W. A. Gardner. Surgical forceps	Nov. 21, 1854	XX.
11,526	Lord, J. L. Grindstone frame	Aug. 15, 1854	XXII.
10,748	Loughborough, Wm. S. Bit fastening for cast-iron bench planes	Apr. 4, 1854	XIV.
10,891	Loughridge, Wm. Method of unloading canal boats and other vessels	May 9, 1854	VII.
11,293	Loughridge, Wm. Arrangement of means for freeing canal boats from water	July 11, 1854	VII.
12,065	Lovecraft, John F. Feed motion for sawing light lumber	Dec. 12, 1854	XIV.
10,600	Loveland, Samuel. Sectional dry docks. (Antedated Sept. 7, 1853)	Mar. 7, 1854	IX.
11,294	Lowe, Wm. Operating cut-off valves of steam engines	July 11, 1854	VI.
11,752	Lownds, Jacob J. Pen and pencil case	Oct. 3, 1854	XVIII.
10,848	Lundfear, Mervin T. Boxes for reed musical instruments	May 2, 1854	XVIII.
12,064	Luttgens, H. A. Cut-off regulators for steam engines	Dec. 12, 1854	VI.
11,166	Lyeth, John McF. Coffins	June 27, 1854	XXII.
10,576	Lyman, A. S. Air engines	Feb. 28, 1854	XI.
11,261	Lyon, Amos. Lightning rods	July 11, 1854	VIII.
11,382	Lyon, John. Ditching plows	July 25, 1854	I.
12,066	Lyon, William, assignor to F. and G. Simpson, B. Dodd, and C. B. Merriman. Sewing machines	Dec. 12, 1854	III.
11,762	Mabie, John. Pen and pencil case	Oct. 3, 1854	XVIII.
10,655	McFarlane, J. G. Seed planters	Mar. 14, 1854	I.
11,167	Mallerd, William. Regulators of gas burners	June 27, 1854	V.
11,168	Same ..... Gas burners	June 27, 1854	V.
11,148	Mallory, Levi W., assignor to William Morris. Omnibus registers	June 20, 1854	X.
10,393	Malone, Samuel. Corn planters	Jan. 3, 1854	I.
11,810	Manny, John H. Grain and grass harvesters. (Antedated June 15, 1854)	Oct. 17, 1854	I.
11,459	Mansfield, Martin H. Screens for hulling clover seed and cleaning grain	Aug. 1, 1854	I.
11,431	Mansfield, Willis. House for switch tenders	Aug. 1, 1854	IX.
10,973	Mansure, John, assignor to Farr & Thompson. Bracelet clasps	May 23, 1854	XVIII.
10,892	Marchant, Horatio G. Manure and sand loader	May 9, 1854	I.
11,897	Marcy, E. E. Vulcanizing elastic gums	Nov. 7, 1854	IV.
12,764	Margatroyd, Thomas, jr. Carriage springs	July 1, 1854	X.
10,611	Marks, David B. Artificial legs	Mar. 7, 1854	XX.
10,454	Marks, Joseph. Valves, piston, and steam passages in cylindrical steam chests	Jan. 24, 1854	VI.
10,701	Marks, Joseph, assignor to William Whiting. Machinery for operating car brakes. (Patented in England Nov. 23, 1852)	Mar. 28, 1854	X.
10,702	Marks, Jos., and John Howarth, assignors to William Whiting. Machinery for operating car brakes	Mar. 28, 1854	X.
12,026	Markham, Leonard F. Machine for rounding the backs of books	Dec. 5, 1854	XVIII.
10,661	Marland, Obadiah. Iron safes	Mar. 21, 1854	II.
12,027	Marland, Obadiah. Paper-making machinery. (Patented in England Sept. 28, 1854)	Dec. 5, 1854	III.
12,028	Marland, Obadiah. Paper-making machinery. (Patented in England Sept. 28, 1854)	Dec. 5, 1854	III.
11,556	Marquis, Robert. Balancing and hoisting apparatus for sashes	Aug. 22, 1854	IX.
11,670	Marsh, Seymour N. Trusses	Sept. 12, 1854	XX.
10,753	Marshall, Elbridge. Seed planters	Apr. 11, 1854	I.
11,557	Same ..... Manure spreader	Aug. 22, 1854	I.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,963	Martin, Daniel B. Packing slide valves in steam engines	Nov. 21, 1854	VI.
11,997	Same..... Steam boilers	Nov. 28, 1854	VI.
11,129	Martin, John S. Painters' brushes	June 20, 1854	XVI.
11,291	Martin, Joseph T. Grapple for raising sunken vessels	July 11, 1854	VII.
11,898	Martin, William Nelson. Coal hods	Nov. 7, 1854	V.
10,411	Matteson, Harry H. Flexible cordage	Jan. 10, 1854	III.
11,133	Matthewson, Nathan F. Watch-chain swivel	June 20, 1854	VIII.
11,938	Maton, Francis. Breech-loading fire-arms	Nov. 14, 1854	XIX.
11,259	Mayer, Andrew. Gas stoves	July 11, 1854	V.
11,674	Same.....Regulators for gas burners	Sept. 12, 1854	V.
11,672	Maynard, Gilbert. Corn shellers	Sept. 12, 1854	I.
10,492	McAdams, John and Wm. Machines for ruling paper	Feb. 7, 1854	XVIII.
10,577	McBride, Wm. Machines for making bed pins	Feb. 28, 1854	XIV.
11,614	McCauley, John G. Harrows	Aug. 29, 1854	I.
11,486	McClelland, James S. Buggies	Aug. 8, 1854	X.
11,869	McConnell, James E. Railroad-car axles	Oct. 31, 1854	X.
11,740	McConnell, Wm. P. Process for making illuminating gas from wood	Sept. 26, 1854	IV.
11,258	McCord, Wm. Horse-power	July 11, 1854	XIII.
11,004	McCormick, Samuel. Impressing the threads upon screw blanks. (Patented in England March 22, 1853)	June 6, 1854	II.
11,998	McDonald, Angus W. Tanks and cisterns for supplying locomotives	Nov. 28, 1854	VI.
11,131	McDougall, D. E. Burglars' alarm	June 20, 1854	XXII.
10,421	McGaffey, I. W. Mortising chisels	Jan. 10, 1854	XIV.
11,899	McGaffey, Ives W. Potato diggers	Nov. 7, 1854	I.
11,169	McGowan, John H. Double-acting force pump	June 27, 1854	XI.
11,673	McGregor, James, jr. Cooking stoves and ranges	Sept. 12, 1854	V.
10,430	McIuturff, Abraham. Machines for mincing meat	Jan. 17, 1854	XVII.
11,900	McKeage, Barnet. Mode of sawing bolts for staves	Nov. 7, 1854	XIV.
10,681	McKenna, Samuel. Portable metal punch	Mar. 21, 1854	II.
11,282	McKinstry, Ann G. V., administratrix of Wm. McKinstry, deceased. Adjustable bearings for circular saws	July 11, 1854	XIV.
11,130	McLaughlin, Thos. G. Radial arms for car brakes	June 20, 1854	X.
11,527	Same.....Railroad-car brakes	Aug. 15, 1854	X.
11,438	McLean, William S. Car wheels with independent flange and tread	Aug. 1, 1854	X.
10,964	McMullen, John. Mechanical means for preventing incrustation in steam boilers	May 23, 1854	VI.
11,487	McMurtry, John. Machine for making bricks	Aug. 8, 1854	XV.
11,834	McNair, John G. Manufacturing carpets and rugs	Oct. 24, 1854	III.
11,763	McRea, William C. Railroad and switch telegraph draw bridge	Oct. 3, 1854	IX.
10,783	Meldrum, Garret. Turning lathe	Apr. 18, 1854	XIV.
11,170	Melendy, John. Fruit picker	June 27, 1854	I.
11,463	Mellen, Dustin F., assignor to D. F. Mellen, J. F. Augustus, and S. A. Eaton. Machine for planing metals	Aug. 1, 1854	II.
11,568	Mellen, Dustin F. Machine for sawing clapboards, &c	Aug. 22, 1854	XIV.
17,387	Mellier, Charles M. A. Paper pulp	Aug. 7, 1854	III.
11,558	Mellish, Henry. Grain mills	Aug. 22, 1854	XIII.
11,790	Mendenhall, Stephen C. Looms	Oct. 10, 1854	III.
11,484	Meriwether, William H. Spring bed bottoms	Aug. 8, 1854	XVII.
10,507	Merrell, Ansel, assignor to John M. Irvine and A. Merrell. Machine for dressing spokes	Feb. 7, 1854	XIV.
10,431	Merrell, Loriston G. Pill machines	Jan. 17, 1854	IV.
10,412	Merrell, William G. Machine for cutting ellipses	Jan. 10, 1854	XIV.
11,071	Merrick, J. Vaughan. Exhaust fans	June 13, 1854	V.
12,100	Merrill, Chas. Sash fasteners	Dec. 19, 1854	II.
11,485	Merrill, J., and Geo. Patten. Refrigerators for marine engines	Aug. 8, 1854	VI.
11,132	Merriman, Anson. Steam-engine regulators	June 20, 1854	VI.
11,290	Mettam, Chas. Construction of iron houses	July 11, 1854	IX.
10,652	Middlekauff, Daniel S. Grain harvesters	Mar. 14, 1854	I.
11,671	Middleton, John W. Method of applying heat to dilate gasses for the purpose of elevating water	Sept. 12, 1854	XI.
11,675	Same.....Apparatus for distributing fluids	Sept. 12, 1854	XI.
11,697	Same.....Tidal or current hydraulic ram	Sept. 19, 1854	XI.
11,505	Miggelt, Peter. Shuttle guards for power looms	Aug. 8, 1854	III.
10,951	Miles, L. A. Valve pump	May 23, 1854	XI.
10,609	Miller, Charles. Sewing machines	Mar. 7, 1854	III.
10,976	Miller, Christian B. Processes of galvanizing metal	May 30, 1854	IV.
11,901	Miller, Elliott T. Shells, or grenade bombs	Nov. 7, 1854	XIX.
10,367	Miller, George D. Tuyeres	Jan. 3, 1854	II.
11,940	Miller, Joseph. Railroad-car coupling	Nov. 14, 1854	X.
12,030	Miller, Henry R. Mill for shelling and grinding corn	Dec. 5, 1854	I.
10,723	Miller, Rodney. Carriage tops	Apr. 4, 1854	X.
11,172	Miller, William J. Machine for cutting brads	June 27, 1854	II.
12,029	Miller, W. H. Washstands	Dec. 5, 1854	XVII.
11,488	Millett, Stanislaus. Sofa bedstead	Aug. 8, 1854	XVII.
10,818	Milligan, William E. Railroad-car seats	Apr. 25, 1854	X.
11,171	Minthorn, Daniel. Inhaling tube	June 27, 1854	XX.
11,490	Moffitt, Alexander. Spring carriage body	Aug. 8, 1854	X.
13,178	Molliere, Pierre. Sewing machines	May 30, 1854	III.
11,437	Monnin, Charles W., and W. M. Booth. Fastening lanterns	Aug. 1, 1854	V.
10,549	Montgomery, Richard. Corrugating medal plates	Feb. 21, 1854	II.
11,070	Montgomery, William. Card-teeth machine	June 13, 1854	III.
11,732	Moody, Paul. Connecting a series of car brakes	Sept. 26, 1854	X.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10,659	Moore, Daniel, assignor to George S. Cameron. Machines for rubbing type	Mar. 21, 1854	XVIII.
11,870	Moore, Daniel. Cartridges for breech-loading fire-arms	Oct. 31, 1854	XIX.
11,871	Same.....Powder flask for breech-loading guns	Oct. 31, 1854	XIX.
12,603	Moore, Hiram. Seed planters	Mar. 7, 1854	I.
11,761	Moore, Spencer. The feeding-hoppers of grain threshers and separators.	Oct. 3, 1854	I.
11,941	Moore, William. Grain winnowers	Nov. 14, 1854	I.
11,791	Morgan, Elijah. Shingle machine	Oct. 10, 1854	XIV.
11,632	Morley, P. A., assignor to Jas. Bright. Glass lanterns	Aug. 29, 1854	V.
10,676	Morris, David A. Anti-friction boxes	Mar. 21, 1854	X.
11,134	Morris, Edmund. Slate frame	June 20, 1854	XVIII.
11,903	Same.....same	Nov. 7, 1854	XXII.
11,676	Morris, Ephraim. Apparatus for determining the weight of cargoes in vessels	Sept. 12, 1854	XII.
10,479	Morris, John L. L. Steam hammers	Jan. 31, 1854	II.
11,939	Morris, Wm. Omnibus registers	Nov. 14, 1854	X.
11,430	Morrison, Wm. H., and M. W. E. Doran. Mortising machine	Aug. 1, 1854	XIV.
11,698	Morrison, Wm H. Fire-arms	Sept. 19, 1854	XIX.
11,650	Morss, Josephine. Driving-wheels of locomotives for ascending inclined planes	Sept. 5, 1854	X.
10,672	Mott, Jordan L. Railroad-car wheels	Mar. 21, 1854	X.
11,041	Same.....Securing car wheels upon axles	June 6, 1854	X.
11,383	Same.....Mode of securing staples to walls	July 25, 1854	XXII.
11,999	Same.....Stoves	Nov. 28, 1854	V.
	Same.....Mode of constructing a combined furnace and caldron, for the use of agriculturists and others. (Patent extended November 20, 1854)	Dec. 1, 1840	V.
10,704	Mott, Richard D. Stereotype pans	Mar. 28, 1854	XVIII
16,771	Mourier, E., and F. F. E. Vallent. Flues for testing alloys	Dec. 30, 1854	IV.
10,377	Muller, Charles. Machines for casting type	Jan. 3, 1854	XVIII
11,231	Muntz, William Henry. Paddle wheels	July 4, 1854	VII.
11,330	Murdock, Ebenezer. Tobacco cutting	July 18, 1854	XXII.
10,977	Murphy, John. Processes for treating gutta-percha	May 30, 1854	IV.
11,076	Murray, Bronson, assignor to T. R. Spencer, assignor to J. S. Wright. Harvester cutters	June 13, 1854	I.
11,942	Myers, Alpheus, M. D. Tape-worm trap	Nov. 14, 1854	XX.
11,943	Same .....Tape-worm operation	Nov. 14, 1854	XX.
11,528	Myers, Jacob. Harrows	Aug. 15, 1854	I.
12,101	Myers, James, jr. Making sugar molds	Dec. 19, 1854	IV.
11,696	Napier, James R., and Wm. J. M. Rankin. Air engines. (Patented in England June 9, 1853)	Sept. 19, 1854	XI.
11,135	Needham, Orwell H. Breast pump	June 20, 1854	XX.
10,449	Neilson, George. Ventilating railroad cars	Jan. 24, 1854	V.
10,990	Same .....Ventilating window to railroad cars	May 30, 1854	V.
11,529	Neisch, Robert. Lime kilns	Aug. 15, 1854	XV.
11,969	Nelson, Richard L. Mode of attaching life-preservers to vests	Nov. 21, 1854	VII.
10,743	Nesmith, John. Machines for making wire netting	Apr. 4, 1854	II.
12,900	Newman, James. Making metal rods and tubes. (Patented in England March 23, 1854)	Nov. 28, 1854	II.
10,551	Newman, M., N. C. Whiteomb, and G. C. Cole. Whiffletree hooks	Feb. 21, 1854	X.
11,074	Newman, M., 2d, N. C. Whiteomb, and G. C. Cole. Coupling	June 13, 1854	X.
10,950	Newton, Abner N. Primer for fire-arms	May 23, 1854	XIX.
11,198	Same .....Breech-loading fire-arms	June 27, 1854	XIX.
11,700	Same.....same	Sept. 19, 1854	XIX.
10,626	Newton, O., and J. A. Crever. Excluding dust from railroad cars	Mar. 14, 1854	V.
11,384	Nichols, James R. Soda-water fountain	July 25, 1854	XXII.
11,615	Nichols, John B. Binding folder	Aug. 29, 1854	III.
10,724	Nichols, Oldin. Chain-cable stopper	Apr. 4, 1854	VII.
10,725	Same.....same	Apr. 4, 1854	VII.
10,396	Nicholson, Henry C., and James Spratt. Sealing preserve cans	Jan. 3, 1854	XVII.
15,704	Nixon, Christopher N. Hanging ships' rudders	May 2, 1854	VII.
11,199	Noble, James. Combing cotton and other fibrous materials	June 27, 1854	III.
10,705	Noreross, Nicholas G. Feed motion for sawing lumber	Mar. 28, 1854	XIV.
10,844	Same .....Devices for tonguing and grooving lumber	May 2, 1854	XIV.
10,876	Norfolk, E. L. Machinery for dressing flax	May 9, 1854	III.
11,944	Normand, C. B. Mode of controlling and guiding logs in saw mills without a carriage. (Patented in England Oct. 27, 1852; in France Nov. 5, 1852)	Nov. 14, 1854	XIV.
11,945	Same. Method of hanging saws for mills	Nov. 14, 1854	XIV.
11,946	Same. Method of controlling the log for curved and bevel sawing. (Patented in England Oct. 27, 1852; in France Nov. 5, 1852)	Nov. 14, 1854	XIV.
11,733	Norris, Septimus. Running-gear of locomotive engines	Sept. 26, 1854	X.
11,677	North, Newell. Spoke machines	Sept. 12, 1854	XIV.
11,508	Norton, John. Blasting rock, timber, &c	Aug. 8, 1854	IX.
11,904	Norton, Marcus P. Railroad-car brakes	Nov. 7, 1854	X.
11,970	Nutting, Mighill. Arrangement of pencils for drawing machines	Nov. 21, 1854	XVIII.
10,751	Ogden, John C., assignor to Charles S. Ogden. Making railroad chairs	Apr. 4, 1854	IX.
10,373	Ogden, Zina, assignor to Lewis C. Ogden. Lowering, raising, and fastening carriage tops	Jan. 3, 1854	X.
12,067	Olds, Henry H. Propulsion of vessels	Dec. 12, 1854	VII.
11,792	Oliver, Richard. Fastenings for garments	Oct. 10, 1854	XXI.
11,678	Osborn, William E. Breech-loading cannon	Sept. 12, 1854	XIX.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,136	Osborn, James P. Method of turning casks, &c., from solid pieces	June 20, 1854	XIV.
10,627	Overend, Andrew. Machine for damping printing paper	Mar. 14, 1854	XVIII.
11,072	Same.....Printers' friskets	June 13, 1854	XVIII.
10,458	Overend, William. Wetting paper	Jan. 24, 1854	XVIII.
10,556	Packard, Charles F. Machines for cutting lathes	Feb. 21, 1854	XIV.
11,527	Same.....Sawing machine	July 11, 1854	XIV.
10,480	Page, Charles G. Electro-magnetic engines. (Patented in England May 3, 1851)	Jan. 31, 1854	VIII.
10,510	Page, Clark D. Lime kilns	Feb. 7, 1854	XV.
10,394	Page, George F. Ratchet catch for head blocks in saw mills	Jan. 3, 1854	XIV.
10,368	Page, Lucius. Screw bolts and nuts	Jan. 3, 1854	II.
10,863	Pagett, Washington F. Harrows	May 2, 1854	I.
11,872	Palen, Vincent. Mechanism for sawing off piles under water	Oct. 31, 1854	IX.
11,002	Palm, Joseph Baron de. Brick and pottery kilns. (Patented in England July 13, 1852)	June 6, 1854	XV.
10,481	Palmer, William. Water gauges for steam boilers	Jan. 31, 1854	VI.
11,759	Same.....Apparatus for starting railroad cars	Oct. 3, 1854	IX.
11,439	Palmer, William M. Threshing machine	Aug. 1, 1854	I.
11,051	Palmer, William Russell. Threshers. (Patented in England April 11, 1853)	June 13, 1854	I.
11,328	Same.....Horse-powers. (Patented in England April 11, 1853)	July 18, 1854	XIII.
11,853	Palmié, G. F. and A. H. Fire-arms	Oct. 24, 1854	XIX.
11,530	Patrick, Andrew. Unloading coal and other cars	Aug. 15, 1854	X.
10,864	Patton, G. M. Arrangement of spring dies in machines for making clinch rings	May 2, 1854	II.
11,760	Paul, Zachariah M. Brick machine	Oct. 3, 1854	XV.
11,200	Pearsall, Thomas. Ventilated flour barrels	June 27, 1854	XIV.
11,850	Pearson, Mark R., assignor to M. R. Pearson and Samuel Shaw. Self-acting roller catch for mule	Oct. 24, 1854	III.
10,744	Pease, Abiel. Drill for metal drilling	Apr. 4, 1854	II.
11,559	Pease, Julius A. Diaphragm pump	Aug. 22, 1854	XI.
11,947	Same.....India-rubber overshoes	Nov. 14, 1854	IV.
12,283	Peaslee, Horace W. Machines for washing paper stock	Sept. 20, 1854	III.
11,174	Peavey, T. H. Charger for fire-arms	June 27, 1854	XIX.
10,930	Peck, Jeremiah, assignor to J. Peck and C. F. Grilley. Fire-arms	May 16, 1854	XIX.
11,758	Peck, Samuel. Manufacture of daguerreotype cases	Oct. 3, 1854	XVIII.
10,639	Penfield, Eldridge H. Metallic grummets for sails	Mar. 14, 1854	VIII.
12,068	Same.....Dock holders for horses	Dec. 12, 1854	XXII.
11,173	Penrose, Thomas. Road scraper and spreader	June 27, 1854	IX.
11,081	Perkes, Samuel. Crushing and grinding quartz and minerals. (Patented in England Oct. 12, 1852)	June 13, 1854	II.
11,837	Perkins, E. L. Machinery for polishing paper	Oct. 24, 1854	III.
12,087	Perkins, Joseph, assignor to Perkins & Upton. Trussing yards to vessels' masts	Dec. 12, 1854	VII.
11,079	Perley, Charles. Adjustable rails for replacing cars on the track	June 13, 1854	IX.
11,080	Same.....Chain-cable stopper	June 13, 1854	VII.
12,001	Perry, A. D. Breech-loading fire-arms. (Patented in England June 3, 1854)	Nov. 28, 1854	XIX.
12,069	Perry, James. Gold collector	Dec. 12, 1854	II.
11,972	Perry, William. Spinning frames	Nov. 21, 1854	III.
11,441	Petsch, Alexander H. Dumping car	Aug, 1, 1854	X.
10,653	Pettes, Simon. Drilling machines for stone	Mar. 14, 1854	XV.
11,679	Phares, Joseph. Tailors' shears	Sept. 12, 1854	XXI.
11,028	Phelps, Elijah. Excavators	June 6, 1854	IX.
10,640	Phelps, E. C. Stop cock	Mar. 14, 1854	XI.
11,905	Phillips, Dewey. Farm gate	Nov. 7, 1854	IX.
10,593	Phillips, William G. Method of opening and closing gates	Mar. 7, 1854	IX.
11,836	Phineas, Myer. Pen holder	Oct. 24, 1854	XVIII.
11,175	Pier, Oliver. Trap for animals	June 27, 1854	XXII.
10,414	Pierce, David. Gold separator	Jan. 10, 1854	II.
10,991	Pierce, John R. Neck yokes	May 30, 1854	I.
10,413	Pierce, Henry E. Machine for matting the ends of blocks in making matches	Jan. 10, 1854	XXII.
10,966	Pigot, James. Apparatus for making palliasses	May 23, 1854	XVII.
11,256	Pine, Robert G. Plating metals	July 11, 1854	II.
11,701	Pitman, Isaac. Rosin-oil lamps	Sept. 19, 1854	V.
11,176	Platt, L. L. and A. L. Manufacture of wooden buttons	June 27, 1854	XXI.
11,177	Plumb, Hiram and Simon H. Mortising machine	June 27, 1854	XIV.
12,031	Plumb, William Henry. Machines for crushing ores	Dec. 5, 1854	II.
10,610	Polley, Clark. Method of operating hydraulic rams	Mar. 7, 1854	XI.
10,482	Pomeroy, Ebenezer G. Manufacture of sheet iron	Jan. 31, 1854	II.
10,992	Poole, Daniel. Quartz crushers	May 30, 1854	II.
11,492	Porter, Charles T. Stone-dressing machines	Aug. 8, 1854	XV.
10,559	Porter, Rufus, assignor to George Stephenson. Machinery for making cordage	Feb. 21, 1854	III.
11,271	Porter, Rufus. Cane chair	July 11, 1854	XVII.
11,560	Porter, William D. Wood-gas generators	Aug. 22, 1854	IV.
11,082	Potter, Merritt F. Railroad odometers	June 13, 1854	VIII.
11,651	Powell, Thomas M. Ice cream freezers	Sept. 5, 1854	XVII.
12,114	Pratt, Elisha, assignor to E. Pratt and H. P. Upton. Leather-splitting machines	Dec. 19, 1854	XVI.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,009	Pratt, Jared. Making seamless metal tubes	June 6, 1854	II.
11,793	Prescott, Emerson. Machines for splitting horn, &c	Oct. 10, 1854	XXII.
10,893	Prescott, Jonathan and George W. Machine for reducing wood slivers	May 9, 1854	XIV.
10,522	Preston, Robert. Cloth drying	Feb. 14, 1854	III.
11,056	Prew, David. Cast-iron car wheels	June 13, 1854	X.
11,083	Price, Ebenezer N. Bridle bits	June 13, 1854	XVI.
11,008	Price, Whitman. Cultivator	June 6, 1854	I.
11,616	Same.....Plows for planting potatoes	Aug. 29, 1854	I.
10,378	Price, William H. Bedstead fastenings	Jan. 3, 1854	XVII.
10,829	Prindle, Daniel R. Field fence	Apr. 25, 1854	IX.
10,450	Prosser, Thomas. Manufacture of hollow slabs and flanged metallic plates	Jan. 24, 1854	II.
18,861	Same .....Surface condensers	Oct. 31, 1854	VI.
10,911	Putnam, Joseph. Molding clay pipe couplings	May 16, 1854	XV.
11,757	Putnam, Silas S. Curtain fixtures	Oct. 3, 1854	XVII.
11,385	Quantin, Alphonso. Stopping mineral-water bottles	July 25, 1854	XXII.
11,272	Rabbeth, J. Diaper pins	July 11, 1854	XXI.
11,386	Race, W., assignor to H. C. Silsby and W. Race. Stove regulators	July 25, 1854	V.
10,865	Ramsay, Wm. B. and G. M. Floxiblo harrows	May 2, 1854	I.
11,756	Rankin, Androw. Making hat bodies	Oct. 3, 1854	III.
11,255	Rankin, David. Applying water to cuniformod buckets of flutter wheels	July 11, 1854	XI.
11,000	Rauch, A. R. Machines for washing bottles	June 6, 1854	XXII.
11,839	Rauch, John H. Sliding pen and pencil case	Oct. 24, 1854	XVIII
11,993	Ray, Elias M. Knitting machines	May 30, 1854	III.
10,784	Ray, Fowler M. Spiral springs for railroad cars	Apr. 18, 1854	X.
10,907	Read, Charles A. Self-heating smoothing irons	May 16, 1854	XVII.
11,617	Redick, William. Seed planters	Aug. 29, 1854	I.
11,139	Reed, Jesse. Arrangement of ship's capstan and windlass	June 20, 1854	VII.
11,045	Reed, John C., assignor to C. P. Buckingham, H. P. Upton, and J. C. Read. Grinding mills	June 6, 1854	XIII.
10,460	Reese, Jacob. Rolling axles and shafts	Jan. 24, 1854	II.
10,493	Same.....Machines for making nuts	Feb. 7, 1854	II.
10,524	Samo.....Hanging the foro plate to iron-rolling machinery	Feb. 14, 1854	II.
12,047	Regester, Joshua, assignor to Clampit & Regester. Lubricating apparatus	Dec. 5, 1854	XII.
11,493	Reif, Christian. Clover separators	Aug. 8, 1854	I.
11,138	Reimer, Benj. F. Brakes in railroad cars	June 20, 1854	X.
10,896	Remington, John R., deceased. Cement compounds	July 4, 1854	IV.
10,574	Renton, James. White zinc furnaces	Feb. 28, 1854	IV.
11,838	Same.....Making wrought iron direct from the oro	Oct. 24, 1854	II.
11,201	Revercomb, Jacob. Plows	June 27, 1854	I.
12,102	Reynolds, George. Compositions for tanning	Dec. 19, 1854	XVI.
11,086	Reynolds, Ira. Harvesters	June 13, 1854	I.
11,533	Reynolds, O. L. Machino for cutting irregular forms	Aug. 15, 1854	XIV.
16,189	Rich, Obadiah. Preparing taunate of lime	Dec. 8, 1854	IV.
12,013	Richards, Henry, and Charles F. Windsor. Windlasses	Nov. 28, 1854	XII.
11,561	Richardson, H., S. Morris, jr., and B. C. Perry. Folding umbrellas	Aug. 22, 1854	XXI.
11,820	Richardson, John. Pen and pencil case	Oct. 17, 1854	XVIII.
11,840	Same .....same	Oct. 24, 1854	XVIII.
18,873	Same .....samo	Oct. 31, 1854	XVIII.
11,906	Rider, William E., and John Murphy. Desulphurizing gutta-percha and like gums	Nov. 7, 1854	IV.
11,387	Ring, Elihu. Butter workers	July 25, 1854	XVII.
10,641	Ripley, Ezra. Faucet	Mar. 14, 1854	XI.
10,612	Ripley, Seaman C. Brick machines	Mar. 7, 1854	XV.
11,942	Robbins, Charles A. Ditching and excavator plow	Nov. 14, 1854	I.
10,904	Roberts, Cyrus. Harvester rakes	May 16, 1854	I.
10,726	Roberts, Elijah. Gates for water wheels	Apr. 4, 1854	XI.
12,115	Roberts, Milton, assignor to Roberts & Pierce. Machine for turning prismatic forms	Dec. 19, 1854	XIV.
12,015	Robertson, Thomas J., assignor to T. J. W. Robertson and N. E. Beach. Sewing machines	Nov. 28, 1854	III.
11,754	Robertson, Wm. H. Machines for dressing stono	Oct. 3, 1854	XV.
11,532	Robie, Jacob C. Turntablo	Aug. 15, 1854	IX.
10,455	Robinson, James. Threshers and cleaners of grain	Jan. 24, 1854	I.
10,628	Robinson, Jos. W. Form of scythes	Mar. 14, 1854	I.
11,140	Robinson, S. B. Drying grain	June 20, 1854	V.
10,523	Robinson, Warren. Ships' ventilator	Feb. 14, 1854	V.
10,866	Robinson, William, jr. Machinery for making rope	May 2, 1854	III.
12,070	Roe, Henry A. Cheese vats	Dec. 12, 1854	I.
11,973	Roebling, John A. Manufacturing wire rope	Nov. 21, 1854	II.
12,032	Same.....Steam boilers	Dec. 5, 1854	VI.
11,907	Roff, Erastus W. Machinery for cutting tenons on blind slats	Nov. 7, 1854	XIV
11,562	Rogers, Artemas. Instrument for manufacturing door knobs	Aug. 28, 1854	II.
10,706	Rogers, David B. Machines for forming cultivators' teeth	Mar. 28, 1854	I.
10,914	Rogers, Georgo. Baths for coating metals with other metals	May 16, 1854	II.
10,895	Rogers, James. Maohino for marking out sash	Mar. 9, 1854	XIV.
10,395	Rogers, Thomas. Machines for cutting hand rails	Jan. 3, 1854	XIV.
10,582	Rollins, George A. Tool-rest for turning lathes	Feb. 28, 1854	XIV.
12,002	Root, E. K. Machine for boring tho chambers in tho cylinders of fire-arms	Nov. 28, 1854	XIX.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,531	Roper, Sylvester H. Sewing machines	Aug. 15, 1854	III.
12,071	Ross, Joel H. Hygrometric regulator for hot-water apparatus	Dec. 12, 1854	V.
11,495	Ross, Luther, and G. Potter. Machine for cutting boot and shoe soles	Aug. 8, 1854	XVI.
11,591	Ross, Robert. Steam valves	Aug. 22, 1854	VI.
12,072	Roth, George. Looms	Dec. 12, 1854	III.
10,780	Roth, J. A., and J. Lea. Machines for bleaching flax. (Patented in England February 7, 1854)	Apr. 18, 1854	III.
10,808	Same.....Processes for bleaching flax. (Patented in England May 26, 1853)	Apr. 18, 1854	III.
10,894	Same.....Bleaching apparatus. (Patented in England February 7, 1854)	May 9, 1854	IV.
11,329	Same.....Machines for scouring piece goods. (Patented in England February 7, 1854)	July 18, 1854	III.
11,755	Rouse, Wanton. Self-acting mules	Oct. 3, 1854	III.
11,652	Rowland, Charles. Tables	Sept. 5, 1854	XVII.
10,779	Rowland, Moses T. Tailors' measures	Apr. 18, 1854	XXI.
11,085	Rowley, James L., assignor to J. L. Rowley and R. H. Gilson. Carriages	June 13, 1854	X.
11,653	Rugg, B. A., and E. H. Benjamin. Machinery for feeding paper to printing presses	Sept. 5, 1854	XVIII
11,241	Ruggles, Solomon W., assignor to Ruggles, Smith, and Austin. Self-acting cheese presses	July 4, 1854	XII.
11,511	Ruggles, Solomon W., assignor to S. W. Ruggles and A. R. Smith. Fan blower	Aug. 8, 1854	V.
10,588	Ruggles, Stephen P. Printing presses	Feb. 28, 1854	XVIII
11,908	Rumley, Charles. Steam-engine valves	Nov. 7, 1854	VI.
11,909	Same.....Rotary engines	Nov. 7, 1854	VI.
11,254	Runge, Gustavus. Trap doors	July 11, 1854	IX.
12,466	Russell, David. Spade plows	Feb. 27, 1854	I.
11,036	Same.....Method of operating saw-mill blocks	June 6, 1854	XIV.
10,369	Russell, Jonathan. Machine for cutting irregular forms	Jan. 3, 1854	XIV.
11,619	Russell, Titus H. Saw-mill dogs	Aug. 29, 1854	XIV.
11,569	Rust, William O. Saw set	Aug. 22, 1854	XIV.
10,620	Ryan, Daniel, and J. Flanagan. Water closets	Mar. 7, 1854	XXII.
11,499	Safford, Albert G. Applying springs to window sashes	Aug. 8, 1854	IX.
10,831	Salomon, John C., jr. Brick making	Apr. 25, 1854	XV.
11,552	Sampson, Elnathan. Attaching hubs to axles	Feb. 21, 1854	X.
11,388	Same.....Platform scales	July 25, 1854	XII.
11,178	Sanders, B. D. Winnowers of grain	June 27, 1854	I.
11,570	Sangster, Hugh. Securing glasses in lanterns	Aug. 22, 1854	V.
10,913	Sargent, Charles G. Machinery for combing wool	May 16, 1854	III.
11,534	Same.....same	Aug. 15, 1854	III.
11,812	Sargent, Moses, jr. Roving tubes	Oct. 17, 1854	III.
11,179	Saunders, William H. Carriage axle	June 27, 1854	X.
11,974	Savage, Elliott. Machine for threading screw blanks	Nov. 21, 1854	II.
10,579	Sawyer, Joseph. Sockets for bench hooks	Feb. 28, 1854	XIV.
10,613	Same.....Machines for splitting rattans	Mar. 7, 1854	XXII.
11,509	Saxton, Amos I. Mode of constructing iron buildings	Aug. 8, 1854	IX.
11,087	Schinz, Charles. Process for hardening tallow	June 13, 1854	IV.
10,546	Schuyler, Joseph M., and William Zern, assignors to D. L. Easterly. Weaving wire screens	Feb. 21, 1854	II.
11,445	Schwingroubert, Louis. Shoe horns	Aug. 1, 1854	XVI.
11,875	Scott, E. W. Machine for manufacturing mast hoops	Aug. 31, 1854	VII.
10,931	Scott, Lyman. Portable grinding mill	May 16, 1854	XIII.
10,785	Seagrave, John D. Machines for paring apples	Apr. 18, 1854	XVII.
11,910	Searle, Isaac. Machinery for making hat bodies	Nov. 7, 1854	III.
11,180	Seaver, Peasley. Calipers	June 27, 1854	XIV.
10,759	Seay, Thomas E. Brick machines	Apr. 11, 1854	XV.
14,255	Scithen, John. Envelopes for bottles	Aug. 29, 1854	XXII.
11,911	Selleck, Robert M. Harness saddles	Nov. 7, 1854	XVI.
11,095	Sergeant, Henry C. Feed-water apparatus to steam boilers	June 14, 1854	VI.
11,233	Severson, Benjamin. Cast-iron car wheels	July 4, 1854	X.
11,883	Sewell, William, assignor to Joseph Barton; reassignor to W. Sewell. Surface condensers	Oct. 31, 1854	VI.
11,712	Seymour, Edward, assignor to Daniel B. Brown. Gold separator	Sept. 19, 1854	II.
12,971	Seymour, Alfred B. Machines for helically increasing sheet-metal pipes	May 29, 1854	II.
10,674	Shands, J. G. Machines for dressing mill stones	Mar. 21, 1854	XIII.
11,035	Shank, Isaac R. Lath machine	June 6, 1854	XIV.
11,841	Shanklin, Josiah. Level, bevel, scale, and square	Oct. 24, 1854	VIII.
12,075	Shares, Daniel W. Seed planters and cultivators	Dec. 12, 1854	I.
11,571	Shaw, Edmund. Sewing machine	Aug. 22, 1854	III.
11,581	Shaw, Melvin, assignor to M. Shaw and D. G. Wheeler. Clamps for sewing machines. (Antedated February 22, 1854)	Aug. 22, 1854	III.
10,646	Shaw, Philander. Rotary cultivators	Mar. 14, 1854	I.
11,680	Same.....Sewing machines	Sept. 12, 1854	III.
10,760	Shaw, W. A., and George Parker. Gas street-lamps	Apr. 11, 1854	V.
11,443	Shearman, Simeon. Method of cleaning and feeding in grain to the mill stones	Aug. 1, 1854	XIII.
11,033	Sheffield, John. Apparatus for filing mill saws	June 6, 1854	II.
11,681	Sheldon, Samuel. Portable grist mills	Sept. 12, 1854	XIII.
11,842	Sherwood, Benjamin. Safes	Oct. 24, 1854	II.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,794	Sherwood, John P. Damper for ovens	Oct. 10, 1854	V.
12,103	Same.....Cut-nail machine	Dec. 19, 1854	II.
10,494	Shimer, Michael. Winnowers	Feb. 7, 1854	I.
12,033	Shirley, Daniel H. Piano-forte action	Nov. 28, 1854	XVIII.
10,867	Short, Sewall. Violins	May 2, 1854	XVIII.
11,090	Shove, William. Buckles	June 13, 1854	II.
10,382	Shuttleworth, John. Power looms	Jan. 3, 1854	III.
11,619	Sibbet, R. L. Method of tenoning spokes	Aug. 29, 1854	XIV.
10,642	Siekels, Gerard. Rotary engines	Mar. 14, 1854	VI.
10,761	Sigler, Henry. Fish hooks	Apr. 14, 1854	XXII.
11,461	Sikes, James W. Cap or withe for the masts of vessels	Aug. 1, 1854	VII.
11,092	Silver, Thomas. Tightening windows	June 13, 1854	IX.
11,094	Simonds, G. B., and A. Breaer. Spark arresters	June 13, 1854	V.
11,682	Simonds, Lorenzo. Palate for artificial teeth	Sept. 12, 1854	XX.
11,842	Singer, Isaac M. Sewing machines	May 2, 1854	III.
10,974	Same.....same	May 30, 1854	III.
10,975	Same.....same	May 30, 1854	III.
11,843	Sirret, Emile. Fastening lamps in lanterns	Oct. 24, 1854	V.
10,718	Sizer, Ephraim, Titus, and Emerson, and A. Halladay. Sacket's braiding machine	Mar. 28, 1854	III.
11,572	Skinner, Halcyon, and W. Greenhalgh. Carpenters' gauge	Aug. 22, 1854	XIV.
10,909	Skinner, Smith A. Surgical splints	May 16, 1854	XX.
11,912	Slater, James. Form for and mode of operating circular saws	Nov. 7, 1854	XIV.
10,432	Sloan, Thomas J. Apparatus for indicating the action of the feed pump to steam boilers	Jan. 17, 1854	VI.
10,912	Same.....Water indicators for steam boilers	May 16, 1854	VI.
12,035	Same.....Casting metal window sashes	Dec. 5, 1854	II.
11,683	Smart, Don Carlos. Curtain fixtures	Sept. 12, 1854	XVII.
10,708	Smart, Joseph. Pumps	Mar. 28, 1854	XI.
10,836	Smiley, De Witt C. Oils for machinery	Apr. 25, 1854	XII.
11,620	Smith, A. J. Corn shellers	Aug. 29, 1854	I.
12,036	Smith, D. G. Running gear of railroad cars	Dec. 5, 1854	X.
10,939	Smith, D. M. Lathe dog	May 16, 1854	XIV.
11,303	Smith, F. B. Lifting jacks	July 11, 1854	XII.
11,274	Smith, F. G. Condensers for steam engines	July 11, 1854	VI.
11,684	Same....Mode of operating fire engines	Sept. 12, 1854	XI.
11,753	Smith, Francis H. Brick machines	Oct. 3, 1854	XV.
10,709	Smith, Henry C. Construction of shingle machines	Mar. 28, 1854	XIV.
11,497	Smith, Ira, and J. Stonesiper. Lard lamps	Aug. 8, 1854	V.
11,913	Smith, Jeremiah P. Corn shellers	Nov. 7, 1854	I.
10,553	Smith, John B. Machine for slitting clothes pins	Feb. 21, 1854	XVII.
11,253	Smith, J. B. Machines for mortising sash stiles	July 11, 1854	XIV.
12,104	Smith, Jonathan. Dry docks, and other methods for holding vessels by the keel	Dec. 19, 1854	IX.
11,275	Smith, Josiah M. Machines for planing stone and metals	July 11, 1854	XV.
11,389	Smith, J. W. Sheet-metal candlesticks	July 25, 1854	V.
11,702	Smith, Marvin. Water meter	Sept. 19, 1854	XI.
10,643	Smith, Nathan, and A. Crandall. Machines for grinding cotton cards	Mar. 14, 1854	II.
10,560	Smith, Solomon, assignor to S. Smith and William Schoaler. Parti-coloring machines	Feb. 1, 1854	IV.
11,273	Smith, Thomas B. Cow catchers	July 11, 1854	IX.
11,336	Smith, William W. Buckles	July 18, 1854	XVI.
10,835	Snell, Varanes. Machines for cutting and skiving boot counters	Apr. 25, 1854	XVI.
11,307	Snow, George B. Mode of ringing bells by steam	July 11, 1854	XXII.
11,337	Snyder, Abram. Railroad-car truck	July 18, 1854	X.
11,340	Snyder, John F. Metallic fire-places	July 18, 1854	V.
10,583	Snyder, John G., and Joseph Young. Seed planters	Feb. 28, 1854	I.
10,809	Sohn, Anthony. Machines for filling match frames	Apr. 18, 1854	IV.
10,604	Sollenberger, Joseph. Carriage brakes	Mar. 7, 1854	X.
10,745	Same.....Training vines	Apr. 4, 1854	I.
11,304	Southworth, Albert S., and J. J. Hawes. Taking daguerreotypes for stereoscopes	July 11, 1854	XVIII
10,461	Soule, Charles R. Threshers and separators of grain	Jan. 24, 1854	I.
10,446	Souther, George. Tires for carriage wheels	Aug. 1, 1854	II.
10,415	Spafford, J. P. Saw gummers	Jan. 10, 1854	XIV.
11,280	Spangler, Washington, assignor to himself, E. H. Chambers and W. F. Wilson. Augers, gimlets, &c	July 11, 1854	XIV.
10,936	Spear, Matthew. Miter box	May 16, 1854	XIV.
12,105	Speed, John J., jr., and John A. Bailey. Shingle machine	Dec. 19, 1854	XIV.
11,795	Speer, Cornelius. Ginning and cleaning cotton	Oct. 10, 1854	III.
11,019	Speers, Noah W. Hydrant cap	June 6, 1854	XI.
11,234	Speight, John S. Brick kilns	July 24, 1854	XV.
12,004	Spence, Nathaniel. Molds for pressing bonnet frames. (Antedated Nov. 10, 1853)	Nov. 28, 1854	XXI.
10,832	Spencer, A., and A. Loesehner. Forming and hardening hat bodies	Apr. 25, 1854	III.
11,535	Spencer, George. Railroad-car windows	Apr. 15, 1854	IX.
11,573	Spencer, Robert. Harness saddletrees	Aug. 22, 1854	XVI.
11,576	Same.....Harness saddles	Aug. 22, 1854	XVI.
11,339	Spilman, Peter. Cutting apparatus for laying off the serge in garments	July 18, 1854	XXI.
10,987	Sprague, Alexander M. Flue bottom of steam boilers	May 9, 1854	VI.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
10,898	Sprague, Alexander M. Pistons for steam engines	May 9, 1854	VI.
11,091	Sprague, E. H. Locking up printers' forms	June 13, 1854	XVIII.
10,644	Sprague, Welcome. Seed planters	Mar. 14, 1854	I.
11,332	Spratt, James. Hermetical sealing	July 18, 1854	XXII.
11,813	Squire, John J. Sawing machine	Oct. 17, 1854	XIV.
10,758	Stafford, Hiram. Rat trap	Apr. 11, 1854	XXII.
10,813	Stafford, James R. Distilling and condensing apparatus	Apr. 25, 1854	IV.
11,093	Stagg, David I. Locks, in operating bolts and for controlling series of doors	June 13, 1854	II.
10,710	Stagg, Thomas G. Machines for tenoning blind slats, &c	Mar. 28, 1854	XIV.
10,521	Standish, John, assignor to J. Standish and H. A. Miller. Machines for pegging boots and shoes	Feb. 14, 1854	XVI.
11,574	Starr, Alfred A. Catamenial ameliorator	Aug. 27, 1854	XX.
10,545	Stearns D. & H. Stretching and drying cloth	Feb. 21, 1854	III.
12,074	Stedman, George W. Sewing machine	Dec. 12, 1854	III.
12,106	Stein, Louis. Revolving fans for apartments	Dec. 19, 1854	XVII.
10,525	Sterling, W. G. Planting hoes	Feb. 14, 1854	I.
10,833	Sterling, William G. Forming roofs	Apr. 25, 1854	IX.
11,703	Same.....Counting machines, and machines for indicating motion	Sept. 19, 1854	VIII.
11,975	Stevens, John Lee. Furnaces. (Patented in England October 1, 1852)	Nov. 21, 1854	V.
11,622	Stevens, Joshua. Chairs for exercising	Aug. 29, 1854	XX.
10,994	Stevens, M. W., and E. E. Kingsley. Sewing machine	May 30, 1854	III.
11,334	Stevenson, H. C. Washing machines	July 18, 1854	XVII.
11,814	Stevenson, Richard B. Water pipes	Oct. 17, 1854	XI.
11,876	Stevenson, William J. Soldering furnace	Oct. 31, 1854	V.
10,932	Stewart, Linus. Saw	Jan. 3, 1854	IV.
12,037	Stewart, Matthew. Manufacture of brushes	Dec. 5, 1854	XVII.
10,462	Stiles, Moses C., and T. S. Lewis. Machine for making window blinds	Jan. 24, 1854	XIV.
11,577	Stillman, Paul. Counting machines	Aug. 22, 1854	VIII.
11,949	Stillson, George D. Excavating machine	Nov. 14, 1854	IX.
10,433	Stimpson, C. W. Photographic-plate vise	Jan. 17, 1854	XVIII.
10,605	Stoakes, James W. Apparatus for paying the seams of vessels	Mar. 7, 1854	VII.
11,734	Stockton, Joseph B. Springs to the knives of straw cutters	Sept. 26, 1854	I.
10,397	Stoddard, Oren. Machinery for sawing logs	Jan. 3, 1854	XIV.
10,906	Stoddard, William. Rotary shingle machine	May 16, 1854	XIV.
11,950	Same.....Shingle machine	Nov. 14, 1854	XIV.
12,038	Stone, Amasa. Method of extinguishing fire in inaccessible places	Dec. 5, 1854	V.
10,603	Stone, R. J. R. Machine for boring and mortising carriage hubs	Mar. 7, 1854	XIV.
11,442	Stone, Sandford. Self-loading and dumping cart	Aug. 1, 1854	X.
10,834	Storm, William M. Bullet molds	Apr. 25, 1854	XIX.
10,846	Same.....Chargers for fire-arms	May 2, 1854	XIX.
11,391	Stouder, David. Ditching spade	July 25, 1854	I.
11,312	Stouffer, J., P. Brough, and J. W. Barr. Flour and bolting	July 11, 1854	XIII.
11,498	Stout, Thomas B. Car coupling	Aug. 8, 1854	X.
11,088	Stowell, John. Steering apparatus	June 13, 1854	VII.
11,181	Straub, Isaac. In grinding mills	June 27, 1854	XIII.
11,390	Same.....Corn-cob cutter	July 25, 1854	I.
11,306	Straw, Willis. Chain hook	July 11, 1854	II.
10,935	Street, William H. Attaching blankets to cylinders for printing presses	May 16, 1854	XVIII.
10,969	Strode, Joseph C. Hydraulic rams	May 23, 1854	XI.
11,621	Same.....Puppet valve for hydraulic rams	Aug. 29, 1854	XI.
11,333	Stubblefield, Thomas. Steam gauges	July 18, 1854	VI.
11,444	Stull, John. Saw mills	Aug. 1, 1854	XIV.
10,869	St. John, L. C. Hydrodynamic engines	May 2, 1854	XI.
11,305	St. John, R. H. Bedstead fastenings	July 11, 1854	XVII.
10,968	Suggert, Lewis C. Processes for treating hemp	May 23, 1854	IV.
11,182	Sumner, Thomas. Steam hammers	June 27, 1854	VI.
10,580	Sumner, William. Organs	Sept. 25, 1854	XXII.
16,200	Surgery, William P. Cigars	Feb. 28, 1854	XVIII.
10,423	Swaim, James. Magnetic toy called the Magical Cupid	Jan. 10, 1854	VIII.
11,575	Swartz, David and Samuel. Fastenings of plows	Aug. 22, 1854	I.
11,951	Swartz, Jacob. Grain and grass harvesters	Nov. 14, 1854	I.
11,089	Sweeney, Peter. Steam boilers	June 13, 1854	VI.
11,278	Same.....Hot-air furnace	July 11, 1854	V.
11,536	Sweet, William A. Fire-arms	Aug. 15, 1854	XIX.
11,597	Swingle, Alfred, assignor to E. Townsend. Sewing machines	Aug. 8, 1854	III.
12,078	Taft, Benjamin F. Boring machine	Dec. 12, 1854	XIV.
11,017	Taft, Timothy F. Device for operating cutter heads of planing machines	June 6, 1854	XIV.
12,107	Taggart, Samuel. Clutch in machines for packing flour	Dec. 19, 1854	XIII.
12,005	Talbot, William. Looms for weaving bags	Nov. 28, 1854	III.
10,899	Tallcot, Daniel. Construction of hatches	May 9, 1854	IX.
11,704	Tapley, John. Pumps	Sept. 19, 1854	XI.
10,379	Tapley, Philip P. Machines for polishing leather	Jan. 3, 1854	XVI.
12,039	Tasker, Thomas T. Regulating the furnace of hot-water apparatus	Dec. 5, 1854	V.
10,647	Taylor, Abijah. Steam-engine faucet valve	Mar. 14, 1854	VI.
11,005	Taylor, Donald. Berth-knee former	June 6, 1854	VII.
10,933	Taylor, H. S. Machine for paging books	May 16, 1854	XVIII
12,040	Taylor, James. Covering cotton thread with wool	Dec. 5, 1854	III.
11,097	Taylor, T. C. Soap compounds. (Patented in England September 17, 1853)	June 13, 1854	IV.
11,098	Same.....Soap manufacturing process	June 13, 1854	IV.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,510	Taylor, Weatherill. Bushing sheaves for ships' blocks	Aug. 8, 1854	VII.
11,952	Tayman, Benjamin J. Machinery for stretching and drying cloth	Nov. 14, 1854	III.
10,946	Teal, Peter, and Charles Tyler, assignors to W. P. Cresson & Co. Lathes for turning the interior surface of hollow ware. (Patented in England April 19, 1853)	May 23, 1854	XIV.
12,453	Teese, Lewis, and Son. Forks for gold diggers	Nov. 27, 1854	I.
11,142	Terry, Adrian R. Coating gas retorts	June 20, 1854	IV.
11,308	Terry, Jabez C. Screw wrenches	July 11, 1854	II.
10,372	Terry, John B. Machines for sticking pins	Jan. 3, 1854	II.
11,767	Thatcher, Joseph. Movements of gas meters	Oct. 3, 1854	IV.
10,765	Thayer, George W. Trusses for iron bridges	Apr. 11, 1854	IX.
11,096	Thomas, Earl of Dundonald. Composition for coating telegraphic wires, and for other purposes. (Patented in England October 6, 1852)	June 13, 1854	IV.
10,995	Thomas, Robert S. Typograph	May 30, 1854	XVIII.
11,919	Thomas, Samuel T., and Eliza Ann Everett, administratrix of E. Everett. Loom beams	Nov. 7, 1854	III.
10,837	Thomas, W. B., and S. Hickok. Railroad-car seats	Apr. 25, 1854	X.
11,815	Thomin, C. F., and C. Stumer. Processes for enameling iron	Oct. 17, 1854	IV.
11,500	Thompson, John, and A. S. Moore. Machines for cutting boot and shoe soles. (Antedated February 8, 1854)	Aug. 8, 1854	XVI.
12,220	Thompson, Nathan, jr. Life-preserving seats	Oct. 16, 1854	VII.
11,252	Thompson, John M. Parallel motion for beam engines	July 11, 1854	VI.
11,878	Thompson, Julius. Odometers	Oct. 31, 1854	VIII.
10,766	Thompson, Nathan, jr. Reversible life-boats	Apr. 11, 1854	VII.
12,108	Same.....Life-preserving seats. (Patented in England September 18, 1854)	Dec. 19, 1854	VII.
10,557	Thompson, Smith. Spooling yarn from the cop	Feb. 21, 1854	III.
11,276	Thompson, Willet. Ship ventilator	July 11, 1854	V.
11,184	Thorn, Enoch. Ventilating sewers	June 27, 1854	V.
11,877	Thorp, Samuel R. Odometers	Oct. 31, 1854	VIII.
10,484	Thring, Frederick J. Carpet bags	Jan. 31, 1854	XXI.
12,086	Tiebe & Muhle, assignors to Tiebe, Muhle & Homan. Casting the spouts of tea pots	Dec. 12, 1854	XVII.
10,815	Tiffany, Joseph C. Ditching plow	Apr. 25, 1854	I.
11,976	Tilghman, Samuel H. T. Inhaling apparatus	Nov. 21, 1854	XX.
10,380	Tilton, William B. Guitars	Jan. 3, 1854	XVIII.
12,006	Tinsley, William. Miter box	Nov. 28, 1854	XIV.
12,041	Titus, William D. Lanterns	Dec. 5, 1854	V.
10,764	Toll, Jose. Rat traps	Apr. 11, 1854	XXII.
11,341	Tomlinson, Seymour. Machine for holding docks of horses	July 18, 1854	XXII.
11,796	Tongue, Henry. Steam engines	Oct. 10, 1854	VI.
10,810	Towers, William H. Machine for opening oysters	Apr. 18, 1854	XVII.
10,934	Same.....Guitars	July 25, 1854	II.
11,977	Same.....Clothes clamp	Nov. 21, 1854	XVII.
10,838	Towle, Simeon. Eye-bath syringe	Apr. 25, 1854	XX.
10,485	Town, Edward. Machine for paging books	Jan. 31, 1854	XVIII.
12,007	Tracy, Edward H. Inclined sliding valves	Nov. 28, 1854	XI.
11,583	Treadwell, Daniel, assignor to H. H. and F. H. Stimpson. Operating dampers of furnaces	Aug. 22, 1854	V.
11,578	Treadwell, Francis C., jr. Ovens	Aug. 22, 1854	V.
12,704	Trimble, Isaac R. Wooden splice-piece for railways	Oct. 10, 1854	IX.
11,765	Tripp, Ervin B. Printing press	Oct. 3, 1854	XVIII.
10,712	Trott, George. Oil cup for steam engines	Mar. 28, 1854	VI.
10,711	Trotter, Jonathan G. Furnaces for zinc white	Mar. 28, 1854	IV.
10,839	True, Isaac. Reaction water wheel	Apr. 25, 1854	XI.
10,451	Trumbull, Harvey. Feed apparatus of straw cutters	Jan. 24, 1854	I.
11,978	Trussell, Thomas W. Dressing mill stones	Nov. 21, 1854	XIII.
10,561	Tucker, Hiram, assignor to H. Tucker and Joseph Story. Applying colors to stone. (Patented in England September 24, 1853)	Feb. 21, 1854	IV.
12,008	Tugnot, George. Rotary lathe	Nov. 28, 1854	XIV.
11,591	Turner, Edward. Hame fastenings	Aug. 8, 1854	XVI.
10,949	Turner, George B. Smut machines	May 23, 1854	XIII.
11,183	Turner, Hartwell L. Headgate for water wheel	June 27, 1854	XI.
10,495	Turner, Josiah, and W. C. Sturoc. Winnowers	Feb. 7, 1854	I.
11,631	Turner, Sidney S., assignor to Elmer Townsend. Sewing machines	Aug. 29, 1854	III.
10,940	Tyler, Philos B. Method of nibbing saw teeth	May 16, 1854	XIV.
11,202	Same.....Cordage machinery	June 27, 1854	III.
11,342	Same.....Winding cord, rope, and yarn	July 18, 1854	III.
11,502	Tyler, P. B., and Benj. Lathrop. Rollers of furniture casters	Aug. 8, 1854	XVII.
10,602	Tyng, L. B. Tail stocks for turning lathes	Mar. 7, 1854	XIV.
10,717	Underhill, Henry. Hand printing press	Mar. 28, 1854	XVIII.
10,483	Underwood, Benjamin. Construction of printing blocks	Jan. 31, 1854	XVIII.
11,709	Upton, Benjamin F. Apparatus for polishing daguerreotype plates	Sept. 19, 1854	XVIII.
10,777	Ustick, Stephen. Brick machines. (Antedated November 15, 1853)	Apr. 18, 1854	XV.
12,109	Utley, Grey. Boot-crimping machines	Dec. 19, 1854	XVI.
10,687	Valentine, E., and A. Bradway. Machines for jointing staves	Mar. 28, 1854	XIV.
11,979	Vanbunschohen, Isaac. Lamps	Nov. 21, 1854	V.
10,996	Vanduzen, B. C., assignor to J. B. Martin and B. C. Vanduzen. Furnace grate bars	May 30, 1854	V.
11,393	Vanzant, John E. Arrangement of indicating tubes for ascertaining draught of and for trimming vessels	July 25, 1854	VII.
10,840	Van Allen, C. D. Invalid bedsteads	Apr. 25, 1854	XVII.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,590	Van Anden, William. Machines for rolling shoulders on axles	Aug. 22, 1854	II.
11,394	Van Antwerp, Abraham. Paddle wheels	July 25, 1854	VII.
12,009	Van Fleet, Daniel. Planing machine	Nov. 28, 1854	XIV.
12,777	Van Hoesen, Levi, assignor to New Haven Iron Railing Company. Piano-forte stools	Oct. 3, 1854	XVIII.
11,630	Vice, T. C. Method of furling and unfurling wind-mill sails	Aug. 29, 1854	XI.
11,106	Victory, Edmund, assignor to D. M. Lindley and G. Goulding. Machinery for wool spinning	June 13, 1854	III.
11,099	Vitally, Anthony, and Carl Kolb. Securing tools to their handles	June 13, 1854	II.
11,797	Valkening, Henry. Polishing machine	Oct. 10, 1854	XIV.
10,999	Waddell, Robert. Balancing slide valves of steam engines	June 6, 1854	VI.
11,844	Wade, Oron W. Stoves	Oct. 24, 1854	V.
11,024	Wade, Robert M. Lubricator	June 6, 1854	XII.
11,537	Wait, I. T. and L. J. Seed planters	Aug. 15, 1854	I.
12,010	Wakeley, William. Metal drills	Nov. 28, 1854	II.
10,997	Waley, William, assignor to Jonathan Whipple, jr. Self-acting nipper blocks	May 30, 1854	XII.
12,610	Walker, Joseph. Hulling cotton seeds	July 20, 1854	I.
11,315	Walker, Matthew, assignor to M. Walker & Sons. Iron picket fence	July 11, 1854	II.
11,451	Walker, William B. Manufacture of brooms	Aug. 1, 1854	XVII.
11,047	Wallace, Thomas, and Elizabeth Baekmeister, executrix of H. Baekmeister. Blowing fan	June 6, 1854	II.
10,416	Walworth, Caleb C. Float valve for discharging condensed water	Jan. 10, 1854	V.
11,311	Ward, William E. Mode of manufacturing iron slats for window blinds	July 11, 1854	IX.
11,625	Wardwell, Charles P. S. Machine for cutting tenons	Aug. 29, 1854	XIV.
11,346	Wardwell, George I., assignor to G. I. Wardwell and E. Townsend. Machines for pegging boots and shoes	July 18, 1854	XVI.
10,436	Ware, Charles T. P., assignor to D. C. Morehead. Clasps	Jan. 17, 1854	XXII.
11,624	Warlick, Noah. Horse-shoeing apparatus	Aug. 29, 1854	II.
11,654	Warner, Daniel, jr. Machinery for dressing flax	Sept. 29, 1854	III.
10,434	Warren, Ira. Tonsil instrument	Jan. 17, 1854	XX.
11,450	Warth, Albin. Fire engines	Aug. 1, 1854	XI.
11,798	Same.....Turning lathes	Oct. 10, 1854	XIV.
11,845	Warwick, William. Mills	Oct. 24, 1854	XIII.
11,185	Washburn, Philo, H. G. O. White, and George A. Copeland. Coffins	June 27, 1854	XXII.
11,914	Washington, B. H. Means for directing the blast in furnaces	Nov. 7, 1854	V.
11,980	Waterbury, Milan. Seed planters	Nov. 21, 1854	I.
12,079	Waterman, H. Condensers for steam engines	Dec. 12, 1854	VI.
10,778	Waterman, Stephen. Circular-sawing machine	Apr. 18, 1854	XIV.
11,623	Waters, E. Breast cups	Aug. 29, 1854	XVII.
11,432	Watson, William. Stone and marble saws	Aug. 1, 1854	XV.
11,981	Watt, William. Hemp-rotting processes. (Patented in England May 22, 1852)	Nov. 21, 1854	IV.
11,816	Wayne, Henry. Joint for toilet glass	Oct. 17, 1854	XXI.
10,870	Weare, John M. Milkers' protector	May 2, 1854	I.
11,396	Webb, Benjamin. Polishing wheels	July 25, 1854	II.
12,042	Webb, Ellis. Hydraulic ram	Dec. 5, 1854	XI.
10,511	Webb, Joseph W. Portable door locks	Feb. 7, 1854	II.
11,539	Webb, Timothy U. Insulators for lightning rods	Aug. 15, 1854	VIII.
10,688	Webber, Elbridge. Ships' blocks	Mar. 28, 1854	VII.
10,871	Same.....Rotary planing knife	May 2, 1854	XIV.
11,915	Same.....Machinery for making head-part of shovel handles	Nov. 7, 1854	II.
12,043	Same.....Churns	Dec. 5, 1854	I.
11,764	Webster, Benjamin. Mosquito curtains	Oct. 3, 1854	XVII.
10,767	Webster, John. Lubricator	Apr. 11, 1854	XII.
10,529	Webster, John, and O. Spencer, assignors to John Webster. Gas burners	Feb. 14, 1854	V.
10,713	Webster, William. Machines for bending sheet metal	Mar. 28, 1854	II.
11,186	Weed, Henry. Mode of constructing wire bonnet frames	June 27, 1854	XXI.
12,011	Weed, Theodore E. Sewing machines	Nov. 28, 1854	III.
10,872	Weeks, Asa. Expansive bit	May 2, 1854	II.
12,080	Weeks, Daniel P. Hot-air furnaces	Dec. 12, 1854	V.
12,110	Same.....Oven cooking-range	Dec. 19, 1854	V.
11,706	Weeks, John J. Sausage stuffers	Sept. 19, 1854	XVII.
11,735	Same.....Harvesters of grain and grass	Sept. 26, 1854	I.
11,105	Weight, Joseph. Machinery for napping cloth	June 13, 1854	III.
13,628	Weissenborn, Gustavus. Thermo-udoric filter	Nov. 17, 1854	XI.
12,081	Wiemar, Jacob. Door locks	Dec. 12, 1854	II.
10,486	Wiemer, Peter L. Steam hammers	Jan. 31, 1854	II.
10,727	Wells, David A. The preparation of vegetable fiber	Apr. 4, 1854	III.
11,310	Wells, Moses D. Brakes for light vehicles	July 11, 1854	X.
11,538	Same.....Horse rakes	Aug. 15, 1854	I.
11,736	Same.....Washing machines	Sept. 26, 1854	XVII.
11,768	Welsh, Joseph. Looms	Oct. 3, 1854	III.
10,463	Werner, Carl E. Distilling apparatus	Jan. 24, 1854	IV.
11,626	West, Joseph D. Hydraulic ram	Aug. 29, 1854	XI.
11,953	Westgate, Orson. Saw gange	Nov. 14, 1854	XIV.
11,104	Westinghouse, George. Endless-chain horse-power	June 13, 1854	XIII.
11,011	Westrup, Walter. Grain mills. (Patented in England Jan. 24, 1850)	June 6, 1854	XIII.
11,143	Wethered, Charles E., John and Samuel. Ordinary and superheated steam combined for heating purposes	June 20, 1854	V.
10,874	Whalen, Seth. Hay knives	May 2, 1854	I.
10,877	Wheeler, Clark. Beehives	May 9, 1854	I.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,235	Wheeler, M. J., G. W. Rogers, H. W. Pierce, and M. B. Tidey. Beveling plane	July 4, 1854	XIV.
12,012	Wheeler, William. Washing machine	Nov. 28, 1854	XVII.
11,020	Whipple, James A. Mechanism for operating pumps	June 6, 1854	XI.
11,189	Whipple, M. D. and L. W., assignors to L. W. Whipple and R. B. Fitts. Process of engraving or printing upon glass	June 27, 1854	XVIII.
10,437	White, Lewis B. Trusses	Jan. 17, 1854	XX.
10,488	White, Le Roy S. Furniture casters	Jan. 31, 1854	XVII.
11,657	White, Le Roy S., assignor to L. S. White, Lewis White, and A. G. Stevens. Railway lamps	Sept. 5, 1854	V.
11,506	White, L. S., assignor to B. Lathrop and P. B. Tyler. Furniture casters.	Aug. 8, 1854	XVII.
11,540	White, William A. Process for printing long-napped fabrics	Aug. 15, 1854	XVIII.
11,149	White, Stephen. Padlocks	June 20, 1854	II.
11,627	Whitehead, Jesse. Counter-twist speeders	Aug. 29, 1854	III.
11,579	Whiteley, Abner. Track clearers to grass harvesters	Aug. 22, 1854	I.
11,710	Same.....Grain and grass harvesters	Sept. 19, 1854	I.
12,447	Whitney, Eli. Fire-arms	Aug. 1, 1854	XIX.
11,462	Whitall, J. W., and W. W. Pendleton. Felt hats	Aug. 1, 1854	XXI.
11,251	Wickersham, John B. Foundation for pavements	July 1, 1854	IX.
10,615	Wickersham, William. Sewing machines	Mar. 7, 1854	III.
11,503	Same.....Self-heating smoothing irons	Aug. 8, 1854	XVII.
18,068	Wickersham, Wm. Sewing machines (A)	Dec. 29, 1854	III.
18,069	Same.....Sewing machines (B)	Dec. 29, 1854	III.
11,708	Wicks, Loren J. Method of operating guide rollers or feed clamps in sawing machine	Sept. 19, 1854	XIV.
11,102	Wightman, James. Steam boilers	June 13, 1854	VI.
11,580	Wilber, Philander. Cheese presses	Aug. 22, 1854	XII.
10,683	Wilbur, Alexander. Machines for jointing staves	Mar. 21, 1854	XIV.
10,684	Same.....Crozing machines	Mar. 21, 1854	XIV.
11,769	Wilcox, John, and S. A. Whitridge. Sewing needles	Oct. 3, 1854	III.
11,655	Wild, George L. Stringed musical instruments	Sept. 5, 1854	XVIII.
10,714	Wilder, R. A. Railroad-car wheels	Mar. 28, 1854	X.
11,880	Same.....Arrangement in spark arresters for heating feed-water.	Oct. 31, 1854	VI.
11,398	Willard, Simon. Portable bedsteads	July 25, 1854	XVII.
11,449	Same.....Bedsteads	Aug. 1, 1854	XVII.
11,397	Williams, Charles. Mode of fitting heads in boxes	July 25, 1854	XIV.
11,817	Williams, E. D., and T. Tyrrell. Brick presses	Oct. 17, 1854	XV.
10,526	Williams, Henry S. Apparatus for controlling the pressure of steam	Feb. 14, 1854	VI.
11,799	Williams, Irvin A. Locomotive lamp	Oct. 10, 1854	V.
11,713	Williams, John, assignor to F. Curtis & Co. Calendar clocks	Sept. 19, 1854	VIII.
10,873	Williams, Parley. Slotting machine	May 2, 1854	XIV.
11,399	Willis, Daniel. Apparatus for cooking and warming	July 25, 1854	V.
11,881	Wilmot, S. R. Water meter	Oct. 31, 1854	XI.
12,116	Wilson, Allen B., assignor to W. P. N. Fitzgerald. Sewing machines	Dec. 19, 1854	III.
11,073	Wilson, Charles A. Operating valves for steam pumps	June 13, 1854	VI.
11,916	Wilton, Charles. Locks	Nov. 7, 1854	II.
11,402	Wilson, D., assignor to W. F. Pratt, G. W. Bosworth, and H. M. Bird. Thimbles for stove pipes	July 25, 1854	V.
11,344	Wilson, G. F., and J. M. Whiting. Machines for threading screws. (Patented in England April 4, 1854)	July 18, 1854	II.
10,621	Wilson, Joseph. Self-acting railroad switches	Mar. 7, 1854	IX.
10,417	Wilson, Stephen D. Valve and valve seats of steam engines	Jan. 10, 1854	VI.
10,901	Winans, Ross and Thomas. Locomotive fire-box	May 9, 1854	VI.
10,971	Same.....Locomotive tender. (Antedated May 9, 1854)	May 23, 1854	VI.
11,144	Winchester, Joseph R. Mode of raising and letting fall carriage tops	June 20, 1854	X.
12,083	Winsor, Daniel L. Ships' windlasses	Dec. 12, 1854	XII.
11,707	Winter, Archibald. Machine for sawing firewood	Sept. 19, 1854	XIV.
11,737	Wisner, Joel. Washing machine	Sept. 26, 1854	XVII.
10,682	Wolf, David and Herman. Seed planters	Mar. 21, 1854	I.
10,998	Wood, Brown S. Knitting machines	June 6, 1854	III.
11,103	Wood, G. W., and L. C. Webster. Canal lock gates	June 13, 1854	IX.
11,187	Woodbridge, W. E., assignor to Charles Humphrey. Whistling tops	June 27, 1854	XXII.
11,504	Woodbury, H. E. Document file or holder	Aug. 8, 1854	XVIII.
10,512	Woodbury, J. A. Planing machines	Feb. 7, 1854	XIV.
10,527	Woodruff, Jacob D., and J. H. Butterworth. Drop bridges	Feb. 14, 1854	IX.
11,400	Woods, Leonard. Hedge trimmer	July 25, 1854	I.
11,882	Woodward, A. S., and B. F. Bartlett. Machinery for cutting rags for making paper	Oct. 31, 1854	III.
11,309	Woodward, Thomas B. Mills for grinding	July 11, 1854	XIII.
11,800	Same.....Smut machines	Oct. 10, 1854	XIII.
11,985	Woodward, Stephen, assignor to S. Woodward, J. P. Nelson, and A. C. Carroll. Apparatus for drying clothes	Nov. 21, 1854	XVII.
12,016	Woodworth, Arad, 3d, and George Chamberlain. Machinery for making rope and cordage	Nov. 28, 1854	III.
10,900	Woolman, Enoch. Arrangement of friction roller in inclined-plane hinges	May 9, 1854	II.
11,801	Woolsey, Edward J. Construction of sugar boilers	Oct. 10, 1854	IV.
11,628	Woolten, John. Nail machines	Aug. 29, 1854	II.
11,635	Worrall, Thomas, assignor to Mifflin Paul. Multiform molding plane	Aug. 29, 1854	XIV.
17,713	Wray, Leonard. Defecating cane juice	June 20, 1854	IV.
11,541	Wright, A. S. Gold amalgamator	Aug. 15, 1854	II.
11,846	Wright, Benjamin H. Rotary steam engines	Oct. 24, 1854	VI.

List of persons whose patents for inventions and discoveries have expired, &c.—Continued.

No.	Name and invention.	Date.	Class.
11,279	Wright, George. Self-acting mules for spinning	July 11, 1854	III.
10,970	Wright, Robert L. Tire-bending machines	May 23, 1854	II.
11,917	Wright, Wendell. Fire-arms	Nov. 7, 1854	XIX.
12,111	Same ....Spring-bed bottom	Dec. 19, 1854	XVII.
10,618	Wright, William C. Machines for drilling stone	Mar. 7, 1854	XV.
11,145	Same ....Folding and measuring cloth	June 30, 1854	III.
12,082	Wyatt, Charles W. Machine for dressing fellocs	Dec. 12, 1854	XIV.
10,528	Wyckoff, A. Machines for making links of jack chains	Feb. 14, 1854	II.
10,376	Xander, G. A. Corn shellers	Jan. 3, 1854	I.
10,584	Yale, Linus. Bank locks	Feb. 28, 1854	II.
11,818	Yandell, John, and J. H. Johnson. Iron bridge	Oct. 17, 1854	IX.
11,100	Yates, George, and Eli Clayton. Looms	June 13, 1854	III.
11,918	Yeaman, S. M., deceased. Straw cutters	Nov. 7, 1854	I.
10,843	Young, Amos. Method of discharging cargo from canal boats	May 2, 1854	VII.
11,236	Young, Jerome B. Mode of hanging bells	July 4, 1854	XXII.
10,617	Young, Jesse. Connecting the joints of air-heating pipes	Mar. 7, 1854	V.
11,401	Zeigler, Daniel. Cider mills	July 25, 1854	XIII.
10,558	Zink, John. Threshers and separators of grain	Feb. 21, 1854	I.
10,585	Zook, Jacob. Carrier for lathes	Feb. 28, 1854	XIV.

ALPHABETICAL LIST

OF

PERSONS WHOSE PATENTS FOR DESIGNS HAVE EXPIRED DURING THE YEAR 1868.

No.	Name and invention.	Date.
2,083	Alden, Augustus E. Design for a photograph card	June 13, 1865.
1,366	Allen, Robert, assignor to A. Smith. Carpet design	Feb. 5, 1861.
2,087	Bailey, Robert M. Skirt border	June 13, 1865.
1,396	Barstow, A. C. Stove	Mar. 26, 1861.
1,422	Brewer, I. D. Label or trade mark	May 28, 1861.
1,390	Brewer, E. C. Clock case	Mar. 19, 1861.
1,423	Burleigh, M. C. Stoves	May 28, 1861.
1,433	Chaffee, Chas. S., assignor to the Bay State Glass Company. Tumblers	June 25, 1861.
1,487	Chilson, Gardner. Parlor stove	Nov. 5, 1861.
1,402	Chubbuck, S. E., assignor to self and J. Y. and S. E. Chubbuck. jr. Steam radiators	Apr. 30, 1861.
1,971	Clough, Isaac, and Vincent Fountain, jr. Lantern	July 19, 1864.
1,982	Same ... Toy bow	July 19, 1864.
1,424	Cook, C. W. Balmoral skirt	May 28, 1861.
2,006	Cridge, Edmund J. Cook stove	Dec. 13, 1864.
1,979	Dezouche, Isaac, assignor to Bridge, Beach & Co. Plates of a cook stove	July 26, 1864.
1,980	Same ... Plates of a parlor cook stove	July 26, 1864.
2,037	Same ... Stove ornament	Mar. 14, 1865.
1,455	Dougherty, Andrew. Cards	July 23, 1861.
1,488	Eshleman, J. Albert. Cravat	Nov. 12, 1861.
1,475	Faber, Eberhard. Trado mark for lead pencils	Oct. 8, 1861.
1,438	Fay, Josiah C. Plates of a cooking stove	July 16, 1861.
1,990	Frischet, Samuel. Ruffle	Sept. 20, 1864.
1,406	Gibbs, Samuel W., assignor to J. F. Rathbone. Cooking Stove	May 7, 1861.
1,404	Same ... Stove	May 7, 1861.
1,405	Same ... Parlor stove	May 7, 1861.
1,427	Same ... same	May 28, 1861.
1,458	Gibbs, Samuel W., assignor to Abbott and Noble. Cap and base for a parlor stove	Aug. 13, 1861.
1,479	Giraud, F. Picture frame	Oct. 22, 1861.
1,505	Glominski, Antoine, A. E. Powers, administrator of. Floor cloth	Dec. 3, 1861.
1,440	Gorham, J., G. Thurber, and L. Dexter, jr. Spoon and fork handles	July 16, 1861.
1,439	Same ... Handles of table-spoons and forks	July 16, 1861.
1,471	Same ... Spoons	Sept. 3, 1861.
1,466	Greene, William A. Laundry stove	Aug. 13, 1861.
1,425	Greenwood, Miles. Pumps	May 28, 1861.
1,387	Hainemann, S., assignor to self and Julius Negbaur. Trade mark	Feb. 26, 1861.
1,421	Hawley, Samuel R. Hat	May 28, 1861.
1,434	Hayden, H. W. Mat for daguerreotype cases	June 25, 1861.
1,506	Holt, John. Rolling pin	Dec. 10, 1861.
1,391	Horton, Jas., and J. Martino, assignors to D. Stuart and R. Peterson. Stove	Mar. 19, 1861.
1,442	Horton, Jas., and J. Martino, assignors to Stuart and Peterson. Plates of a cooking stove	July 16, 1861.
1,441	Same ... Plates of a parlor stove	July 16, 1861.
1,484	Hotchkiss, H. K. Clock case	Oct. 29, 1861.
1,435	Hutchinson, Jas., assignor to J. E. Whipple. Oil-cloth patterns	June 25, 1861.
1,292	Ingraham, Elias. Clock-case front	Mar. 19, 1861.
1,426	Johnson, Albert F. Trade mark	May 28, 1861.
1,437	Kelty, Gibbons L. Window-shade material	July 9, 1861.
1,473	Knapp, Gilbert. Cook's stove	Sept. 3, 1861.
1,386	Long, John. Cooking stove	Feb. 19, 1861.
1,507	Lyons, Thos., assignor to Russell and Erwin Manufacturing Company of New Britain, Conn. Horse spur	Dec. 24, 1861.
1,428	Maynard, Edward, assignor to G. L. Kelty, of New York. Curtain loops	May 28, 1868.
1,436	McDuff, Jas., assignor to N. McGraw and M. A. Taylor. Coffins	June 25, 1861.
1,474	Merseredu, Jacob, assignor to W. P., A., and J. Abendroth. Cook's stove	Sept. 17, 1861.
2,082	Mills, Fisk. Bust of Abraham Lincoln	June 6, 1865.
2,004	Moore, Michael. Table caster	Dec. 13, 1864.
1,429	Morrisett, Jas. J., assignor to Jacob L. Dodge. Hats	May 28, 1861.
1,486	Same ... same	Oct. 29, 1861.
1,480	Ney, E. J., assignor to Lowell Manufacturing Company. Carpet pattern	Oct. 22, 1861.
1,367	Same	Feb. 5, 1861.
1,368	Same	Feb. 5, 1861.
1,481	Same	Oct. 22, 1861.
1,482	Same	Oct. 22, 1861.
1,393	Same	Mar. 19, 1861.
1,394	Same	Mar. 19, 1861.
1,395	Same	Mar. 19, 1861.
1,443	Same	July 16, 1861.
1,444	Same	July 16, 1861.
1,445	Same	July 16, 1861.
1,446	Same	July 16, 1861.

Alphabetical list of persons whose patents for designs have expired, &c.—Continued.

No.	Name and invention.	Date.
1,447	Ney, E. J., assignor to Lowell Manufacturing Company. Carpet pattern	July 16, 1861.
1,448	Same	July 16, 1861.
1,449	Same	July 16, 1861.
1,450	Same	July 16, 1861.
1,451	Same	July 16, 1861.
1,452	Same	July 16, 1861.
1,459	Same	Aug. 13, 1861.
1,460	Same	Aug. 13, 1861.
1,461	Same	Aug. 13, 1861.
1,462	Same	Aug. 13, 1861.
1,463	Same	Aug. 13, 1861.
1,464	Same	Aug. 13, 1861.
1,465	Same	Aug. 13, 1861.
1,972	Same	July 19, 1861.
1,973	Same	July 19, 1861.
1,974	Same	July 19, 1861.
1,975	Same	July 19, 1861.
1,976	Same	July 19, 1861.
1,977	Same	July 19, 1861.
1,978	Same	July 19, 1861.
1,999	Same	Nov. 15, 1861.
2,000	Same	Nov. 15, 1861.
2,001	Same	Nov. 15, 1861.
2,002	Same	Nov. 15, 1861.
2,003	Same	Nov. 15, 1864.
2,008	Same	Dec. 13, 1864.
2,009	Same	Dec. 13, 1864.
2,010	Same	Dec. 13, 1864.
2,011	Same	Dec. 13, 1864.
2,012	Same	Dec. 13, 1864.
2,019	Same	Jan. 17, 1865.
2,020	Same	Jan. 17, 1865.
2,021	Same	Jan. 17, 1865.
2,022	Same	Jan. 17, 1865.
2,023	Same	Jan. 17, 1865.
2,025	Same	Jan. 24, 1865.
2,026	Same	Jan. 24, 1865.
2,046	Same	Apr. 11, 1865.
2,047	Same	Apr. 11, 1865.
2,048	Same	Apr. 11, 1865.
2,049	Same	Apr. 11, 1865.
2,050	Same	Apr. 11, 1865.
2,051	Same	Apr. 11, 1865.
2,073	Same	May 30, 1865.
2,074	Same	May 30, 1865.
2,075	Same	May 30, 1865.
2,076	Same	May 30, 1865.
2,077	Same	May 30, 1865.
1,407	Palmer, Caleb W. Ovens of cooking stoves	May 7, 1861.
1,398	Probst, Charles. Window glass	Apr. 9, 1861.
2,096	Philip, William H. Bust of Abraham Lincoln	June 13, 1865.
2,052	Purdy, Helen P. W. Composition in alto-relievo	Apr. 11, 1865.
1,467	Riekerby, Daniel. Slate roofing	Aug. 13, 1861.
2,029	Ryan, Michael F. Badge or breast pin	Feb. 7, 1865.
1,477	Sailor, S. H., assignor to Smith, Francis, & Wells. Gas-burning cylinder stove.	Oct. 8, 1861.
1,476	Same.....Egg cylinder stove	Oct. 8, 1861.
1,403	Sargent, J. B. Twine box	Apr. 30, 1861.
1,456	Scypes, D. M., and S. Smith, assignors to Smith, Francis, & Wells. Cook stove	July 23, 1861.
1,457	Same.....Summer range	July 23, 1861.
1,468	Shaw, Chas. H. Work holder	Aug. 13, 1861.
1,469	Shaw, C. A., and J. R. Clark. Sewing machine	Aug. 13, 1861.
1,420	Smith, G., and H. Brown, assignors to Leibrandt & McDowell. Cooking stove	May 14, 1861.
1,430	Smith, G., and H. Brown, assignors to Cox, Whitman & Cox. Stove	May 28, 1861.
1,453	Smith, G., and H. Brown, assignors to North, Chase & North. Iron doors	July 16, 1861.
1,400	Standard, Walter W., assignor to Jewett & Root. Parlor stoves	Apr. 9, 1861.
1,399	Stanard, W. W., assignor to Jewett & Root. Stoves	Apr. 9, 1861.
1,401	Same.....same	Apr. 9, 1861.
2,036	Stevens, W. W., assignor to N. P. Richards & Co. Plates of a cook stove	Feb. 28, 1861.
2,031	Stickney, F. H. Burial case	Feb. 14, 1861.
1,991	Tatro, William B. Double lamp stove	Sept. 20, 1864.
1,483	Terry, Henry. Clock-ease front	Oct. 22, 1861.
1,454	Terry, Nancy D. Bonnets	July 16, 1861.
1,370	Thompson, Henry G., assignor to Hartford Carpet Company. Carpet design	Feb. 12, 1861.
1,371	Same	Feb. 12, 1861.
1,372	Same	Feb. 12, 1861.
1,373	Same	Feb. 12, 1861.
1,374	Same	Feb. 12, 1861.
1,375	Same	Feb. 12, 1861.
1,376	Same	Feb. 12, 1861.
1,377	Same	Feb. 12, 1861.
1,378	Same	Feb. 12, 1861.

Alphabetical list of persons whose patents for designs have expired, &c.—Continued.

No.	Name and invention.	Date.
1,379	Thompson, H. G., assignor to Hartford Carpet Company. Carpet design	Feb. 12, 1861.
1,380	Same	Feb. 12, 1861.
1,381	Same	Feb. 12, 1861.
1,382	Same	Feb. 12, 1861.
1,383	Same	Feb. 12, 1861.
1,384	Same	Feb. 12, 1861.
1,385	Same	Feb. 12, 1861.
1,408	Same	May 7, 1861.
1,409	Same	May 7, 1861.
1,410	Same	May 7, 1861.
1,411	Same	May 7, 1861.
1,412	Same	May 7, 1861.
1,413	Same	May 7, 1861.
1,414	Same	May 7, 1861.
1,415	Same	May 7, 1861.
1,416	Same	May 7, 1861.
1,417	Same	May 7, 1861.
1,418	Same	Nov. 19, 1861.
1,489	Same	Nov. 19, 1861.
1,490	Same	Nov. 19, 1861.
1,491	Same	Nov. 19, 1861.
1,492	Same	Nov. 19, 1861.
1,493	Same	Nov. 19, 1861.
1,494	Same	Nov. 19, 1861.
1,495	Same	Nov. 19, 1861.
1,496	Same	Nov. 19, 1861.
1,497	Same	Nov. 19, 1861.
1,498	Same	Nov. 19, 1861.
1,499	Same	Nov. 19, 1861
1,500	Same	Nov. 19, 1861
1,501	Same	Nov. 19, 1861.
1,502	Same	Nov. 19, 1861.
1,503	Same	Nov. 19, 1861.
1,432	Towers, Levi L., assignor to Cutler, Towers & Co. Trade mark	June 11, 1861.
1,478	Uhlinger, Wm. P. School desk	Oct. 8, 1861.
1,389	Vedder, N. S., and E. Ripley, assignors to N. S. Vedder. Stove	Mar. 5, 1861.
1,388	Vedder, N. S. Cook stoves	Mar. 5, 1861.
1,397	Vedder, N. S., assignor to Ingraham & Phillips. Cooking stove	Apr. 2 1861.
1,431	Vedder, N. S., assignor to Vincent, Tibballs, Shirk & Co. Cook stove	May 28, 1861.
2,013	Vedder, Nicholas S. Plates of a stove	Dec. 13, 1864.
2,014	Same.....Stove plate	Dec. 13, 1864.
2,015	Vedder, N. S., and E. Ripley, assignors to N. S. Vedder. Stove plate	Dec. 13, 1864.
1,993	Webster, J. T., assignor to Edward Harvey. Floor oil cloth	Oct. 18, 1864.
2,065	Webster, J. T., assignor to Edward Harvey.....Same	May 9, 1865.
1,419	Young, Hiram. Teapot	May 7, 1861.

ALPHABETICAL LIST

OF

PATENTEES FOR THE YEAR 1868.

No.	Name, residence, and invention or discovery.	Date.
79,800	Abbot, Andrew A., Boston, Mass. Fastening for boots	July 14, 1868.
80,891	Abbot, Gorham D., New York, N. Y. Globe	Aug. 11, 1868.
	Abbott and Noble. (*See* Smith & Brown, assignors) (Design.)	
	Same.....same (Design.)	
	Same.....(*See* Martino, Beesley & Currie, assignors) (Design.)	
80,796	Abbott, Charles E., Malden, Mass. Extinguisher for lamps	Aug. 11, 1868.
	Abbott, Charles E., *et al.* (*See* Fowle, Joseph W., assignor.)	
	Abbott, Charles R. (*See* Farwell, W. B., assignor.)	
73,687	Abbott, Estes, Willoughby, Ohio. Construction of milk cans	Jan. 28, 1868.
74,874	Abbott, F. M., Boston, Mass., and E. F. Fields, Lewiston, Maine. Stripper for carding cylinder	Feb. 25, 1868.
75,104	Abbott, Henry B., Felicity, Ohio. Hillside plow	Mar. 3, 1868.
75,823	Abbott, John H., Malden and Jeremiah A. Marden, Boston, Mass., assignors to John H. and Charles E. Abbott. Leather-splitting machine	Mar. 24, 1868.
80,106	Abbott, L. C., S. D. Tuttle, and M. L. Holt, Eaton, Ohio. School seat and desk	July 21, 1868.
82,268	Abbott, Rogers A., assignor to self and Gustavus W. Ingalls, Worcester, Mass. Reed for melodeons	Sept. 22, 1868.
	Abbott, Solon W. (*See* Chase, Willard W., assignor.)	
74,784	Abbott, W. F., Marengo, Ill. Measuring and tallying attachments to threshing machines	Feb. 25, 1868.
80,107	Abbreuzzo, Onofrio, Italy. Aerial car. (Antedated July 15, 1868)	July 21, 1868.
84,525	Same.....New York, N. Y. Ordnance and other fire-arms. (Antedated Nov. 20, 1868)	Dec. 1, 1868.
74,265	Abel, William H., Greenville, R. I. Device for converting motion	Feb. 11, 1868.
74,266	Same.....Knitting machine	Feb. 11, 1868.
80,697	Same.....Sleeves of knitted garments. (Antedated July 27, 1868)	Aug. 4, 1868.
83,583	Same.....Knitting machine	Nov. 3, 1868.
3,584	Same.....same.....(Antedated October 22, 1868)	Nov. 3, 1868.
	Abell, Olif, and Joseph Potter. (*See* Potter & Abell.)	
	Abell, Peter F. (*See* Cabell, S. G., assignor.)	
83,434	Abraham, John, and Thomas R. Bayliss, England. Cartridges. (Patented in England March 20, 1868)	Oct. 27, 1868.
84,333	Absterdam, John, New York, N. Y. Apparatus for refining iron and making steel	Nov. 24, 1868.
84,334	Same.....Process for refining iron and making steel	Nov. 24, 1868.
84,335	Same.....Apparatus for making steel and refining iron	Nov. 24, 1868.
84,336	Same.....Process for introducing gas fuel into a converter for making steel and refining iron	Nov. 24, 1868.
84,981	Same.....Manufacture of illuminating gas with other products	Dec. 15, 1868.
3,249	Absterdam, John, assignor to the First National Refined Iron and Steel Manufacturing Company, New York, N. Y. Process for refining iron and steel.....(Reissue)	Dec. 29, 1868.
	Absterdam, John, and William Burnett. (*See* Burnett & Absterdam.) (Extension.)	
75,824	Achelis, George, Westchester, Pa., and Hermann Poppenhusen, New York, N. Y. Instrument for measuring distances	Mar. 24, 1868.
83,124	Acker, George S., assignor to self and H. A. Lacey, Kalamazoo, Mich. Car coupling	Oct. 20, 1868.
82,474	Acker, John W., Copenhagen, N. Y. Horse rake	Sept. 29, 1868.
84,928	Acker, William H., Tarrytown, N. Y. Clothes dryer	Dec. 15, 1868.
80,892	Ackerman, Henry, Pittsburg, Pa. Corn planter	Aug. 11, 1868.
76,966	Ackerman, John R., Edward B. Campbell, and Niram O. Golden, Dobb's Ferry, N. Y. Lamp burner	Apr. 21, 1868.
84,526	Ackerson, James M., Lafayette, N. J. Sled brake	Dec. 1, 1868.
3,061	Adair, James, Pittsburg, Pa. Card rack.....(Reissue)	Aug. 4, 1868.
78,854	Adair, William, England. Pump. (Patented in England April 5, 1867)	June 16, 1868.
82,269	Adams, Abel A., assignor to Russell W. and Forrest L. Pinney, Felchville, Vt. Head block	Sept. 22, 1868.
	Adams, Alexander. (*See* McMillen, Arthur W., assignor.)	
77,157	Adams, A. J., assignor to self and Boyd P. Quincy, Portland, Oregon. Animal trap	Apr. 28, 1868.
82,783	Adams, Anson T., Indianapolis, Ind. Furniture caster	Oct. 6, 1868.
83,435	Same.....Washing machine	Oct. 27, 1868.
77,563	Adams, A. W., New York, N. Y. Construction of meter safes	May 5, 1868.
79,801	Same.....Self-locking bolt for meter safes	July 14, 1868.
83,233	Adams, Calvin, Pittsburg, Pa. Post auger	Oct. 20, 1868.
	Adams, Charles E., *et al.* (*See* Hicks & Doty, assignors.)	
	Adams, Charles R., *et al.* (*See* Green Jacob, assignor).....(Reissue.)	
	Same.....same.....(Reissue.)	
79,429	Adams, Eliphalet H., assignor to self and Charles F. Gardner, Detroit, Mich. Fifth wheel for carriages	June 30, 1868.
77,795	Adams, Federal C., Cincinnati, Ohio,. Cupola furnace	May 12, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,942	Adams, F. C., and J. Peckover, Cincinnati, Ohio. Cooking stove	Feb. 4, 1868.
81,722	Adams, Hanson H, Newburyport, Mass. Machine for carving wood	Sept. 1, 1868.
72,959	Adams, Henry W., Milton, Pa. Churn	Jan. 7, 1868.
76,134	Same.....Tanning	Mar. 31, 1868.
80,046	Same.....Philadelphia, Pa. Brick kiln	July 21, 1868.
74,028	Adams, James U., Richfield, Mich. Boiler-tube ferrule	Feb. 4, 1868.
78,911	Same.....Packing for piston heads	June 16, 1868.
85,196	Adams, John, Findlay, Ohio. Stove drum	Dec. 22, 1868.
77,564	Adams, John, Pontiac, Mich. Gate	May 5, 1868.
78,912	Adams, John, Transfer, Pa. Hay raker and loader	June 16, 1868.
85,350	Adams, John, England. Revolving fire-arm. (Patented in England July 28, 1866)	Dec. 29, 1868.
	Adams, John. (*See* Hannasy, Michael, assignor.)	
	Adams, John, and Albert Rhoades. (*See* Rhoades & Adams.)	
78,563	Adams, John H., Portland, Maine. Carriage seat	June 2, 1868.
	Adams, J. O., and E. A. Warfield. (*See* Aldrich, Robert H., assignor.)	
73,276	Adams, John Resco, Cisco, Cal. Railroad snow-plow	Jan. 14, 1868.
70,173	Adams, John W., Spring Creek, Wis. Car coupling	May 26, 1868.
80,797	Adams, Joseph, Cleveland, Ohio. Wash boiler	Aug. 11, 1868.
	Adams, Joseph H. (*See* Martin, Henry A., assignor.)	
74,476	Adams, Levi, Amherst, Mass. Lubricators for axles, and mode of applying them to axles	Feb. 18, 1868.
76,033	Same.....Carriage wheel	Mar. 31, 1868.
83,234	Same.....King bolt and whiffletree plate for carriages	Oct. 20, 1868.
81,861	Adams, L. J., and J. H. Esale, Avon, Ill. Grain moistener	Sept. 8, 1868.
73,484	Adams, Mayhew, Chilmark, Mass. Chock for whale boats	Jan. 21, 1868.
75,234	Adams, Nelson B., San Francisco, Cal. Boat-detaching block	Mar. 10, 1868.
84,402	Adams, Oliver M., Milford, Mass. Boot crimper	Nov. 24, 1868.
82,058	Adams, Otis, and James Hatch, San Francisco, Cal. Mortising chisel	Sept. 15, 1868.
73,277	Adams, Ralph, Ottawa, Ill. Gate	Jan. 14, 1868.
73,485	Adams, Sanford, Boston, Mass. Winnowing mill	Jan. 21, 1868.
79,176	Same.....Machine for making wire screens, &c	June 23, 1868.
82,059	Adams, Thomas, assignor to self, James L. Romer, and Henry T. McCoun, Hudson City, N. J. Lamp burner	Sept. 15, 1868.
	Adams, William G., and Z. A. Willard. (*See* Willard & Adams.)	
75,507	Adams, W. Juck, New York, N. Y. Card holder	Mar. 17, 1868.
75,718	Adams, W. R., Independence, Mo. Corn cultivator	Mar. 24, 1868.
84,787	Adamson, Alexander, Washington, D. C. Shoulder brace	Dec. 8, 1868.
	Adamson, James M., and William Ross. (*See* Ross & Adamson.)	
73,220	Adamson, William, Philadelphia, Pa. Holder for drying glue	Jan. 14, 1868.
79,177	Same.....Manufacture of leather	June 23, 1868.
79,178	Same.....Preparation of glue stock	June 23, 1868.
80,108	Addison, Edwin R., Wheeling, West Va. Machine for making nuts	July 21, 1868.
	Addy, Charles J., and Albert G. Mead, (*See* Mead & Addy.)	
77,236	Adgate, Joseph J., Liberty, N. Y. Animal power	Apr. 28, 1868.
79,293	Adie, Patrick, England. Machine for clipping horses' hair	June 30, 1868.
83,585	Adler, Max, assignor to self and Henry Breitwieser, Buffalo, N. Y. Blind hinge	Nov. 3, 1868.
77,933	Adsit, Moses, Forrest, N. Y. Draught attachment	May 5, 1868.
79,887	Adt, F., assignor to self and Elisha Turner, Wolcottville, Conn. Lamp	July 14, 1868.
76,034	Adt, John, assignor through mesne assignments to William Hart and George S. Hurford, Wolcottville, Conn. Hinge	Mar. 31, 1868.
	Ætna Nut Company. (*See* Candee & Taylor, assignors.)	
79,931	Agate, John, Pittsford, N. Y. Beer cooler	July 14, 1868.
	Agnew, A., and S. W. Evans. (*See* Smith, Orren M., assignor.)	
74,029	Ahlborn, Augustus H., Lawrenceville, Pa. Mode of securing box metal in carriage hubs	Feb. 4, 1868.
77,434	Aiken, D. E. and A. A., Adrian, Mich. Splint plane	May 5, 1868.
85,197	Aiken, Henry, Pittsburg, Pa. Brick machine	Dec. 22, 1868.
	Aiken, John H., *et al.* (*See* Bishop, Pendleton & Aiken.)	
78,506	Aiken, Walter, Franklin, N. H. Needle for knitting machines	June 2, 1868.
84,603	Aikin, Charles W., Decatur, Ill. Wagon seat	Dec. 1, 1868.
76,875	Ainsworth, Seymour, Saratoga Springs, N. Y. Fan	Apr. 21, 1868.
81,572	Ainsworth, Squire, Pittsburg, Pa. Flexible pipe-joint coupling	Sept. 1, 1868.
82,576	Aitken, Henry, Scotland. Treating iron ores, &c	Sept. 29, 1868.
74,477	Akers, Thomas P., New York, N. Y. High and low water alarms for steam generators	Feb. 18, 1868.
75,235	Same.....Leakage measure, alarm, and indicator	Mar. 10, 1868.
78,781	Same.....Steam and water indicators for boilers	June 9, 1868.
83,898	Akin, T. W., Patterson, N. Y. Milk can	Nov. 10, 1868.
	Akin, Warren. (*See* Stewart, George W., assignor.)	
	Akins, William H., and Joseph C. Burritt, Ithaca, N. Y. Calendar clock. (Extension)	Sept. 18, 1868.
79,294	Albee, James, assignor to Moses Pond & Co., Boston, Mass. Hot-air furnace	June 30, 1868.
83,681	Albee, Sewall, Wiscasset, Maine. Fishing gig	Nov. 3, 1868.
75,719	Albee, Sylvester, Providence, R. I. Parlor coal sifter	Mar, 24, 1868.
3,113	Albers, Henry, assignor to C. Albers & Company, Warsaw, Ill. Trade mark. (Design)	July 21, 1868.
77,435	Albert, C., Harrisville, Ohio. Sheep holder	May 5, 1868.
80,047	Albertson, J., and S. C. Byers, assignors to James L. Haven and James L. Branson, Richmond, Ind. Hand loom	July 21, 1868.
84,982	Albertson, James M., New London, Conn. Baling press	Dec. 15, 1868.
	Alcott, John H., *et al.* (*See* Bevans, Ira N., assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,688	Alden, Albert, East Cambridge, Mass. Broom head	Apr. 14, 1868.
83,753	Alden Charles, Newburg, N. Y. Treating and storing grain, &c	Nov. 3, 1868.
	Alden, Henry A. (*See* Judson, Thomas S., assignor.)	
79,535	Alden, Henry A., assignor to the New York Rubber Company, Matteawan, N. Y. Manufacturers of vulcanized India-rubber ball	July 7, 1868.
79,719	Same.....India-rubber base ball	July 7, 1868.
76,480	Alden, Milton, Auburn, N. Y. Horse rake	Apr. 7, 1868.
	Alden Type Setting and Distributing Machine Company. (*See* Slingerland, John T., assignor.)	
77,436	Aldrich, David, assignor to Phelan and Collender, New York, N. Y. Cue trimmer	May 5, 1868.
2,903	Aldrich, Robert H., assignor to J. O. Adams and E. O. Warfield, Northampton, Mass. Dusting brush.....(Reissue)	Mar. 31, 1868.
83,436	Aldrich, John H., assignor to self and John C. Whitin, Northbridge, Mass. Flyer for speeders	Oct. 27, 1868.
77,945	Aldridge, Hiram, Goshen, Ind., and Willis Bedford, Chicago, Ill., assignors to Hiram Aldridge. Horse-power	May 19, 1868.
80,893	Ale, Ezra, Clearfield, Pa. Secretary	Aug. 11, 1868.
74,970	Alexander, Abram, assignor to Alexander Bolt Manufacturing Company, Pittsburg, Pa. Furnace for heating bolt blanks	Mar. 3, 1868.
76,035	Same.....Tool for shearing bolts	Mar. 31, 1868.
2,886	Alexander, Charles L., and Victoria A. Osborn, Washington, D. C. Book-cover protector.....(Reissue)	Mar. 3, 1868.
79,932	Alexander, C. M., Washington, D. C. Check and driving line	July 14, 1868.
74,478	Alexander, F. W., Baltimore, Md. Muzzle-loading ordnance. (Antedated Feb. 6, 1868)	Feb. 18, 1868.
85,351	Alexander, H. E., New York, N. Y. Railroad ticket	Dec. 29, 1868.
84,983	Alexander, Jabez, Nashua, N. H. Device for singeing horses	Dec. 15, 1868.
2,905	Alexander, John, assignor to George W. Brown & Company, Brooklyn, N. Y. Lantern.....(Design)	Feb. 4, 1868.
80,798	Alexander, John F., assignor to self and Peter S. Michie, Shelby, N. C. Process of desulphurizing ores	Aug. 11, 1868.
79,536	Alexander, J. B., Washington, D. C. Bottle stopper	July 7, 1868.
84,045	Same.....Device for raising and adjusting wicks in lamps	Nov. 17, 1868.
	Same.....(*See* Marshall, William M., assignor.)	
	Alexander, Joseph B. (*See* Marshall, William M., assignor.)	
	Same.....same.	
77,343	Alexander, Robert, Eugene City, Oregon. Medical compound	Apr. 28, 1868.
81,573	Alexander, Samuel T., Pittsburg, Pa. Railway chair	Sept. 1, 1868.
	Alga Chemical Works. (*See* Fougerat & Tartiere, assignors.)	
2,860	Algeo, William G., Pittsburg, Pa. Coffin.....(Design)	Jan. 28, 1868.
3,000	Same.....Burial casket.....(Design)	Apr. 21, 1868.
76,967	Alger, G. H., Ames, N. Y. Lifting jack	Apr. 21, 1868.
	Allaire, C. T., and Edwin Chapman. (*See* Chapman & Allaire.)	
75,105	Allaire, Seaman, assignor to self, Robert Henry, and E. Wright Vail, New York, N. Y. Carriage hub	Mar. 3, 1868.
80,583	Allard, Isaac, assignor to self and Frank A. Howard, Belfast, Maine. Screw driver	Aug. 4, 1868.
	Allen, Aaron H., Boston, Mass. Seat for public buildings.....(Extension)	Dec. 3, 1868.
76,579	Allen, Albert F., Providence, R. I. Hose coupling wrench	Apr. 14, 1868.
77,437	Same.....Thimble puller	May 5, 1868.
75,341	Allen, Alexander, assignor to self, W. G. Wood, John G. Walker, and W. R. Walpole, Chicago, Ill. Machine for cutting rags	Mar. 10, 1868.
	Allen, Azro B. (*See* Crooker, Martin M., assignor.)	
80,109	Allen, B. F., and J. R. Ryerson, St. Albans, Maine. Fastening for boots and shoes	July 21, 1868.
	Allen, Collis B., and George Clayton. (*See* Clayton & Allen.)	
77,858	Allen, C. F., Paw-Paw, Mich. Car truck. (Antedated May 9, 1868)	May 12, 1868.
	Allen, Darius, *et al.* (*See* Taylor, O. H., assignor.)	
76,372	Allen, David L., Williamsport, Pa. Expanding mandrel	Apr. 7, 1868.
	Allen, E. E., and F. M. Loveland. (*See* Chaplin, Joseph M., assignor.)	
81,320	Allen, E. G., Boston, Mass. Steam safety valve	Aug. 25, 1868.
76,135	Allen, Edward M., Darlington, Md. Harvester cutter	Mar. 31, 1868.
73,943	Allen, Edwin, assignor to Allen Manufacturing Company, Norwich, Conn. Printing press	Feb. 4, 1868.
	Allen, Elisha M. (*See* Williams, Giles B., assignor).....(Reissue.)	
	Samo.....same.	
81,125	Allen, Enoch J., Rondout, N. Y. Scow	Aug. 18, 1868.
84,929	Allen, Ethan, Worcester, Mass. Breech-loading fire-arm	Dec. 15, 1868.
76,689	Allen, E. W., Auburn, N. Y. Corn planter	Apr. 14, 1868.
79,533	Allen, George, assignor to B. W. Conroy, Winchester, Mass. Spoke and felloe connection	June 30, 1868.
82,913	Allen, George D., New York, N. Y. Eel pot	Oct. 13, 1868.
	Same.....(*See* Remington, William H., assignor.)	
	Allen, George V., and George W. Wheeler. (*See* Wheeler & Allen.)	
	Allen, Henry I., and Company. (*See* Harding, Jacob, assignor.)	
73,221	Allen, Horatio, New York, N. Y. Connecting the tubes with the heads of surface condensers	Jan. 14, 1868.
	Allen, H. Nelson, and George Weaver. (*See* Weaver & Allen.)	
73,768	Allen, H. R., Charleston, Ill. Apparatus for straightening club feet and crooked legs	Jan. 28, 1868
73,278	Allen, John, New York, N. Y. Lamp. (Antedated Jan. 4, 1868)	Jan. 14, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,321	Allen, John, New York, N. Y. Lamp burner. (Antedated Aug. 12, 1868)	Aug. 25, 1868.
76,968	Allen, John, Pughtown, Pa. Bed bottom	Apr. 21, 1868.
73,068	Allen, John, and Charles E. F. Lewis, Washington, D. C. Lamp-chimney fastener	Jan. 7, 1868.
	Allen, John B., and Charles S. Westland. (*See* Westland & Allen.)	
73,069	Allen, John F., New York, N. Y. Valve gear	Jan. 7, 1868.
76,580	Allen, John F., Tremont, N. Y. Steam generator	Apr. 14, 1868.
76,581	Same.....Decarbonizing iron	Apr. 14, 1868.
76,690	Allen, J. G., Philadelphia, Pa. Spirit meter	Apr. 14, 1868.
76,373	Allen, J. Lathrop, assignor to self and Marshall Lefferts, New York, N. Y. Paper-cutting machine	Apr. 7, 1868.
79,295	Allen, J. S., and A. P. Wilkins, Allen's Grove, Wis. Key board for pianos, &c.	June 30, 1868.
75,342	Allen, Leicester, assignor to self and Solomon P. Smith, New York, N. Y. Fluid meter	Mar. 10, 1868.
80,698	Allen, L. H., and John B. Wilford, Tamaqua, Pa. Steam-engine slide valve	Aug. 4, 1868.
81,454	Allen, L. O., Gardiner, Maine. Caster for sewing machines	Aug. 25, 1868.
84,930	Allen, Levi O., Gardiner, Maine. Stove-pipe damper	Dec. 15, 1868.
	Same.....(*See* Hathaway, Richmond, assignor.)	
77,438	Allen, Oliver E, New York, N. Y. Car spring	May 5, 1868.
80,264	Allen, Ransom, Salem, Mich. Needle for knitting machine	July 28, 1868.
84,247	Allen, Samuel L., Cinnaminson, N. J. Planting machines	Nov. 24, 1868.
83,817	Allen, Samuel S., assignor to self and John B. Morris, Richmond, Ind. Oil blacking for leather	Nov. 10, 1868.
73,427	Allen, Stephen M., Woburn, Mass. Artificial leather belting	Jan. 21, 1868.
80,048	Same.....same	July 21, 1868.
	Allen, Stillman B. (*See* Nickerson, Hiram B., assignor.)	
84,788	Allen, Thomas R., Syracuse, N. Y. Beehive	Dec. 8, 1868.
75,508	Allen, Truman P., Gowanda, N. Y. Feed cutter	Mar. 17, 1868.
75,720	Allen, William, assignor to Ames Plow Company, Worcester, Mass. Mowing machine	Mar. 24, 1868.
82,273	Allen, William A., Medina, N. Y. Railroad-car stove	Sept. 22, 1868.
	Allen, William C., *et al.* (*See* Walker, Sylvester G., assignor.)	
	Allender, John, deceased, by Thomas Allender, executor, West Hampton, Mass. Metallic grommets.....(Extension)	June 19, 1868.
75,106	Allender, William, New London, Conn. Casting aluminum plates on artificial teeth	Mar. 3, 1868.
77,237	Allerton, George M., New York, N. Y. Apparatus for raising sunken vessels	Apr. 28, 1868.
57,859	Same.....Forming tight seams in rubber cloth	May 12, 1868.
79,933	Same.....Inflated rubber goods	July 14, 1868.
79,934	Same.....Life preserver	July 14, 1868.
74,267	Alley, J. A., Clifty, Ind. Combined plow and roller	Feb. 11, 1868.
	Allin, George. (*See* Harrison, Thomas J., assignor.)	
84,837	Alling, Calvin P., jr., Sylvan, Wis. Folding bedstead	Nov. 24, 1868.
83,437	Alling, Prudden, Norwalk, Ohio. Vine cutter and garden cultivator combined	Oct. 27, 1868.
3,143	Allinson, James, assignor to John Bromley & Sons, Philadelphia, Pa. Carpet pattern.....(Design)	Aug. 4, 1868.
74,268	Allis, A. Q., Dayton, Ohio. Sulky plow	Feb. 11, 1868.
74,785	Same.....Machine for boring post holes	Feb. 25, 1868.
79,296	Same.....Treadle for sewing machines	June 30, 1868.
82,060	Allison, A. H., Charlottesville, Ind. Cultivator	Sept. 15, 1868.
83,899	Allison, James, Cincinnati, Ohio. Hydrant	Nov. 10, 1868.
78,039	Allison, J. M., Cranberry, Pa. Corn planter	May 19, 1868.
84,604	Same.....same	Dec. 1, 1868.
82,475	Allison, Robert, Port Carbon, Pa. Pumping engine	Sept. 29, 1868.
	Allman, Herbert, and Frederick N. Gisborne. (*See* Gisborne & Allman.)	
85,352	Allport, William, New Britain, Conn. Door bell	Dec. 29, 1868.
	Allstatter, N., and Frank Schurger. (*See* Schurger & Allstatter.)	
	Allyn, F. T., and J. C. Raymond. (*See* Raymond & Allyn.)	
81,969	Allyn, T. F., Nyack, N. Y. Bow spring for railway cars	Sept. 8, 1868.
80,049	Allyn, William B., Boston, Mass. Key board for telegraph instruments	July 21, 1868.
	Almqvist, A. W., and F. W. Ofeldt. (*See* Ofeldt & Almqvist.)	
77,565	Alsing, Charles P., New York, N. Y. Asphalt pavement	May 5, 1868.
76,374	Alsop, Charles H., assignor to Joseph W. Alsop, Middletown, Conn. Breech-loading fire-arm	Apr. 7, 1868.
81,574	Alsop, Edwin, New York, N. Y. Hand mill	Sept. 1, 1868.
79,537	Alsop, Thomas, Elkhart, Ill. Mill-spindle spring	July 7, 1868.
81,455	Same.....Governor for steam engines	Aug. 25, 1868.
81,456	Same.....Mode of attaching springs to mill spindles	Aug. 25, 1868.
77,860	Althouse, Jacob, assignor to self and Joseph V. Winemiller, Cross Roads, Pa. Fertilizer	May 12, 1868.
83,235	Alvord, Clark, Courtland, Wis. Drag bar for cultivators	Oct. 20, 1868.
84,931	Same.....Westford, Wis. Cultivator	Dec. 15, 1868.
	Alvord, J. J., *et al.* (*See* Blinn, Alvord, & Brewer.)	
79,179	Alvord, J. K., Fulton County, Ohio. Machine for shearing sheep	June 23, 1868.
82,673	Same.....Delta, Ohio. Sheep-shearing device	Oct. 6, 1868.
83,754	Same.....near Delta, Ohio. Fleecing cradle	Nov. 3, 1868.
84,076	Amazeen, Christopher, New York, N. Y. Paper-box machine	Nov. 17, 1868.
	Ambler, A. J. (*See* Jauriet, Charles F., assignor.)	
83,682	Ambrun, Julius, Leavenworth, Kansas. Straw cutter	Nov. 3, 1868.
81,726	Ambruster, Charles S., assignor to self and Charles H. Richman, Woodstown, N. J. Hay fork	Sept. 1, 1868.
	American Anti-Incrustation Company. (*See* Baker & Dick, assignors.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	American Brush Company. (*See* White, Albert M., assignor.)	
	American Burial Case Company. (*See* Smith, Bernard, assignor.)	
	American Button Hole, Cording, Braiding, and Embroidering Machine Company. (*See* Rehfuss, George, assignor.)	
	American Button Hole, Overseaming, and Sewing Machine Company. (*See* Rehfuss, George, assignor.)	
	Same.....same.	
	American Eyelet Company. (*See* Clewley, Charles W., assignor.)	
	American Fiber Company. (*See* Bailliere, H. E., assignor.)	
	American Horse Collar Company. (*See* Sullivan, Eugene, assignor.)	
	American Moulded Collar Company. (*See* Cilley & Spaulding, assignors.)	
	Same..... (*See* Spaulding, George H., assignor.)	
	American Patent Chromatic Printing Press Company. (*See* Baylies, Thomas L., assignor.)	
	Same.....same.	
	Same..... (*See* Hunt, Joshua, assignor.)	
	American Shoe Tip Company. (*See* Silverthorn, Newman, assignor)..(Reissue.)	
75, 825	Ames, D. S., assignor to self and John F. Pershing, Laelede, Mo. Corn planter.	Mar. 24, 1868.
74, 479	Ames, Horace B., assignor to John S. Stone, Great Barrington, Mass. Spring cup toy.....	Feb. 18, 1868.
	Ames, Isaac, *et al.* (*See* Taggart, John, assignor.)	
2, 860	Ames, Nathan, assignor to E. M. Montague, Saugus Center, Mass. Index door plate..... (Reissue.)	Feb. 11, 1868.
2, 875	Ames, N., and J. E. Gowen, assignors through mesne assignments to William N. Ely, Stratford, Conn. Eyeleting machine.....(Div. A, reissue)..	Feb. 25, 1868.
2, 876	Same.....same.....(Div. B, reissue)..	Feb. 25, 1868.
2, 877	Same.....same.....(Div. C, reissue)..	Feb. 25, 1868.
2, 878	Same.....same.....(Div. D, reissue)..	Feb. 25, 1868.
2, 879	Same.....same.....(Div. E, reissue)..	Feb. 25, 1868.
2,880	Same.....same.....(Div. F, reissue)..	Feb. 25, 1868.
	Ames, Nathan P., and Samuel F. Bouton. (*See* Bouton & Ames.)	
	Ames Plow Company. (*See* Allen, Wm., assignor.)	
	Same.....(*See* Denton, Charles, assignor.)	
73, 279	Amidon, Charles H., Greenfield, Mass. Bit stock.....	Jan. 14, 1868.
83, 355	Ammerman, Philip, Cynthiana, Ky. Harvester rake.....	Oct. 27, 1868.
82, 674	Ammidown, Marcus M., Boston, Mass. Mode of transmitting motion.....	Oct. 6, 1868.
	Ammlung, Ch., *et al.* (*See* Uilting, L., assignor.)	
81, 970	Amor, Edgar John, New York, N. Y. Combined screw driver and wrench.....	Sept. 8, 1868.
76, 136	Amory, Jonathan, West Roxbury, Mass. Hot-air furnace.....	Mar. 31, 1868.
80, 265	Same.....Steam generator.....	July 28, 1868.
73, 222	Amos, Daniel W., Broad Top City, Pa. Horse hay fork.....	Jan. 14, 1868.
	Amos, Joseph, and H. A. Goodrich. (*See* Goodrich & Amos.)	
73, 562	Amsden, C. M., Wooster, Ohio. Sash fastening.....	Jan. 21, 1868.
81, 322	Amsden, Ira R., Buffalo, N. Y. Railroad-car heater.....	Aug. 25, 1868.
	Same.....(*See* Weiland, Godfried, assignor.)	
	Same.....(*See* Heneage, Robert, assignor.)	
80, 894	Anderson, Andrew, Madison, Wis. Clamp.....	Aug. 11, 1868.
3, 072	Anderson, Charles W., Cincinnati, Ohio. Soda-water fountain.....(Design)..	June 30, 1868.
83, 236	Anderson, E. F., Mansfield, Conn. Outline map to teach geography, &c.....	Oct. 20, 1868.
	Anderson, Edward H., and Samuel B. Hopkins. (*See* Hopkins & Anderson.)	
81, 723	Anderson, Garret D., Montrose, N. Y. Liquid safe.....	Sept. 1, 1868.
84, 463	Anderson, Henry, Shepherdstown, Pa. Wagon brake.....	Dec. 1, 1868.
84, 248	Anderson, Henry E., Ripon, Wis. Swaging attachment for sheet-metal-working machines.....	Nov. 24, 1868.
74, 480	Anderson, Horatio, assignor to self and G. W. Cushing, Chicago, Ill. Safety valve.....	Feb. 18, 1868.
	Anderson, James. (*See* Cajar, Frederick, assignor.)	
3, 055	Anderson, J. J., Rochester, Pa. Cook stove.....(Design)..	May 26, 1868.
73, 280	Anderson, James W. C., assignor to Henry Demarest, New York, N. Y. Exhausting ventilator and chimney cowl.....	Jan. 14, 1868.
83, 438	Anderson, John E., Boiling Springs, Pa. Grain cleaner.....	Oct. 27, 1868.
79, 538	Anderson, John R., Brooklyn, N. Y. Fog alarm.....	July 7, 1868.
79, 180	Anderson, R. B., Oneida, Ill. Securing buckles and rings to harness.....	June 23, 1868.
3, 216	Same.....same.....(Reissue)..	Dec. 1, 1868.
77, 439	Anderson, Solomon, West Burlington, N. Y. Saw.....	May 5, 1868.
74, 269	Anderson, V. D., Milton, Wis. Steam generator.....	Feb. 11, 1868.
83, 016	Same.....same.....	Oct. 13, 1868.
	Anderson, W. O., and Allan T. Bennett. (*See* Bennett & Anderson.)	
73, 563	Anderson, William R., New York, N. Y. Fastener for stair rods. (Antedated Jan. 8, 1868).....	Jan. 21, 1868.
80, 584	Anderson, William S., Shelbyville, Tenn. Car coupling.....	Aug. 4, 1868.
84, 077	Anderson, William Wallace, Camden, N. J. Thill coupling.....	Nov. 17, 1868.
78, 040	Andresen, Hans H., and Hans Asbahr, Davenport, Iowa. Venetian blind.....	May 19, 1868.
79, 181	Andrew, Frederick T., Charlottesville, Va. Instrument for testing shoe soles...	June 23, 1868.
76, 137	Andrew, J. J., Saltilloville, Ind. Straw cutter.....	Mar. 31, 1868.
	Andrew, John L. (*See* Sexton, James B., assignor.)	
83, 818	Andrew, William W., Grand Rapids, Mich. Field roller.....	Nov. 10, 1868.
76, 876	Andrews, Edward, Pottsville, Pa. Window-sash holder.....	Apr. 21, 1868.
83, 125	Same.....Boiler safety valve. (Antedated Oct. 9, 1868).....	Oct. 20, 1868.
73, 863	Andrews, Edwin F., Glasgow, Mo. Brick machine.....	Jan. 28, 1868.
76, 969	Andrews, Emanuel, Williamsport, Pa. Mode of hanging reciprocating saws in saw mills.....	Apr. 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,126	Andrews, Emanuel, Williamsport, Pa. Saw-grinding machine	Aug. 18, 1868.
85,417	Same.....Saw	Dec. 29, 1868.
	Same.....(*See* Pine, Robert G., assignor).....(Reissue)	
84,464	Andrews, Emery, and William Tucker, assignors to the Star Match Corporation, Portland, Maine. Match machine	Dec. 1, 1868.
76,138	Andrews, Herbert L., Chicago, Ill. Inkstand	Mar. 31, 1868.
82,061	Same.....School desk	Sept. 15, 1868.
82,062	Same.....Blackboard	Sept. 15, 1868.
83,126	Andrews, H. P., and M. E. Rawson, Cleveland, Ohio. Inkstand	Oct. 20, 1868.
79,935	Andrews, J. E., Coeymans Hollow, N. Y. Machine for washing paper stock	July 14, 1868.
81,724	Andrews, James H., Benicia, Cal. Gang plow	Sept. 1, 1868.
	Andrews, J. S., *et al.* (*See* Bell, Thomas S., assignor.)	
	Andrews, John S. (*See* Fanning, John, assignor.)	
78,174	Andrews, M. C., Lawrence, Mass. Railroad-car ventilator	May 26, 1868.
81,457	Andrews, Robert, Milwaukee, Wis. Boot and shoe. (Antedated Aug. 7, 1868)	May 25, 1868.
78,410	Andrews, R., and E. Armstrong, Allegheny, Pa. Governor valve. (Antedated May 12, 1868)	June 2, 1868.
2,928	Andrews, Robert W., Stafford, Conn. Operating the treadles of looms.(Reissue)	May 12, 1868.
75,107	Andrews, William, Cumberland, Md. Gridiron	Mar. 3, 1868.
	Andrews, William D., New York, N. Y. Centrifugal pump.....(Extension)	Aug. 18, 1868.
79,936	Andrews, Wm. H., New Haven, Conn. Rose for door knobs	July 14, 1868.
77,344	Andrews, Wm. H., assignor to self and Burton Mallory, New Haven, Conn. Attaching door knobs to spindles	Apr. 28, 1868.
82,063	Andrews, William R., and Robert Dingwell, Newark, N. J. Leather stretching machine	Sept. 15, 1868.
80,050	Angel, T. S., Watertown, N. Y. Machine for sharpening hop poles	July 21, 1868.
76,970	Angus, William N., Morristown, N. J. Egg beater	Apr. 21, 1868.
75,509	Anheuser, William, St. Louis, Mo. Extracting saccharine matters from malt	Mar. 17, 1868.
83,589	Same.....same. (Antedated Oct. 28, 1868)	Nov. 3, 1868.
81,725	Annan, George N., Buffalo, N. Y. Grinding mill	Sept. 1, 1868.
84,670	Annear, John, Philadelphia, Pa. Punching machine for tin and sheet metal	Dec. 8, 1868.
74,786	Annis, Emeline T., Mt. Morris, N. Y. Pillow support	Feb. 25, 1868.
85,418	Annis, Levi, Quincy, Mich. Potato digger	Dec. 29, 1868.
80,699	Ansley, Henry, Washington, D. C. Button	Aug. 4, 1868.
74,787	Anthony, Cornelius, assignor to C. L. Sanford, George B. Near, and James Traver, Schenectady, N. Y. Tea kettle	Feb. 25, 1868.
78,350	Anthony, C. F., assignor to self and John Charters, Chicago, Ill. Hassock machine	May 26, 1868.
85,049	Anthony, Henry E., Providence, R. I. Wrench	Dec. 22, 1868.
85,198	Anthony, Richard, Scranton, Pa. Railway rail	Dec. 22, 1868.
75,103	Antisdale, G. W., Chagrin Falls, Ohio. Truss and supporter	Mar. 3, 1868.
75,826	Anyan, Benjamin, Fitchville, Ohio. Cultivator	Mar. 24, 1868.
85,050	Apel, J. H., Boston, Mass. Chair for children	Dec. 22, 1868.
75,343	Apgar, E. A. and A. C., Trenton, N. J. Map and chart holder	Mar. 10, 1868.
85,353	Appelgate, Joseph H. C., Bridgeton, N. J. Dumping cart	Dec. 29, 1868.
84,078	Applebee, Cephas, Lyndon, Vt. Safety apparatus for lamps	Nov. 17, 1868.
79,048	Appleby, H. C., Conneaut, Ohio. Carbureter	June 23, 1868.
78,913	Applegate, Joseph F., New Albany, Ind. Wagon	June 16, 1868.
83,900	Same.....same	Nov. 10, 1868.
73,486	Arbuckle, John, jr., Allegheny, Pa. Roasted coffee	Jan. 21, 1868.
75,510	Archer, Ellis S., assignor to Archer, Pancoast & Company, New York, N. Y. Lantern	Mar. 17, 1868.
	Archer, Pancoast & Company. (*See* Travis, James F., assignor.)	
	Archibald, John, *et al.* (*See* Forrest, John, assignor.)	
74,270	Arden, Henry, Cincinnati, Ohio. Hot-air furnace	Feb. 11, 1868.
77,706	Same.....Car elevator	May 5, 1868.
	Arick, Clifford. (*See* Hadley, Charles F., assignor.)	
74,190	Arkell, James, assignor to self, Benjamin and Adam Smith, Canajoharie, N. Y. Machine for making paper tubes, &c	Feb. 11, 1868
79,539	Arlington, Charles C., assignor to C. Wheeler, jr., Auburn, N. Y. Harvester rake	July 7, 1868
73,487	Arman, Jean Lucien, France. Electric cable	Jan. 21, 1868
84,465	Armbrust, J. D. M., Apolloborough, Pa. Car coupling	Dec. 1, 1868
2,929	Armbruster, Jacob H., Philadelphia, Pa. Trade mark.....(Design)	Feb. 11, 1868
	Armendt, John E. (*See* Newton, Wm. M., assignor.)	
78,715	Armour, William, Ireland. Paper box	June 9, 1868
78,914	Arms, James C., Northampton, Mass. Fastening for pocket books, &c	June 16, 1868
81,727	Same.....Paper clasp	Sept. 1, 1868
82,577	Same.....Pocket-book fastening	Sept. 29, 1868
76,971	Armstrong, Aaron, Gillespie, Ill. Corn planter	Apr. 21, 1868
75,236	Armstrong, Abraham, Newburg, Ohio. Floor cleaner	Mar. 10, 1868
76,877	Armstrong, Alonzo, and A. Weller, Buffalo, N. Y. Sleigh	Apr. 21, 1868
73,281	Armstrong, B., Huntsburg, Ohio. Machine for making cheese	Jan. 14, 1868
82,476	Armstrong, Daniel, Chicago, Ill. Machine for pointing horseshoe nails	Sept. 29, 1868
83,439	Same.....Sash fastener	Oct. 27, 1868
	Armstrong, E., and R. Andrews. (*See* Andrews & Armstrong.)	
	Armstrong, George W., *et al.* (*See* Young, Albert A., assignor.)	
79,540	Armstrong, James, Bucyrus, Ohio. Garden implement	July 7, 1868
81,971	Same.....Feed-water heater and filter	Sept. 8, 1868.
81,972	Same.....Steam generator	Sept. 8, 1868.
82,193	Same.....Apparatus for tolling grain	Sept. 15, 1868
77,946	Armstrong, Jerome B., Corunna, Mich. Strap fastener	May 19, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
74,030	Armstrong, John, St. Louis, Mo. Brick machine	Feb. 4, 1868.
79,094	Armstrong, John, New Orleans, La. Steam generator	June 23, 1868.
83,901	Armstrong, John S., Delaware, Ohio. Drive well	Nov. 10, 1868.
74,481	Armstrong, P. W., Logan, Ohio. Tinners' die	Feb. 18, 1868.
	Armstrong, R. H., and Robert Gilliland. (*See* Gilliland & Armstrong.)	
82,064	Armstrong, W. T., Freeland, Ill. Stock pump	Sept. 15, 1868.
84,466	Arnaud, Derk, Boston, Mass. Bureau bedstead	Dec. 1, 1868.
	Arnaud, Derk, and Edwin Shackford. (*See* Shackford & Arnaud.)	
3,009	Arnd, Gustavus, New York, N. Y. Stake to mark graves (Design)	May 5, 1868.
81,323	Arndt, Theophilus, assignor to self, Christian H. Nissley, and Israel L. Landis, Mt. Joy, Pa. Car coupling	Aug. 25, 1868.
84,338	Arndt, Theophilus, assignor to self and E. L. Flowers, Mount Joy, Pa. Cultivator	Nov. 24, 1868.
81,862	Arnemann, Alfred, Guttenberg, Iowa. Safety attachment for pockets of apparel	Sept. 8, 1868.
74,271	Arnold, Alonzo C., and Ebenezer Blackman, Norwalk, Conn. Lamp	Feb. 11, 1868.
78,716	Arnold, Benjamin, East Greenwich, R. I. Net for fishing	June 9, 1868.
	Arnold, Benjamin, and James E. Hooper. (*See* Hooper & Arnold.)	
3,114	Arnold, C. P., assignor to the Gyroscopic Top Company, New York, N. Y. Frame of a gyroscopic top (Design)	July 21, 1868.
	Arnold, F., *et al.* (*See* Newell, Amos, assignor.)	
79,430	Arnold, Francis, Haddam Neck, Conn. Wagon jack	June 30, 1868.
	Arnold, George F., *et al.* (*See* Newell, Amos, assignor.)	
73,688	Arnold, Hiram, Gowanda, N. Y. Well tube	Jan. 28, 1868.
	Arnold, Job, *et al.* (*See* Mooney, George, assignor.)	
	Same ..... same.	
85,160	Arnold, Lauren B., Lansing, N. Y. Milk cooler	Dec. 22, 1868.
	Arnold, L. D., and Samuel Seitz. (*See* Seitz & Arnold.)	
3,049	Arnold, S. D., assignor to P. and F. Corbin, New Britain, Conn. Cupboard latch (Design)	May 26, 1868.
81,575	Arnold, Saxton J., and Amos F. Clark, assignors to Saxton J. Arnold, Raymondsville, N. Y. Machine for making barrels	Sept. 1, 1868.
83,586	Arnold, T. G., New York, N. Y. Die and punch. (Antedated Oct. 24, 1868)	Nov. 3, 1868.
80,110	Arnold, Thomas G., New York, N. Y. Malt-kiln tile	July 21, 1868.
78,175	Arnold, Wilber F., New Britain, Conn. Lock snap hook	May 26, 1868.
85,264	Same ..... Lifting jack	Dec. 29, 1868.
74,031	Arnoldt, H. B., and John Grimm, St. Louis, Mo. Cultivator	Feb. 4, 1868.
78,351	Arrouquier, William, Worcester, Mass. Clothes dryer	May 26, 1868.
84,467	Arter, David, assignor to self and J. J. Kauffman, Ashland, Ohio. Eave-trough hanger	Dec. 1, 1868.
74,032	Arthur, Isaiah B., Sidonsburg, Pa. Corn plow and cultivator	Feb. 4, 1868.
77,238	Same ..... Combined corn plow, planter, and cultivator	Apr. 28, 1868.
82,578	Arvin, J. N., and J. M. Whitmore, assignors to selves and Ammi M. Bennett, Valparaiso, Ind. Corn planter	Sept. 29, 1868.
74,971	Asay, A. Merritt, Philadelphia, Pa. Card for artificial teeth. (Antedated Feb. 20, 1868)	Mar. 3, 1868.
	Asbahr, Hans, and Hans H. Andresen. (*See* Andresen & Asbahr.)	
	Asbury, Henry, and John G. Baker. (*See* Baker & Asbury.)	
81,324	Ascough, William, Buffalo, N. Y. Lamp bracket	Aug. 25, 1868.
76,133	Ashcroft, E. H., Lynn, Mass. Compound for use in safe and powder magazines	Mar. 31, 1868.
2,917	Same ..... Railroad-car heater (Reissue)	Apr. 14, 1868.
76,878	Same ..... Steam safety valve	Apr. 21, 1868.
79,182	Same ..... same	June 23, 1868.
79,623	Ashcroft, E. H., Boston, Mass. Dryer	July 7, 1868.
81,060	Ashcroft, E. H., Lynn, Mass. Device for ventilating and desiccating	Aug. 18, 1868.
81,576	Ashcroft, E. H., Boston, Mass. Non-corrosive valve seat	Sept. 1, 1868.
81,863	Same ..... Steam safety valve	Sept. 8, 1868.
82,270	Ashcroft, E. H., Lynn, Mass. Steam safety valve	Sept. 22, 1868.
83,587	Same ..... Steam engine oil cup	Nov. 3, 1868.
83,588	Same ..... Steam and water check valve	Nov. 3, 1868.
83,902	Ashcroft, E. H., Boston, Mass. Globe valve for steam and other engineery	Nov. 10, 1868.
	Ashcroft, E. H. (*See* Brown, James R., assignor.)	
	Same ..... (*See* Lang, J. P. Theodore, assignor.)	
81,325	Ashcroft, E. H., and J. R. Brown, assignors to E. H. Ashcroft, Boston, Mass. Elevator	Aug. 25, 1868.
80,700	Ashcroft, John, New York, N. Y. Low-water indicator for boilers	Aug. 4, 1868.
81,326	Same ..... Steam safety valve	Aug. 25, 1868.
	Same ..... (*See* Dougherty, S. B., assignor.)	
73,282	Ashcroft, Peter, and George F. L. Meakin, England. Railroad rail	Jan. 14, 1868.
	Ashmead, Austin T., and Otis C. White. (*See* White & Ashmead.)	
82,784	Ashton, T. H., Defiance, Ohio. Clod crusher	Oct. 6, 1868.
78,352	Ashworth, Daniel, and Robert B. Eaton, Woburn, Mass. Apparatus for concentrating sulphuric acid	May 26, 1868.
81,864	Ashworth, George and Elijah, Great Britain. Portfolio. (Patented in England March 15, 1867)	Sept. 8, 1868.
80,849	Ashworth, John, assignor to George L. Davis, John A. Wiley, and Joseph M. Stone, North Andover, Mass. Ring spinning frame	Aug. 11, 1868.
81,865	Same ..... Operating shuttle boxes in looms	Sept. 8, 1868.
	Ashworth, John, and D. C. Brown. (*See* Brown & Ashworth.)	
	Asmus, George. (*See* Lurmann, F. W., assignor) ..... (Reissue.)	
	Assman, Bernhard, and Jacob Noopel. (*See* Noepel & Assman.)	
74,033	Assman, Albert, Rahway, N. J. Lamp lighter	Feb. 4, 1868.
78,041	Asthower, Fritz, assignor to Jos. R. Von Wessely, Prussia. Manufacture of steel	May 19, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82, 065	Aston, John, assignor to Wm. Smith, Pittsburg, Pa. Molding pipe	Sept. 15, 1868.
	Atherton, Abel T., and Morton E. Converse. (*See* Converse & Atherton.)	
79, 095	Atherton, Alpha A., Waterbury, Vt. Washing machine	June 23, 1868.
81, 327	Atherton, Calvin, Wales, Mich. Wagon spring	Aug. 25, 1868.
	Atherton, John B., and Henry A. Wheeler. (*See* Deming, F., assignor.)	
76, 139	Atherton, Nathan, Philadelphia, Pa. Steam engine	Mar. 31, 1868.
79, 297	Atherton, Robert, and George Singleton, Paterson, N. J. Spinning machinery. (Antedated June 19, 1868)	June 30, 1868.
75, 109	Atkeson, C. W., St. Louis, Mo. Cowl	Mar. 3, 1868.
79, 183	Atkin, Robert, Brooklyn, N. Y. Propeller	June 23, 1868.
78, 915	Atkins, Elias C., Indianapolis, Ind. Machine for polishing metal plates	June 16, 1868.
74, 034	Atkins, Jearum, Mokena, Ill. Gate	Feb. 4, 1868.
74, 272	Same.....Harvester cutter	Feb. 11, 1868.
74, 656	Same.....Safety valve	Feb. 18, 1868.
75, 511	Same.....Washington, D. C. Smoke stack for locomotive engines	Mar. 17, 1868
75, 827	Same.....Calipers	Mar. 24, 1868.
79, 431	Same.....Low-water alarm for boilers	June 30, 1868.
80, 437	Same.....Smoke stack for locomotives	July 28, 1868.
74, 482	Atkinson, Benjamin, Davenport, Iowa. Pessary	Feb. 18, 1868.
76, 375	Atkinson, Edward, Wrightstown, Pa. Roof	Apr. 7, 1868.
	Atkinson, F. Mortimer. (*See* Daniels, D. G., assignor.)	
	Atkinson, Joseph H. (*See* Whipple, S. J., assignor.)	
	Same.....(*See* Walton, Elisha W., assignor.)	
	Same.....same.	
82, 271	Atkinson, Wm. B., Pittsburg, Pa. Clamp for railroad rails. (Antedated September 9, 1868)	Sept. 22, 1868
75, 110	Atterbury, J. S. and T. B., Pittsburg, Pa. Manufacture of glass ware	Mar. 3, 1868
79, 278	Same.....Manufacturing glass ware with handles	June 30, 1868.
3, 116	Same.....same.....(Reissue)	Sept. 15, 1868.
82, 579	Same.....Lamp	Sept. 29, 1868.
73, 223	Atwater, Lewis, Ithaca, N. Y. Horse hay fork	Jan. 14, 1868.
75, 721	Atwell, R. H., Baltimore, Md. Liquid meter. (Antedated March 7, 1868)	Mar. 24, 1868.
80, 380	Atwood, Anson, New York, N. Y. Car wheel	July 28, 1868.
83, 440	Atwood, Benjamin F., New York, N. Y. Compound to be applied to the hair	Oct. 27, 1868.
77, 566	Atwood, Eugene, Mansfield, Conn. Spindle	May 5, 1868.
82, 066	Atwood, John E., assignor to self and A. and W. Sprague, Mansfield, Conn. Journal box	Sept. 15, 1868.
83, 903	Atwood, Leonard, Norwich, Conn. Valve for steam engines	Nov. 10, 1868.
85, 419	Atwood, Leonard, New York, N. Y. Hoisting apparatus for builders	Dec. 29, 1868.
83, 819	Atwood, L. J., Waterbury, Conn. Pin cushion	Nov. 10, 1868.
73, 488	Atwood, Lewis J., assignor to self, Holmes, Booth & Haydens, Waterbury, Conn. Lamp	Jan. 21, 1868.
78, 637	Same.....Lamp burner	June 9, 1868.
80, 111	Same.....Lamp	July 21, 1868.
3, 019	Atwood, Lewis J., assignor through mesne assignments to himself, Waterbury, Conn. Lamp.....(Reissue)	June 30, 1868
80, 585	Atwood, Moses, New Sharon, Iowa. Seed planter	Aug. 4, 1868
84, 339	Same.....Harrow	Nov. 24, 1868
	Atwood, Walter S., and Daniel M. Somers. (*See* Somers & Atwood.)	
79, 802	Atwood, William, Cape Elizabeth, Maine. Machine for separating light from heavy particles of litharge, paint, &c	July 14, 1868
2, 918	Aubin, Napoleon, Montreal, Canada. Fluid meter.....(Reissue)	Apr. 14, 1868.
83, 441	Aubin, N., Plattsburg, N. Y. Peat machine	Oct. 27, 1868.
75, 237	Aughe, Jefferson, Dayton, Ohio. Coulter holder	Mar. 10, 1868.
79, 624	Augspurger, John, Trenton, Ohio. Portable fence	July 7, 1868.
	Augspurger, John, and Peter Shellenback. (*See* Shellenback & Augspurger.)	
	Aultman, C. (*See* Swartz & Kreamer, assignors).....(Reissue.)	
	Same.....(*See* Buckins, George H., assignor.)	
	Same.....same.	
	Same.....(*See* Yates, Wm., assignor.)	
84, 984	Auser, Joseph, Mt. Vernon, N. Y. Door and shutter fastener. (Antedated December 12, 1868)	Dec. 15, 1868
80, 895	Austel, Carl F., New York, N. Y. Machinery for printing yarn	Aug. 11, 1868.
	Austin, Artell. (*See* Streeter, Martin, assignor.)	
74, 274	Austin, Dinsmore, Underhill, Vt. Whiffletree tug	Feb. 11, 1868
74, 273	Austin, Dinsmore, assignor to self and Homer Rawson, Underhill, Vt. Whiffletree	Feb. 11, 1868
74, 275	Same.....Shaft coupling	Feb. 11, 1868
82, 785	Austin, Harrison W., Portage, Mich. Equalizing whiffletree	Oct. 6, 1868.
76, 691	Austin, James E., Oswego, N. Y. Shingle machine	Apr. 14, 1868
82, 067	Same.....same	Sept. 15, 1868
84, 468	Austin, Phineas E., New Haven, Conn. Method of adjusting and holding dies and punches	Dec. 1, 1868
	Austin, Richard. (*See* McFadden, George, assignor.)	
83, 683	Austin, William, England. Composition for the manufacture of safety and other friction matches	Nov. 3, 1868
78, 564	Austin, William, assignor to self and Wm. Obdyke, Philadelphia, Pa. Construction of sheet-metal conductor pipes	June 2, 1868
81, 728	Autenrieth, Jacob, Philadelphia, Pa. Cork extractor	Sept. 1, 1868
79, 625	Averill, Benjamin F., Dunkirk, N. Y. Weather strip	July 7, 1868
3, 051	Averill, D. R., Newbury, Ohio. Paint.....(Reissue)	July 28, 1868
73, 864	Averill, James, Champlain, and Elisha S. Fitch, Mooers, N. Y. Draft equalizer	Jan. 28, 1868
	Avery, Daniel W., and Francis N. Howard. (*See* Howard & Avery.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78, 411	Avery, Dexter, Westfield, Mass. Carrier for braiding machines	June 2, 1868.
79, 299	Same.....Whip	June 30, 1868.
78, 638	Avery, G. C., Waldron, Ind. Plow and planter	June 9, 1868.
	Avery, George S., and Timothy Keeler. (*See* Keeler & Avery.)	
74, 875	Avery, Hiram B., Bethel Township, Mich. Apparatus for evaporating sorghum juice and other liquids	Feb. 25, 1868.
	Avery, Irving M., and James M. Gale. (*See* Gale & Avery.)	
74, 788	Avery, M. A., Groton, N. Y. Butt hinge	Feb. 25, 1868.
76, 376	Avery, Samuel, and Lewis Delille, Phœnix, N. Y. Coffin	Apr. 7, 1868.
75, 512	Avis, Solomon S., Penn's Grove, N. J. Stump extractor	Mar. 17, 1868.
77, 239	Same.....Lard press	Apr. 28, 1868.
74, 876	Axtell, Henry A., Westfield, Mass. Sofa cradle	Feb. 25, 1868.
73, 865	Ayer, James C., and Edward Haeffely, Lowell, Mass. Composition for coloring hair	Jan. 28, 1868.
	Ayers, D. A. (*See* Danforth, D. A., assignor.)	
83, 356	Ayers, Joseph O., assignor to J. O. Cutter and Wm. W. Goss, East Greensboro, Vt. Sugar-pan derrick	Oct. 27, 1868.
74, 972	Ayers, S. K., Delton, Wis. Lamp	Mar. 3, 1868.
79, 049	Ayres, Daniel W., Sheldon, Ill. Device for grinding tools	June 23, 1868.
74, 973	Ayres, James, Paterson, N. J. Spring balance for safety valves	Mar. 3, 1868.
85, 265	Ayres, James, Branchville, N. J. Device for sharpening rails	Dec. 29, 1868.
77, 947	Ayres, Samuel, New York, N. Y. Truss	May 19, 1868.
82, 272	Ayres, Samuel, Danville, Ky. Pencil sheath	Dec. 22, 1868.
	Ayres, William, and Henry T. Payne. (*See* Payne & Ayres.)	
77, 240	Babbitt, Benjamin, New York, N. Y. Quartz crusher	Apr. 28, 1868.
75, 828	Babbitt, Benjamin T., New York, N. Y. Process for preserving coffee	Mar. 24, 1868.
75, 829	Same.....Coffee roaster	Mar. 24, 1868.
79, 937	Same.....Propelling vessels	July 14, 1868.
79, 938	Same.....Gas explosive engines for condensing air	July 14, 1868.
79, 939	Same.....same	July 14, 1868.
81, 242	Babbitt, Francis S., Taunton, Mass. Nozzle for pipes	Aug. 18, 1868.
75, 830	Babbitt, J. L., assignor to Fuel Saving Furnace Company, Glen Cove, N. Y. Grate	Mar. 24, 1868.
83, 017	Babbitt, W. H. H., New Corner, Ind. Gaiter boot	Oct. 13, 1868.
77, 241	Babbs, J. S. L., assignor to self and J. B. Ford, New Albany, Ind. Machine for making pegs	Apr. 28, 1868.
76, 377	Babcock, Charles A., assignor to self, D. M. Golden, and B. G. Eaton, Frankfort, N. Y. Whiffletree hook	Apr. 7, 1868.
79, 300	Babcock, Darius, Warsaw, Ill. Harvester	June 30, 1868.
78, 916	Babcock, Eli H., Canandaigua, N. Y. Drill chuck	June 16, 1868.
74, 035	Babcock, Ezra, Scott, N. Y. Combined harrow and stone remover	Feb. 4, 1868.
82, 580	Babcock, Franklin, Middletown, Conn. Sash holder	Sept. 29, 1868.
82, 581	Babcock, Franklin and Frederick, Middletown, Conn. Door latch	Sept. 29, 1868.
3, 236	Babcock, Holland C., assignor to self and Marshall Jewell, Cincinnati, Ohio. Belt lacing.....(Reissue)	Dec. 22, 1868.
80, 701	Babcock, James F., Boston, Mass. Apparatus for extinguishing fires	Aug. 4, 1868.
83, 582	Same.....Composition for generating gases in fire extinguishers and for other purposes	Sept. 29, 1868.
	Babcock, J. P., and Thomas Netherwood. (*See* Netherwood & Babcock.)	
83, 442	Babcock, William W., assignor to self, A. W. McCormick, and Samuel S. McNaughton, Harmar, Ohio. Car brake	Oct. 27, 1868.
75, 722	Babin, William, New York, N. Y. Buckle	Mar. 24, 1868.
82, 477	Babson, George and John L., Rockport, Mass. Weighing apparatus. (Antedated September 17, 1868)	Sept. 29, 1868.
82, 068	Bachelder, C. G., Camden, Maine. Wagon axle	Sept. 15, 1868.
73, 866	Bachelder, John, Norwich, Conn. Guide for carding engines	Jan. 28, 1868.
81, 577	Same.....Machine for covering cord	Sept. 1, 1868.
	Bachelder, J., and B. H. Reynolds. (*See* Reynolds & Bachelder.)	
76, 036	Bachelder, John, and William H. Bliss, 2d, assignors to John Bachelder, Norwich, Conn. Harness operating mechanism for looms	Mar. 31, 1868.
81, 973	Bachelder, Joseph H. C., Winsted, Conn. Rolling mill	Sept. 8, 1868.
83, 904	Bachman, Gustav Bernard, Brooklyn, N. Y. Bottle-filling apparatus	Nov. 10, 1868.
83, 018	Backus, Joseph, Greenvale, Ill. Device for unloading hay	Oct. 13, 1868.
82, 676	Backus, Oscar J., San Francisco, Cal. Nozzle for hose pipe	Oct. 6, 1868.
78, 565	Backus, Quimby S., Winchendon, Mass. Vise	June 2, 1868.
3, 130	Same.....same.....(Design)	July 28, 1868.
82, 583	Same.....Chuck drill	Sept. 29, 1868.
77, 948	Bacon, Charles H., assignor to self and Wm. Read, jr., Boston, Mass. Governor for steam engines	May 19, 1868.
74, 276	Bacon, Charles R., and George D. Clark, Newark, N. J. Blacking-box holder	Feb. 11, 1868
81, 458	Bacon, Daniel, Brewersville, Ind. Corn sheller	Aug. 25, 1868
84, 249	Bacon, Earle C., New York, N. Y. Steam engine	Nov. 24, 1868
85, 266	Same.....Pitman	Dec. 29, 1868
	Bacon, James D. (*See* Smoot, W. S., assignor.)	
77, 242	Bacon, Jerome, Medina, Wis. Land-side plow	Apr. 28, 1868
	Bacon, Jerome A. (*See* Taggart, John, assignor.)	
78, 251	Bacon, Thomas K., assignor to self, George A. Pratt, William T. Norton, and Hiram B. Crosby, Norwich, Conn. Drill holder	May 26, 1868.
	Bader, Herman, and Nicholas Gonner. (*See* Gonner & Bader.)	
73, 769	Badgley, Nathan E., New York, N. Y. Broom	Jan. 28, 1868.
78, 639	Badoux, Pierre Joseph, New York, N. Y. Evaporator	June 9, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Baer, A. P. (*See* Schlosser, Peter G., assignor.)	
83,019	Baggart, Thomas, Baltimore, Md. Wire cloth	Oct. 13, 1868.
73,428	Baggerman, C., and J. Green, St. Louis, Mo. Mortising machine	Jan. 21, 1868.
81,578	Baggett, Edward, Fall River, Mass. Shuttle for looms	Sept. 1, 1868.
80,586	Baham, J. A., R. C. Wilson and Samuel French, Auburn, N. Y. Machine for removing wire teeth from cards	Aug. 4, 1868.
85,161	Baierle, Adam, Chicago, Ill. Ice house	Dec. 22, 1868.
78,507	Baierle, A., F. Hartman and F. Reese, Chicago, Ill. Ice house for brewers and butchers	June 2, 1868.
79,096	Bailley, Alfred M., assignor to Metropolitan Washing Machine Company, Middlefield, Conn. Wringer	June 23, 1868.
81,459	Bailey, A. R., Elmore, Vt. Butter tub	Aug. 25, 1868.
80,529	Bailey, Benjamin A., assignor to self and Wm. H. Kilvert, Lewiston, Maine. Yarn beam for looms	Aug. 4, 1868.
	Bailey, D. D., and Major E. Hanover. (*See* Hanover & Bailey.)	
77,345	Bailey, D. M., Carlisle, Pa. Wagon brake	Apr. 28, 1868.
84,789	Bailey, Fortune L., Freeport, Ind. Car mover	Dec. 8, 1868
	Bailey, George L., *et al.* (*See* Beminger, Cornelius, *et al.*)	
79,940	Bailey, Gilbert L., Portland, Maine. Switch for street railroads	July 14, 1868.
73,489	Bailey, Henry, assignor to J. L. Romer and H. F. and W. R. Pease, New York, N. Y. Steam engine	Jan. 21, 1868
73,283	Bailey, H. J. Pittsburg, Pa. Air-condensing apparatus	Jan. 14, 1868
78,917	Same.....Hydrants	June 16, 1868
85,267	Same.....same	Dec. 29, 1868
	Bailey, Henry W. (*See* Mercier, Edward, assignor.)	
75,662	Bailey, Henry W., assignor to self and William C. Bailey, Springfield, Mass. Die for making hammers	Mar. 17, 1868
76,378	Bailey, J. B., assignor to the Bailey Manufacturing Company, New York, N. Y. Construction of ice pitchers	Apr. 7, 1868
75,831	Bailey, J. W., New Orleans, La. Toy pistol	Mar. 24, 1868
81,579	Bailey, Joseph W., New Orleans, La. Marking weatherboarding	Sept. 1, 1868
2,882	Bailey, L., and R. Thayer, assignors through mesne assignments to Wm. A. Ely, Stratford, Conn. Lamp. (Reissue)	Feb. 25, 1868.
77,346	Bailey, Seldon A., assignor to Bailey Washing and Wringing Machine Company, Woonsocket, R. I. Wringing machine	Apr. 28, 1868.
3,072	Bailey, Truman G., Amenia, N. Y. Buckle. (Reissue)	Aug. 11, 1868.
75,344	Bailey, T. R., jr., Lockport, N. Y. Hydrants	Mar. 10, 1868.
	Bailey, Wm. F., and James F. Snediker. (*See* Snediker & Bailey.)	
75,618	Bailey, W. W., New York, N. Y. Low-water detector for steam generators	Mar. 17, 1868.
74,277	Baillie, John, Salem, Ohio. Saw mill	Feb. 11, 1868.
74,877	Same.....Lathe tool holder	Feb. 25, 1868.
	Bailliere, Charles Edmund. (*See* Seitz, C. D. J., assignor.)	
73,429	Bailliere, H. E., assignor to American Fiber Company, Hoboken, N. J. Manufacture of paper pulp	Jan. 21, 1868.
83,684	Baily, Ezra, assignor to self and Joseph Parker, Cincinnati, Ohio. Plank and timber dresser	Nov. 3, 1868.
73,490	Baily, Lyman M., assignor to self and Joseph P. Long, Landgrove, Vt. Tuyere iron	Jan. 21, 1868.
	Baird, A. J., and John M. Cullen. (*See* Cullen & Baird.)	
76,972	Baird, David, Bloody Run, Pa. Mill-stone exhaust	Apr. 21, 1868.
	Baird, D. W. (*See* Mathews, Darious A., assignor.)	
85,051	Baird, John, New York, N. Y. Composite vessel	Dec. 22, 1868.
84,403	Baird, Samuel J., Staunton, Va. Printing press	Nov. 24, 1868.
	Baker, C. S., and W. B. Noyes. (*See* Noyes & Baker.)	
81,580	Baker, David, Boston, Mass. Well tubes	Sept. 1, 1868.
81,581	Same.....same	Sept. 1, 1868.
81,582	Same.....same	Sept. 1, 1868.
77,861	Baker, D. C., Buffalo, N. Y. Washing machine	May 12, 1868.
76,879	Baker, David D., assignor to self and Harvey Campbell, West Alexandria, Ohio. Churn	Apr. 21, 1868.
77,707	Baker, D. S., West Bloomfield, N. Y. Stove grate	May 12, 1868.
81,729	Same.....Brake for machinery	Sept. 1, 1868.
81,127	Baker, Edwin R., assignor to self and John R. Linton, Fair Haven, Mass. Wagon hub	Aug. 18, 1868.
84,156	Baker, Elijah, assignor to self and Augustus L. Baker, Loraine, N. Y. Reel	Nov. 17, 1868.
	Baker, Fred. M. (*See* Sanderson, George O., assignor.)	
	Baker, G. W. (*See* Richard, Joseph, assignor.)	
3,228	Baker, Hardy N., assignor to Benjamin D. Washburn, Boston, Mass. Blind hinge. (Design)	Nov. 10, 1868.
74,878	Baker, Hadyn M, New York, N. Y. Cleaning cloths used by bank-note engravers	Feb. 25, 1868.
80,381	Baker, Haydn M., Harlem, N. Y. Cleaning cotton waste	July 28, 1868.
82,194	Same.....Process of refining cast iron	Sept. 15, 1868.
84,250	Baker, Haydn M., New York, N. Y. Manufacture of carbonate of soda	Nov. 24, 1868.
84,404	Same.....Process of removing pigments, oils and gums from cloth used by engravers. (Antedated Nov. 7, 1868)	Nov. 24, 1868.
73,689	Baker, Hadyn M., assignor to self and H. M. French, Rochester, N. Y. Manufacture of soda and sulphuric acid	Jan. 28, 1868.
73,491	Baker, Henry, assignor to self and Christian G. Herr, Lancaster, Pa. Bolt and latch	Jan. 21, 1868.
76,379	Baker, Henry O., New York, N. Y. Mucilage bottle	Apr. 7, 1868.
2,911	Baker, Horace, Cortland, N. Y. Hay raker and loader. (Reissue)	Apr. 7, 1868.
75,723	Baker, James H., Saratoga Springs, N. Y. Variable exhaust for non-condensing engines	Mar. 24 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77, 243	Baker, James H., Saratoga Springs, N. Y. Floor clamp	Apr. 28, 1868.
74, 278	Baker, John, Philadelphia, Pa. Machine for cutting ice	Feb. 11, 1868.
3, 138	Baker, John G., Philadelphia, Pa. Machine for grinding saws (Reissue)	Sept. 29, 1868.
83, 374	Baker, John G., and Henry Asbury, Philadelphia. Pa. Bung borer	Sept. 22, 1868
79, 184	Baker, John G., assignor to Henry Disston, Philadelphia, Pa. Swage for circular saws	June 23, 1868
79, 185	Same. Saw	June 23, 1868
83, 443	Same. Saw-grinding machine	Oct. 27, 1868.
	Baker, J. H., and R. Warriner. (*See* Warriner & Baker.)	
79, 050	Baker, Lewis H., Tarrytown, N. Y. Lounge	June 23, 1868.
3, 150	Same. Convertible lounge (Reissue)	Oct. 6, 1868
77, 567	Baker, Loring J., assignor to Samuel D. Leavitt, Archibald McNichol, and Frank Fowler, Machias, Maine. Lamp-chimney cleaner	May 5, 1868.
	Baker, L. L., *et al.* (*See* Benn, Walter C., assignor.)	
	Same. same.	
79, 097	Baker, Nelson, Alganzee, Mich. Cultivating hops	June 23, 1868.
84, 157	Baker, Peter H., Virginia City, Nevada. Mode of fastenings straps to boots	Nov. 17, 1868.
81, 128	Baker, Philander, Chicago, Ill. Lamp burner. (Antedated Aug. 5, 1868)	Aug. 18, 1868.
84, 671	Baker, Robert Breckenridge, and Charles James Adolphus Dick, assignors to the American Anti-Incrustation Company, France. Device for preventing incrustation in steam generators	Dec. 8, 1868.
74, 742	Baker, Seth W., Providence, R. I. Horse blanket	Feb. 25, 1868.
81, 866	Baker, Vincent M., Preston, Minn. Water wheel	Sept. 8, 1868.
84, 158	Same. same.	Nov. 17, 1868.
2, 906	Baker, William, New York, N. Y. Molding (Design)	Feb. 4, 1868.
	Same. Utica, N. Y. Clapboard joint (Extension)	May 15, 1868.
75, 345	Baker, William C., New York, N. Y. Railroad-car heater	Mar. 10, 1868.
84, 079	Same. Flue-cleaner for boilers	Nov. 17, 1868.
	Baker, William R., *et al.* (*See* McCormick, Baker & Erpelding.)	
	Same. same.	
75, 832	Bakewell, C. N., Normal, Ill. Sulky plow and harrow	Mar. 24, 1868.
	Bakewell, Thomas, Benjamin P., and B., jr., *et al.* (*See* Lippincott, Wm. J., assignor) (Reissue.)	
	Bakewell, Thomas, and John Lippincott. (*See* Colburn, Daniel W., assignor.) (Reissue.)	
79, 432	Bakker, Frands T., Chicago, Ill. Fluid for exciting galvanic chains	June 30, 1868.
83, 820	Balcear, E. J., Martinez, Cal. Hair restorative. (Antedated Nov. 7, 1868)	Nov. 10, 1868.
78, 855	Balch, Edward L., Boston, Mass. Music type. (Antedated June 4, 1868)	June 16, 1868.
	Balcom, Lyman B. (*See* Johnson, Alfred S., assignor.)	
78, 640	Baldwin, Anna E., Newark, N. J. Process of treating milk to obtain useful products	June 9, 1868.
84, 469	Baldwin, A. P., Newark, N. J. Bridle bit. (Antedated Nov. 21, 1868)	Dec. 1, 1868.
	Baldwin, A. P. (*See* Eberhard, Wm., assignor.)	
	Baldwin, Calvin P. (*See* Williams, Isaiah M., assignor.)	
76, 140	Baldwin, C. W., assignor to Lafayette Huntoon, Boston, Mass. Steam engine	Mar. 31, 1868.
82, 069	Baldwin, E. R., Southfield, Mass. Wagon jack	Sept. 15, 1868.
81, 867	Baldwin, Grant O., Hillsboro', Ohio. Still	Sept. 8, 1868.
75, 238	Baldwin, Henry, Titusville, Pa. Apparatus for burning crude petroleum	Mar. 10, 1868.
76, 380	Baldwin, James, Manchester, N. H. Nut for joint bolt	Apr. 7, 1868.
	Baldwin, James, and Nathan Clough. (*See* Clough & Baldwin.)	
76, 692	Baldwin, James S., Newark, N. J. Elevator	Apr. 14, 1868.
76, 693	Same. same	Apr. 14, 1868.
76, 694	Same. Elevator for transporting passengers	Apr. 14, 1868.
83, 237	Same. Elevator for buildings	Oct. 20, 1868.
	Baldwin, William. (*See* Case, Jarvis, assignor) (Reissue.)	
79, 720	Baldwin, William, assignor to self and Joel and E. Blakeslee, Plymouth, Conn. Grain rake	July 21, 1868.
	Baldwin, Wilson, and Alvah L. Sawyer. (*See* Sawyer & Baldwin.)	
77, 708	Bales, Moses and Wm. P., London, Ohio. Corn harvester	May 12, 1868.
81, 460	Ball, A. R., and William M. Phelps, Marshall, Michigan. Wash boilers	Aug. 25, 1868.
78, 508	Ball, D. H., Sinnamahoning, Pa. Shingle machine	June 2, 1868.
80, 112	Ball, Ephraim and Milton, assignors to John F. Seiberling, Canton, Ohio. Dropping-platform for harvesters	July 21, 1868.
76, 582	Ball, Franklin, Wilton Junction, Iowa. Window-sash stop	Apr. 14, 1868.
85, 354	Ball, Hosea, New York, N. Y. Quartz crusher	Dec. 29, 1868.
78, 353	Ball, James, New York, N. Y. Envelope machine	May 26, 1868.
83, 590	Ball, James A., and Peter B. Lawson, Cold Spring, N.Y. Machine for blocking hats	Nov. 3, 1868.
81, 730	Ball, John, Canton, Ohio. Plow	Sept. 1, 1868
81, 731	Same. Clevis for plows	Sept. 1, 1868
79, 098	Ball, Joseph P., Lebanon, Ind. Medicine for hog cholera	June 23, 1868.
73, 430	Ball, Phinehas, Worcester, Mass. Water meter	Jan. 21, 1868.
	Ball, R., & Company. (*See* Clark, Milton W., assignor.)	
	Same. same.	
	Same. (*See* Gibbs, D. L., assignor.)	
	Same. (*See* Plummer, Frank J., assignor.)	
	Same. (*See* Thompson, Hiram, assignor.)	
	Same. (*See* Gibbs, D. L., assignor.)	
	Ball, Robert R. (*See* Lacey, Daniel P., assignor.)	
82, 070	Ball, Thomas C., Bellows Falls, Vt. Knob latch	Sept. 15, 1868.
76, 381	Ball, William, Chicopee, Mass. Steam generator	Apr. 7, 1868.
77, 568	Ball, William W., Edinburg, Ind. Metal hubs	May 5, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80, 896	Ballantine, A. T., Titusville, Pa. Torpedo for oil wells, &c	Aug. 11, 1868.
	Ballantine, Alexander T., and Martin W. Pond, jr. (*See* Pond & Ballantine.)	
85, 420	Ballard, Allen S., Mt. Pleasant, Iowa. Ice-cream freezer	Dec. 29, 1868.
82, 478	Ballard, H. D., assignor to self and Isaac Bonham, Findlay, O. Surgical splint	Sept. 29, 1868.
84, 724	Ballard, Jacob H., and Edward P. Bond, New Antioch, Ohio. Brick machine	Dec. 8, 1868.
82, 584	Ballard, James, Almond, Michigan. Washing machine	Sept. 29, 1868.
80, 113	Ballard, Philip, Texas, Ohio. Drain plow	July 21, 1868.
79, 186	Ballard, William, Lapeer, N. Y. Carriage brake	June 23, 1868.
76, 973	Ballas, Adolph F., Pottstown, Pa. Railway switch	Apr. 21, 1868.
2, 906	Ballou, F. D., assignor through mesne assignments to W. N. Ely, Stratford, Conn. Mechanism for boot and shoe sewing machine (Reissue)	Mar. 31, 1868.
75, 346	Ballou, Russell A., Boston, Mass. Fire-proof safe	Mar. 10, 1868.
73, 070	Ballou, Thomas A., Cleveland, Ohio. Friction roller for band saw	Jan. 7, 1868.
78, 354	Balmer, James, assignor to self and William Greenleaf, Brooklyn, N. Y. Self-clinching spike	May 26, 1868.
76, 037	Bancroft, Daniel W., Marshfield, Vt. Washing machine	Mar. 31, 1868.
82, 071	Bancroft, Edward C., Henry M., and Edward H., Syracuse, N. Y. Enamel for window shades	Sept. 15, 1868.
81, 732	Bancroft, Joseph B., Milford, Mass. Spindle step	Sept. 1, 1868.
75, 111	Bancroft, L. F., assignor to self and Andrew B. Yetter, Worcester, Mass. Street sprinkler	Mar. 3, 1868.
82, 786	Bancroft, N. W., Worcester, Mass. Gas machine	Oct. 6, 1868.
	Bandmann, Julius. (*See* Nobel, Alfred, assignor.)	
	Bandtel, John C. (*See* Buercky, John, assignor.)	
77, 440	Bange, Charles, St. Louis, Mo. Clothes dryer	May 5, 1868.
74, 789	Bangs, Jonathan, South Dennis, Mass. Belaying cleat	Feb. 25, 1868.
79, 626	Banister, Isaac, Newark, N. J. Buckle	July 7, 1868.
76, 038	Banister, William, and Albert H. Rowell, assignors to selves and Isaac H. Butts, Lawrence, Mass. Mode of lacing boots and shoes	Mar. 31, 1868.
75, 833	Banks, T. C., Wallingford, Conn. Boiler alarm gauge	Mar. 24, 1868.
76, 583	Banner, George E., Newark, N. J. Floor clamp. (Antedated April 7, 1868)	Apr. 14, 1868.
80, 051	Bautel, Philipp, New York, N. Y. Chronometer	July 21, 1868.
83, 020	Banzett, William, Brooklyn, N. Y. Leach tub	Oct. 13, 1868.
81, 733	Barbarin, Arthur, New Orleans, La. Gas burner	Sept. 1, 1868.
81, 734	Same.....Self-lighting gas burner	Sept. 1, 1868.
81, 735	Same.....Apparatus for lighting gas	Sept. 1, 1868.
82, 273	Same.....Production of gas, and illuminating of street and other cars	Sept. 22, 1868.
83, 021	Same.....Hatchet, hammer, and scraper	Oct. 13, 1868.
83, 022	Same.....Box opener	Oct. 13, 1868.
83, 023	Same.....Shoemakers' instrument	Oct. 13, 1868.
83, 024	Same.....Liquid sampler	Oct. 13, 1868.
80, 382	Barber, Henry, Greenfield, Mass. Machine for making wooden trays	July 28, 1868.
	Barber, Thomas, and Joel A. Otis. (*See* Otis & Barber.)	
72, 960	Barbian, Joseph, Chicago, Ill. Ice-house floor	Jan. 7, 1868.
72, 961	Barbier, John, Boston, Mass. Fastening for shoes	Jan. 7, 1868.
	Barbour, Alonzo, *et al.* (*See* Hicks & Doty, assignors.)	
	Barbour, James, and T. G. Eiswald. (*See* Eiswald & Barbour.)	
81, 583	Barcalo, Myron J., assignor to self and W. R. Tobey, Mt. Morris, N. Y. Mop wringer	Sept. 1, 1868.
	Barcalo, Myron J., and William R. Tobey. (*See* Tobey & Barcalo.)	
76, 695	Barclay, John, assignor to self, Rufus D. Case, James Barclay, and Daniel Bing, Attleborough, Mass. Button-hole lining for carriage curtains	Apr. 14, 1868.
81, 328	Barclay, Robert, Buffalo, N. Y. Sewing machine	Aug. 25, 1868.
83, 025	Barclay, William P., Chicago, Ill. Sofa bedstead	Oct. 13, 1868.
	Bard, Thomas R. (*See* Salisbury, A. J., assignor.)	
	Barden, Earl D., *et al.* (*See* Chandler, Wm. H., assignor.)	
81, 329	Barden, John S., Providence, R. I. Mechanical movement	Aug. 25, 1868.
75, 112	Barden, John S., assignor to William M. Stone, Providence, R. I. Pump	Mar. 3, 1868.
77, 569	Barden, John S., assignor to the Union Steam Valve Company, Providence, R. I. Slide valve for steam engines	May 5, 1868.
79, 803	Barden, John S., assignor to self and Daniel N. Pickering, Providence, R. I. Rotary steam engine	July 14, 1868.
84, 251	Same.....Steam pump	Nov. 24, 1868.
81, 461	Bardon, Thomas, Brooklyn, N. Y. Engravers' plate	Aug. 25, 1868.
81, 868	Barette, W. G., Canton, Md. Apparatus for rectifying spirits	Sept. 8, 1868.
78, 356	Barinds, Simeon L., St. Joseph, Mo. Perpetual calendar	May 26, 1868.
78, 566	Barker, Addison, Camanche, Iowa. Hay loader	June 2, 1868.
	Barker, B. E. (*See* Fahnestock, John, assignor) (Design.)	
75, 113	Barker, David, England. Dryer	Mar. 3, 1868.
	Barker, Isaac. (*See* Stevens, Edward L., assignor.)	
80, 799	Barker, James H., assignor to self and D. R. B. Nevins, Washington, D. C. Shutter operator	Aug. 11, 1868.
85, 052	Barker, Joseph, Champlain, N. Y. Horseshoe	Dec. 22, 1868.
74, 483	Barker, Joseph, assignor to self and Alonzo Kinyon, Amboy, Ill. Separator sieve	Feb. 18, 1868.
	Barker, Justin D. (*See* Curtis, Lewis P., assignor.)	
76, 880	Barker, J. F., Springfield, Mass. Apparatus for carbureting air	Apr. 21, 1868.
77, 158	Barker, Peleg, Battle Creek, Mich. Lathe for cutting irregular forms	Apr. 28, 1868.
80, 114	Barker, Silas, Hartford, Conn. Washing machine	July 21, 1868.
80, 850	Barker, Theodore, assignor to Japhet Lingenfelter, Mexico, N. Y. Brick machine	Aug. 11, 1868.
75, 834	Barlow, Ashbel P., Claremont, N. H. Saw mill	Mar. 24, 1868.
75, 835	Same.....Mode of lubricating the slides of muley-saw mills	Mar. 24, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,851	Barlow, Ashbel P., St. John, N. B. Slide for hanging upright saws	Dec. 15, 1868.
	Barlow, Harry, and George C. Shaler. (*See* Shaler & Barlow.)	
84,159	Barlow, Warren S., Paterson, N. J. Door spring	Nov. 17, 1868.
73,944	Barnaby, Samuel S., Macon, Ga. Vise. (Antedated Nov. 23, 1867)	Feb. 4, 1868.
84,725	Barnard, A. B., assignor to Thomas C. Craven, Worcester, Mass. Hay spreader	Dec. 8, 1868.
81,129	Barnard, A. B., S. R. Nye, and R. L. Hewett, West Fitchburg, Mass. Harvester	Aug. 18, 1868.
76,696	Barnes, Alfred, Newark, N. J. Device for printing hat bodies	Apr. 14, 1868.
75,836	Barnes, A. T., assignor to Tiffin Agricultural Works, Tiffin, Ohio. Horse rake	Mar. 24, 1868.
84,405	Barnes, B. F., Boston, Mass. Oil can	Nov. 24, 1868.
76,584	Barnes, Charles, Cincinnati, Ohio. Vise	Apr. 14, 1868.
78,355	Barnes, Charles W., Janesville, Wis. Spring catch and stop for doors. (Antedated May 19, 1868)	May 26, 1868.
	Barnes, Edwin D., *et al.* (*See* Millochau, A., assignor.)	
77,949	Barnes, Emory, Chelsea, Mich. Ditching machine	May 19, 1868.
76,382	Barnes, E. H., Marathon, N. Y. Apparatus for treating fractures and dislocations	Apr. 7, 1868.
82,787	Barnes, E. S., Nebraska City, Nebraska. Propelling apparatus	Oct. 6, 1868.
80,897	Barnes, Gilbert W., Mount Vernon, N. Y. Safety bridle	Aug. 11, 1868.
78,567	Barnes, John H., Troy, N. Y. Toy	June 2, 1868.
78,176	Barnes, Joshua B., Fort Wayne, Ind. Wrench	May 26, 1868.
74,191	Barnes, J. J., Monticello, Ind. Finger bar for harvesters	Feb. 11, 1868.
2,929	Barnes, Samuel H., deceased, by Frances L. Barnes, administratrix, New York, N. Y. Corset spring (Reissue)	May 12, 1868.
82,788	Barnes, Stephen, New Haven, Conn. Composition clock dial	Oct. 6, 1868.
74,279	Barnes, Stephen, assignor to self, W. S. Sanford, and John Gardner, New Haven, Conn. Handle for pocket cutlery	Feb. 11, 1868.
	Barnes, T. H., and J. S. Boicourt. (*See* Boicourt & Barnes.)	
82,274	Barnes, Thomas J., Cambridge, Ill. Horse yoke	Sept. 22, 1868.
80,266	Barnes, William Lewis, Irvington, N. Y. Shutter and window fastening. (Antedated July 11, 1868)	July 28, 1868.
80,115	Barnett, David J., Albion, Ind. Saw-gumming device	July 21, 1868.
79,433	Barnett, Edwin L. Eldorado, Ark. Cotton planter	June 30, 1868.
	Barnett, Henry C. (*See* Leffel, Thomas, assignor.)	
84,470	Barnett, Rufus P., Charles P. Purinton, and Nicholas Seibert, Nevada, Cal. Anti-friction bearing for vertical shafts	Dec. 1, 1868.
76,383	Barney, E. H., Springfield, Mass. Skate	Apr. 7, 1868.
77,862	Barney, E. H., and John Berry, Springfield, Mass. Skate	May 12, 1868.
3,007	Same.....Skate fastener (Reissue)	June 30, 1868.
78,412	Barney, George C., Chicago, Ill. Filling for beds, cushions, &c	June 2, 1868.
81,869	Barns, William H., New London, Conn. Coffee mill	Sept. 8, 1868.
80,530	Barnum, Eli M., New York, N. Y. Elevated railway	Aug. 4, 1868.
76,141	Barnum, James W., New Orleans, La. Cotton-bale tie	Mar. 31, 1868.
76,142	Same.....same	Mar. 31, 1868.
76,143	Same.....same	Mar. 31, 1868.
76,144	Same.....same	Mar. 31, 1868.
76,145	Same.....same	Mar. 31, 1868.
76,146	Same.....same	Mar. 31, 1868.
79,627	Barnum, Lafayette, assignor to self, Levi Barnum, and Charles H. Ensign, Bridgeport, Conn. Machine for cutting and dressing stone	July 7, 1868.
80,702	Barr, Robert J., Philadelphia, Pa. Centrifugal machine for filtering, draining, and drying	Aug. 4, 1868.
72,962	Barr, Samuel W., and Edwin McGuire, Beloit, Wis. Well	Jan. 7, 1868.
76,697	Barrett, Asa, assignor to self and Milton D. Mattee, Baltimore, Md. Oyster rake	Apr. 14, 1868.
82,675	Barrett, John J., Chillicothe, Ohio. Axle grease	Oct. 6, 1868.
	Barrett, Joseph, and Francis R. Wolfinger. (*See* Wolfinger & Barrett.)	
79,434	Barrett, Thomas, Charlestown, Mass. Machine for forming rings on carboys and bottles	June 30, 1868.
	Barrett, William, *et al.* (*See* Martin, Barrett & Webb.)	
73,945	Barrier, F. M., Stevenson, Ala. Cultivator	Feb. 4, 1868.
74,974	Barringer, John H., jr., Hillsboro, Ill. Curry comb	Mar. 3, 1868.
77,244	Barritt, Charles L., Richland, Mich. Harvester rake	Apr. 28, 1868.
82,072	Barron, John, Cincinnati, Ohio. Elastic draught-attachment for single and double harness	Sept. 15, 1868.
	Barron's Patent Steel Manufacturing Company. (*See* Boynton, John F., assignor) (Reissue.)	
	Barron's Steel Manufacturing Company. (*See* Myers, James, jr., assignor.)	
82,677	Barrows, Arad, Philadelphia, Pa. Sad-iron handle	Oct. 6, 1868.
81,243	Barry, Christian, Philadelphia, Pa. Air-tight can	Aug. 18, 1868.
3,143	Same.....Machine for making tin cans (Reissue)	Oct. 6, 1868.
82,914	Same.....Alkali can	Oct. 13, 1868.
79,099	Barry, Samuel, Dayton, Ohio. Saw	June 23, 1868.
75,837	Barry, Theodore A., and Ben. Adams Patten, San Francisco, Cal. Medical preparation	Mar. 24, 1868.
83,238	Barry, W. H., Rabbit River, Mich. Harrow	Oct. 20, 1868.
80,851	Barson, John, Ephraim Daniels, and Joanna Farrell, New York, N. Y. Lamp	Aug. 11, 1868.
80,116	Barstow, H. H., Chicago, Ill. Nutmeg grater	July 21, 1868.
83,591	Barthelmess, Robert M., and Charles C. Millar, Savannah, Ga. Car coupling	Nov. 3, 1868.
76,147	Barthelf, A., New York, N. Y. Saw-gumming and toothing machine. (Antedated Oct. 1, 1867)	Mar. 31, 1868.
78,042	Bartholomew, David, and David C. Dinsmore, Kirkville, Iowa. Churn	May 19, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,384	Bartholomew, D. B., Lancaster, Pa. Saw mill	Apr. 7, 1868.
85,355	Bartholomew, Eli, Cleveland, Ohio. Washing and wringing machine	Dec. 29, 1868.
75,838	Bartholomew, F. H., New York, N. Y. Door lock	Mar. 24, 1868.
	Same.....Method of governing the action of valve cocks. (Extension of 1,071)	June 19, 1868.
	Same.....Method of governing the action of valve cocks. (Extension of 1,072)	June 19, 1868.
2,932	Bartholomew, Oscar N., assignor through mesne assignments to self and J. S. Thurston, Elmira, N. Y. Roofing compounds.....(Reissue)	May 19, 1868.
84,985	Bartholomew, W. N., assignor to Joseph Reckendorfer, Newton Center, Mass. Rubber eraser	Dec. 15, 1868.
	Bartlett, David L., *et al.* (*See* Bradley, John, assignor.)	
85,421	Bartlett, David L., Rockford, Ill. Water wheel	Dec. 29, 1868.
	Bartlett, George E. (*See* Rogers, Ichabod R., assignor.)	
	Bartlett, J., *et al.* (*See* Cody, Bartlett & Jones.)	
3,213	Bartlett, John B., New York, N. Y. Glass bottle.....(Design)	Nov. 3, 1868.
76,385	Bartlett, Joseph W., New York, N. Y. Sewing machine	Apr. 7, 1868.
77,950	Bartlett, Nathan, assignor to self and Franklin Osgood, Centerville, N. J. Furnace for roasting ores	May 19, 1868.
83,357	Same.....Manufacture of pigments from the sulphurets of zinc and lead	Oct. 27, 1868.
73,284	Bartlett, N. Gray, Keokuk, Iowa. Inkstand	Jan. 14, 1868.
	Bartlett, Russell D., deceased, by Lavinia L. Bartlett, administratrix, Bangor, Maine. Machine for making shovel handles.....(Extension)	Mar. 3, 1868.
	Same.....Machine for making the heads of shovel handles..(Extension)	July 9, 1868.
76,585	Bartley, Samuel P., Columbus, Ohio. Steam-boiler furnace	Apr. 14, 1868.
76,698	Bartlit, William C., Aledo, and Joseph M. Merryman, Moline, Ill. Grading machine	Apr. 14, 1868.
83,905	Barto, Elias, Tiffin, Ohio. Machine for marking and covering corn	Nov. 10, 1868.
	Bartol, B. H. (*See* Jordan, Thomas B., assignor.)	
76,039	Barton, Harvey, Elyria, Ohio. Dumping wagon. (Antedated March 25, 1868)	Mar. 31, 1868.
74,485	Barton, John W., Clifton Springs, N. Y. Churn dasher	Feb. 18, 1868.
76,974	Barton, Richard C., Brooklyn, N. Y. Purifying oils and fats	Apr. 21, 1868.
74,975	Barton, William, Troy, N. Y. Slat matting	Mar. 3, 1868.
82,678	Same.....Slat matting for cars, &c	Oct. 6, 1868.
80,383	Barton, William H., Olney, Ill. Horse rake	July 28, 1868.
74,036	Bartow, S. O., Bethel, Conn. Harvester	Feb. 4, 1868.
83,592	Bartram, Walker B., Danbury, Conn. Gathering attachment for sewing machines	Nov. 3, 1868.
82,195	Bartram, William M., Philadelphia, Pa. Vapor condenser for lard-rendering kettles	Sept. 15, 1868.
73,946	Barwick, James, England. Inkstand	Feb. 4, 1868.
75,839	Bascom, Henry C., Lacrosse, Wis. Charger for powder flasks. (Antedated March 16, 1868)	Mar. 24, 1868.
78,413	Bashore, D. W., Palmyra, Pa. Lamp shade. (Antedated May 22, 1868)	June 2, 1868.
83,755	Bass, Sterling, Savannah, Ga. Medical compound	Nov. 3, 1868.
81,061	Basset, Alexander Joseph, Philadelphia, Pa. Sole for boots and shoes	Aug. 18, 1868.
84,080	Bassett, Charles H., Derby, Conn. Check hook for harness	Nov. 17, 1868.
	Bassett, H. W., and F. A. Rich. (*See* Rich & Bassett.)	
3,124	Bassett, John A., Salem, Mass. Apparatus for carbureting air or gas..(Reissue)	Sept. 15, 1868.
81,736	Bassett, John Allen, Salem, Mass. Process and material for carbureting gas	Sept. 1, 1868.
81,974	Same.....Apparatus for the manufacture of heating and illuminating gas	Sept. 8, 1868.
83,026	Same.....Gas generator	Oct. 13, 1868.
83,239	Same.....Apparatus for the manufacture of illuminating gas	Oct. 20, 1868.
80,438	Bassett, John A. and O. C. Smith, Salem, Mass. Method of removing carbon from gas retorts	July 28, 1868.
80,587	Bassett, N. P., deceased, by Zebiah W. Bassett, administratrix, Fulton, N. Y. Beehive	Aug. 4, 1868.
	Bassett, R. M. and T. S. (*See* Simmons, W. W., assignor.)	
79,721	Bassett, T. D., Charlestown, Mass. Lathe for screw cutting	July 7, 1868.
78,252	Batchelder, F. B., Prairie du Chien, Wis. Broom holder	May 26, 1868.
76,975	Batchelder, Hazen J., and George E. Wood, Marlboro, Mass. Horseshoe machine	Apr. 21, 1868.
74,486	Batchelder, Herrick, Reading, Mass. Head block for saw mills	Feb. 18, 1868.
79,187	Batchelder, Stephen J., Manchester, N. H. Lamp extinguisher	June 23, 1868.
	Batchelder, W. S., & Company. (*See* Ward, A. F., assignor.)	
83,593	Batchelder, W. W., New York, N. Y. Lighting gas	Nov. 3, 1868.
	Batcheller, N. H. (*See* Galusha, W. M., assignor.)	
	Bates, E. M., and I. G. Flisher. (*See* Flisher & Bates.)	
78,357	Bates, Francis, Niles, Mich. Saw set	May 26, 1868.
3,108	Bates, James L., assignor to William Hartley Miller, Philadelphia, Pa. Steam-engine packing.....(Reissue)	Sept. 1, 1868.
83,240	Bates, J. W., Glencoe, Minn. Bag tie	Oct. 20, 1868.
74,192	Bates, Robert, Cohasset, Mass. Window-sash fastener	Feb. 11, 1868.
	Bates, T. L. (*See* Witsil, George L., assignor.)	
	Bateson, Samuel S. (*See* Scholl, John, assignor.)	
82,679	Battelle, W. H., Youngstown, Ohio. Nail-cutting machine	Oct. 6, 1868.
77,570	Batterson, T. E., Rochester, N. Y. Fruit jar	May 5, 1868.
84,160	Battey, Manfred C., Washington, D. C. Awning for horse cars	Nov. 17, 1868.
77,159	Batty, William T., assignor to self and Griffith Deshart, Canton, O. Car brake	Apr. 28, 1868.
	Baudouin, Constant, and Fleury Huot. (*See* Huot & Baudouin.)	
79,628	Bauerschmitt, Adam, Rochester, N. Y. Bridle	July 7, 1868.
	Baugh, Edwin P., and James B. Chenoweth. (*See* Chenoweth & Baugh.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78, 253	Baughman, Henry, Columbus, Ohio. Beehive	May 26, 1868.
78, 414	Baum, A. F., assignor to L. K. Rockwell, New York, N. Y. Catamenial sack. (Antedated May 22, 1868)	June 2, 1868.
73, 154	Baum, Louis, Washington, D. C. Time alarm	Jan. 7, 1868.
76, 699	Bauman, Carl, Poughkeepsie, N. Y. Watch protector	Apr. 14, 1868.
83, 241	Baumgarten, Moritz, jr., New Haven, Conn. Valve arrangement for organs	Oct. 20, 1868.
75, 347	Baumgartner, Frederick, Brooklyn, N. Y. Sash stop for windows and doors	Mar. 10, 1868.
85, 356	Same.....Device for operating window sash. (Antedated Dec. 17, 1868)	Dec. 29, 1868.
3, 229	Baumgras, Peter, assignor to George W. Thomson, Washington, D. C. Vapor burner.....(Design)	Nov. 10, 1868.
73, 285	Bausch, J. J., Rochester, N. Y. Eye glasses and spectacles	Jan. 14, 1868.
82, 789	Bauschtliker, Frederick, assignor to self and Frederick Gentner, Washington, D. C. Saw for felling trees	Oct. 6, 1868.
82, 585	Baxter, C. M., Lebanon, N. H. Scroll saw. (Antedated Sept. 17, 1868)	Sept. 29, 1868.
82, 479	Baxter, G. H., Geneseo, Ill. Compound for cleaning silverware, jewelry, &c	Sept. 29, 1868.
3, 001	Baxter, Isaac J., Peekskill, N. Y. Stove.....(Design)	Apr. 21, 1868.
3, 244	Baxter, Robert, French Camp, Cal. Gang plow.....(Reissue)	Dec. 29, 1868.
	Baxter, Seth. (*See* James, Joseph H., assignor.)	
83, 444	Baxter, William, Newark, N. J. Steam-engine valve device	Oct. 27, 1868.
83, 445	Same.....Steam generator	Oct. 27, 1868.
84, 605	Baxter, Wm., assignor to self and William D. Russell, Newark, N. J. Wrench	Dec. 1, 1868.
83, 027	Baxter, William D., New York, N. Y. Pumps	Oct. 13, 1868.
	Bayler, Charles G., *et al.* (*See* Holbrook, Charles W., assignor.)	
	Bayley, Charles E. (*See* McKay, William, assignor.)	
73, 155	Bayley, G. W. R., and John McCluskey, Algiers, La. Car-seat lock	Jan. 7, 1868.
79, 541	Same.....Railroad-car ventilator	July 7, 1868.
85, 357	Bayley, G. W. R., Algiers, La. Railway chair	Dec. 29, 1868.
78, 358	Baylies, Thomas L., Richmond, Ind. Inking apparatus for printing presses	May 26, 1868.
79, 722	Baylies, Thomas L., assignor to the American Patent Chromatic Printing Press Company, Richmond, Ind. Inking apparatus for printing presses	July 7, 1868.
79, 888	Baylies, Thomas L., assignor through mesne assignments to the American Patent Chromatic Printing Press Company, Richmond, Ind. Inking apparatus for color printing	July 14, 1868.
82, 073	Baylies, Thomas L., and Edwin Crawley, Richmond, Ind. Vise	Sept. 15, 1868.
	Bayliss, Thomas R., and John Abraham. (*See* Abraham & Bayliss.)	
	Bayly, John A. (*See* Renz, Ferdinand, assignor.)	
73, 156	Baysore, Joseph, Freeport, Ill. Buckwheat-hulling machine	Jan. 7, 1868
75, 513	Same.....Car truck	May 17, 1868
74, 743	Bayston, Jabez, Chicago, Ill. Revolving hair brushes	Feb. 25, 1868
	Bazin, Stephen and James A., Canton, Mass. Machinery for laying rope..(Extension)	Apr. 20, 1868
75, 840	Beach, Allen J., Linden, Mich. Apparatus for working wagon tongues	Mar. 24, 1868
73, 867	Beach, Allen J. and Alexander H., Linden, Mich. Axle gauge	Jan. 28, 1868
85, 199	Beach, E. B., West Meriden, Conn. Fish trap	Dec. 22, 1868
73, 431	Beach, Edgar B., West Meriden, Conn. Screw-cutting tool	Jan. 21, 1868
76, 975	Same.....Beehive	Apr. 21, 1868
79, 723	Same.....Oil-can tube	July 7, 1868
82, 586	Beach, Elias, Titusville, Pa. Torpedo for oil wells	Sept. 29, 1868
84, 852	Same.....Side scraper for wells	Dec. 15, 1868
84, 986	Beach, F. H., Hartford, Conn. Ash sifter	Dec. 15, 1868
	Beach, H. B., and Samuel Woodruff. (*See* Woodruff & Beach.)	
75, 514	Beach, Henry L., assignor to Beach Wheel Horse-rake Manufacturing Company, Montrose, Pa. Horse rake	Mar. 17, 1868
76, 040	Beach, Henry L., assignor to Beach Horse Hay-rake Manufacturing Company, New York, N. Y. Horse rake	Mar. 31, 1868
	Beach, V. R., *et al.* (*See* Blood, Hathaway & Beach.)	
	Same..... same.	
78, 856	Beal, L. W., assignor to self and A. D. Drew, Dixon, Ill. Plow	June 16, 1868
80, 117	Beals, David S., assignor to self and John J. Young, Adrian, Mich. Car coupling	July 21, 1868
84, 932	Beals, Fordyce, New Haven, Conn. Plating scales with hard rubber for the manufacture of cutlery and for other purposes	Dec. 15, 1868
80, 118	Beam, Henry T., Palestine, Ill. Plow	July 21, 1868
	Beames, William A., *et al.* (*See* Williams, John H., assignor.)	
77, 347	Bean, Albert B., assignor to self and W. T. Scranton, New Haven, Conn. Nut machine	Apr. 28, 1868
84, 527	Bean, A. B., assignor to self and J. H. Booth, New Haven, Conn. Reversible ratchet feed	Dec. 1, 1868
81, 737	Bean, Augustus, Fairview, Pa. Shaft for vehicles	Sept. 1, 1868
79, 100	Bean, B. F., Schuylkill, Pa. Implement	June 23, 1868
81, 330	Bean, Charles, East Douglass, Mass. Steam generator	Aug. 25, 1868
85, 442	Bean, Charles, Ionia, Mich. Weather strip	Dec. 29, 1868
73, 868	Bean, Frank, assignor to self, E. E. Bean, and Levi H. Straw, Boston, Mass. Electric gas-lighting apparatus	Jan. 28, 1868
	Bean, J. H., and A. F. Ward. (*See* Ward & Bean.)	
74, 880	Bean, John W., Henry, Ill. Apparatus for binding metallic plates	Feb. 25, 1868
75, 348	Bean, N. S., Manchester, N. H. Self-propelling engine	Mar. 10, 1868
82, 680	Bean, Rufus E., Franklin, N. H. Axle head	Oct. 6, 1868
74, 976	Bean, Samuel, Syracuse, N. Y. Cane cleaner	Mar. 3, 1868
74, 487	Bear, Daniel S., Toledo, Iowa. Beehive	Feb. 18, 1868
74, 488	Beard, Asa M., Hillsboro, N. H. Gearing	Feb. 18, 1868
76, 977	Beard, Daniel M., deceased, by Sewell G. Thayer, administrator, Cleveland, Ohio. Suspender for stove handles, &c	Apr. 21, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75,349	Beard, Enoch, Salem, Iowa. Moth-proof beehive portal	Mar. 10, 1868.
	Beard, Henry. (*See* Osborn, Elin, assignor.)	
	Beard, William. (*See* Parlour, Joseph T., assignor.)	
	Beard, W. T. and T. E. (*See* Church, D. M., assignor.)	
79,435	Beardsley, George F., Ithaca, N. Y. Curtain fixture	June 30, 1868.
81,331	Beardsley, George M., Fenton, Mich. Belt fastener. (Antedated Aug. 7, 1868)	Aug. 25, 1868.
82,275	Beardsley, Henry P., and George Wilcox, Corunna, Mich. Burglar alarm	Sept. 22, 1868.
85,200	Beardsley, Levi A., Fredericksburg, Va. Self-loading cart	Dec. 22, 1868.
74,881	Beardsley, Theodore, assignor to self and J. Dana Wyman, Springfield, Mass. Soldering iron	Feb. 25, 1868.
	Bearse, Lincoln B. (*See* Long, Samuel N., assignor.)	
80,119	Beatty, C. and G., Portsmouth, Va. Apparatus for cutting ice	July 21, 1868.
72,963	Beaty, George, assignor to W. W. Kitchen, Middlebury, Ohio. Boot and shoe heel	Jan. 7, 1868.
79,301	Beaumont, Alfred B., Grand Rapids, Mich. Broadcast sower	June 30, 1868.
81,462	Beaumont, Alfred B., Austerlitz, Mich. Steam machine for extracting stumps	Aug. 25, 1868.
79,188	Beaumont, Joseph, Chambersburg, Pa. Mangle	June 23, 1868.
79,799	Beaumont, Joseph I., St. Paul, Minn. Air-escape funnels	July 7, 1868.
84,528	Beaumont, Richard, and William Clarke, jr., Albany, N. Y. Apparatus for grooming horses, &c	Dec. 1, 1868.
76,586	Beaupre, Peter R., Metropolis, Ill. Breech-loading ordnance	Apr. 14, 1868.
82,681	Beauregard, John H., Kingsbury, N. Y. Hasp lock	Oct. 6, 1868.
85,423	Beauregard, J. H., Sandy Hill, N. Y. Hollow auger	Dec. 29, 1868.
	Beaver Falls Cutlery Company. (*See* Mason, Samuel, assignor.)	
	Same.....(*See* Fisher, R. H., assignor.)	
	Same.....same.	
81,463	Bechtel, Jacob, Roxbury, Pa. Boot tree and stretcher	Aug. 25, 1868.
79,436	Bechtel, W. H., Philadelphia, Pa. Steam safety valve	June 30, 1868.
81,975	Bechtold, Henry, and John Nunamacher, Lancaster County, Pa. Yellow wash for barns, buildings, &c	Sept. 8, 1868.
77,709	Beck, Joseph, New York, N. Y. Automatic fan. (Antedated April 25, 1868)	May 12, 1868.
79,889	Becker, Charles, John A. Ross and Jacob Steuernagel, Allegheny, Pa. Fruit can	July 14, 1868.
79,890	Same.....Manufacture of fruit cans	July 14, 1868.
80,898	Becker, Elias, Pittsburg, Pa. Table, desk, &c	Aug. 11, 1868.
	Becker, John J., *et al.* (*See* Miller, Becker & Simcox.)	
74,280	Beckley, Philip G., assignor to Frederick Stevens, Newark, N. J. Skate	Feb. 11, 1868.
81,976	Beckman, Horatio B., Newburg, N. Y. Steam safety valve	Sept. 8, 1868.
	Beckner, Jacob. (*See* Kaestner, Charles, assignor.)	
76,978	Beckwith, Francis W., assignor to self and Smith, Clark & Company, Westmoreland, N. Y. Whiffletree hook	Apr. 21, 1868.
77,571	Beckwith, Henry James, Chicopee, Mass. Machine for cleaning feathers	May 5, 1868.
83,242	Beckwith, Hiram, Grass Lake, Mich. Railway switch	Oct. 20, 1868.
73,564	Beckwith, P. D., Dowagiac, Mich. Plow gauge wheel	Jan. 21, 1868.
79,189	Beckwith, Sanford, Oshkosh, Wis. Seeding machine	June 23, 1868.
74,281	Beckwith, Seth L., San Francisco, Cal. Apparatus for washing gold ore	Feb. 11, 1868.
78,568	Bedford, Alma, Coldwater, Mich. Harness buckle	June 2, 1868.
81,464	Same.....Tool for cutting holes in cloth or leather for buckle tongues	Aug. 25, 1868.
81,465	Same.....Rotary punch	Aug. 25, 1868.
83,594	Same.....Check hook	Nov. 3, 1868.
84,987	Same.....Sash fastener and adjuster	Dec. 15, 1868.
	Bedford, Willis, and Hiram Aldridge. (*See* Aldridge & Bedford.)	
77,951	Bee, Benjamin F., assignor to the New York Tap and Die Company, Harwich, Mass. Machine for cutting eccentric taps	May 19, 1868.
	Same.....Centering lathe	July 28, 1868.
2,984	Beebe, James M., Casadaga, N. Y. Beehive.....(Reissue)	June 16, 1868.
73,286	Beebee, W. W., Dubuque, Iowa. Harness attachment	Jan. 14, 1868.
77,710	Beecher, Benjamin D., assignor to Luther Beecher, Plantsville, Conn. Machine for threading bolts	May 12, 1868.
	Beecher, E. B., *et al.* (*See* Blakeslee, Beecher & Davis.)	
	Same.....(*See* Blakeslee, Davis & Beecher.)	
79,891	Beecher, Henry M., assignor to H. D. Smith & Company, Plantsville, Conn. Thill coupling	July 14, 1868.
80,267	Same.....Manufacture of carriage-shaft couplings	July 28, 1868.
75,841	Beecher, Lemuel N., assignor to self and Charles W. Miles, Milford, Conn. Sliding seat for carriages	Mar. 24, 1868.
	Beecher, Thaddeus B. (*See* Vandercar, John, assignor.)	
73,071	Beecher, Truman G., Beaver Dam, N. Y. Railway switch	Jan. 7, 1868.
76,700	Beem, Richard, Antrim, Ohio. Rat trap	Apr. 14, 1868.
74,282	Beeman, Charles H., 2d, North Fairfax, Vt. Potato baker	Feb. 11, 1868.
83,821	Beemer, Horace J., Honesdale, Pa. Horse hay fork. (Antedated Aug. 21, 1868)	Nov. 10, 1868.
73,565	Beer, Sigismund, New York, N. Y. Process for seasoning and preserving wood	Jan. 21, 1868.
84,471	Same.....Process of recovering and reworking borax from solutions used in treating wood	Dec. 1, 1868.
84,606	Same.....Mode of preventing the counterfeiting of bank notes, &c	Dec. 1, 1868.
79,804	Beers, John L., McAlisterville, Pa. Scroll for water wheels	July 14, 1868.
83,446	Beers, Sidney A., Brooklyn, N. Y. Splice for railroad rails	Oct. 27, 1868.
	Beesley, Jacob, *et al.* (*See* Martino, Beesley & Currie).....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
77,572	Beggs, Eugene, San Francisco, Cal. Gas governor	May 5, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
74,283	Behel, Jacob, Rockford, Ill. Door lock	Feb. 11, 1868.
	Behrens, Henry J., *et al.* (*See* Hardy, Dexter D., assignor.)	
74,037	Behymer, Lewis, Indianapolis, Ind. Railway joint	Feb. 4, 1868.
3,194	Beiderhase, B. D., New York, N. Y. Spoon handle (Design)	Sept. 22, 1868.
76,979	Beidler, G. A., Philadelphia, Pa. Lamp burner	Apr. 21, 1868.
75,114	Beidler, Jacob H., Lincoln, Ill. Wash board	Mar. 3, 1868.
81,332	Beidler, Peter S., South Easton, Pa. Sawing machine	Aug. 25, 1868.
74,284	Bein, Julius, and Wm. Ulrick, Newark, N. J. Children's carriage	Feb. 11, 1868.
77,952	Beins, H. W., Mt. Vernon, N. Y. Vulcanizing India-rubber car-springs and other articles	May 19, 1868.
	Beinstein, Samuel. (*See* Wagner, Adolph, assignor.)	
83,595	Beisner, George, Chicago, Ill. Churns	Nov. 3, 1868.
78,509	Belbin, C. T., Baltimore, Md. Oyster dredge	June 2, 1868.
	Belcher, B. B. (*See* Gerald, Amos F., assignor.)	
76,386	Beleher, Charles, Newark, N. J. Paint mill	Apr. 7, 1868.
76,587	Belden, Salmon, and John F. Crabtree, Visalia, Cal. Gun lock	Apr. 14, 1868.
85,268	Same.....Breech-loading fire-arm	Dec. 29, 1868.
85,269	Belden, Salmon, Visalia, and Johnson P. Ford, Santa Clara, Cal. Expansion wagon-wheel. (Antedated Dec. 24, 1868)	Dec. 29, 1868.
	Belding, Edward, *et al.* (*See* Day, Lester, assignor.)	
	Belding, George Washington. (*See* Slater, George, assignor.)	
78,043	Belknap, J. O., Mobile, Ala. Device for propelling pleasure boats	May 19, 1868.
73,157	Bell, A. J., Bloomingburg, N. Y. Straw cutter	Jan. 7, 1868.
76,148	Bell, A. John, Cincinnati, O. Folding couch	Mar. 31, 1868.
	Bell, Benjamin F. (*See* Meinhardt, Christian G., assignor.)	
	Same.....same.	
73,566	Bell, Edwin, St. Paul, Minn. Coffer dam	Jan. 21, 1868.
	Bell, G. F., and C. E. Mason. (*See* Mason & Bell.)	
74,038	Bell, G. W., Rising Sun, Ind. Sawing machine	Feb. 4, 1868.
76,881	Bell, George W., and George W. Fulmer, Hinckley, O. Horse and cattle poke, &c.	Apr. 21, 1868.
75,842	Bell, Henry C., Heyworth, Ill. Churn	Mar. 24, 1868.
78,415	Bell, Robert, East Saginaw, Mich. Feathering paddle wheels	June 2, 1868.
76,387	Bell, Thomas, Bellport, N. Y. Fishing attachment for vessels	Apr. 7, 1868.
78,918	Bell, Thomas S., assignor to self, G. R. Reed, and J. S. Andrews, Wapello, Iowa. Pruning shears	June 16, 1868.
84,933	Bell, W. G., Pittsburg, Pa. Car coupling	Dec. 15, 1868.
78,359	Bellairs, William, and Henry Demott, Atkinson, Ill. Window blind	May 26, 1868.
73,567	Bellamy, William, Newark, N. J. Construction of handles for metal tea and coffee pots	Jan. 21, 1868.
74,285	Same.....Construction of ice pitchers	Feb. 11, 1868.
74,286	Bellander, Ernest W. L., Jersey City, N. J. Forming-block for muffs	Feb. 11, 1868.
76,149	Bellerjeau, John, Philadelphia, Pa. Sealing cans and jars	Mar. 31, 1868.
82,196	Same.....Lamp	Sept. 15, 1868.
82,276	Belleville, Julien Francis, France. Regulator for steam engines	Sept. 22, 1868.
78,782	Bellis, William, Richmond, Ind. Governor	June 9, 1868.
84,988	Bellows, C. P., Gloversville, N. Y. Dentists' flask	Dec. 15, 1868.
74,039	Bellows, E. H., Worcester, Mass. Steam engine	Feb. 4, 1868.
77,348	Beman, Wm. E., Portland, Maine. Jib-boom	Apr. 28, 1868.
79,892	Bemelmans, L., and L. De Give, Atlanta, Ga. Manufacture of glass	July 14, 1868.
79,893	Same.....same	July 14, 1868.
76,980	Bemenderfer, Henry F., and Dwight H. Finch, Attica, Ohio. Hay fork	Apr. 21, 1868.
	Bement & Dougherty. (*See* Miles, Frederick B., assignor.)	
75,239	Bement, William B., Philadelphia, Pa. Bolt-threading machine	Mar. 10, 1868.
81,333	Beminger, Cornelius, assignor to self, William Friend, and George L. Bailey, Mier, Ill. Soil pulverizer	Aug. 25, 1868.
74,040	Bemis, James W., Fall River, Mass. Lifting jack	Feb. 4, 1868.
85,358	Bemiss, H. P., Milan, Ohio. Wash boiler	Dec. 29, 1868.
76,041	Bender, Charles, Germany. Wire truss bridge	Mar. 31, 1868.
3,073	Bender, Charles, New York, N. Y. Suspension bridge (Reissue)	Aug. 11, 1868
77,245	Bender, John, Lonaconing, Md. Bitters	Apr. 28, 1868.
76,388	Bender, Karl, and C. F. Teller, assignors to Martin Lochner, Grand Duchy of Hesse. Thermostat	Apr. 7, 1868
	Bendir, Henry, and Anson L. Warburton. (*See* Warburton & Bender.)	
2,943	Bendix, H., and J. H. Fleisch, assignors to H. Bendix, New York, N. Y. Neck-tie (Reissue)	May 26, 1868.
	Benedict & Burnham Manufacturing Company. (*See* Blakeslee, Edward C., assignor.)	
77,796	Benedict, Alonzo, Albany, N. Y. Carriage-pole tip	May 12, 1868.
81,466	Benedict, Charles, and O. R Fyler, Wolcottville, Conn. Guide for sewing machine.	Aug. 25, 1868.
83,596	Benedict, Charles P., Hoboken, N. J. Sewing machine	Nov. 3, 1868.
73,690	Benedict, E. U., Chicago, Ill. Car spring	Jan. 28, 1868.
81,244	Benedict, W. J., and John Wylie, South Norwalk, Conn. Felting machine	Aug. 18, 1868.
73,432	Benham, Wm. H., New Haven, Conn. Rein snap	Jan. 21, 1868.
84,252	Benjamin, Edward D., Old Town, Ill. Plow	Nov. 24, 1868.
79,051	Benjamin, E. H., assignor to Gifford, Potter & Company, Oak Hill, N. Y. Self-locking shutter hinge	June 23, 1868.
82,277	Benn, Walter C., assignor to self, L. L. Baker, and R. Hamilton, San Francisco, Cal. Spark arrester for steam generator	Sept. 22, 1868.
82,278	Same.....Mill-stone balance	Sept. 22, 1868.
	Bennage, P., and William H. Ward. (*See* Ward & Bennage.)	
74,977	Bennet, Lyman, Amsterdam, N. Y. Device for cutting out bands and fronts of drawers	Mar. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,224	Bennett, A., Rockford, Ill. Cultivator	Jan. 14, 1868.
	Bennett, Allan T., *et al.* (*See* Collins & Nixon, assignors.)	
	Same.....same.	
80,531	Bennett, Allan T., and W. O. Anderson, Cincinnati, Ohio. Machine for cutting rags	Aug. 4, 1868.
	Bennett, Ammi M. (*See* Arvin & Whitmore, assignors.)	
	Bennett, Benjamin, *et al.* (*See* Buckland & Daniels, assignors.)	
	Bennett, Bishop, and Clark Root. (*See* Root & Bennett.)	
	Bennett, Daniel W., and Michael Biglin. (*See* Biglin & Bennett.)	
78,641	Bennett, Edmund, Nankin, Mich. Potato digger	June 9, 1868.
83,447	Bennett, E. S., assignor to self and Justus Smith, Brooklyn, N. Y. Shirt and drawers combined. (Antedated Oct. 7, 1868)	Oct. 27, 1868.
83,822	Same.....New York, N. Y. Stirrup. (Antedated Oct. 24, 1868)	Nov. 10, 1868.
75,115	Bennett, George W., White Haven, Pa. Center plate for railroad cars	Mar. 3, 1868.
80,800	Bennett, James A., Millerton, N. Y. Milk can	Aug. 11, 1868.
75,240	Bennett, John T., Pittsburg, Pa. Process of purifying iron and steel. (Antedated Feb. 28, 1868)	Mar. 10, 1868.
	Bennett, John F. (*See* Boggs, Wilbur F., assignor.)	
74,744	Bennett, Joseph B., Brooklyn, N. Y. Rotary engine	Feb. 25, 1868.
82,197	Bennett, P. R., Urbana, Ohio. Watch	Sept. 15, 1868.
73,158	Bennett, William, Rushville, Ind. Attachment for plows	Jan. 7, 1868.
73,568	Bennett, W. H., New York, N. Y. Culinary vessels	Jan. 21, 1868.
84,672	Bennitt, Charles, Bristol Station, Ill. Shaft coupling	Dec. 8, 1868.
79,629	Benson, Benjamin S., Baltimore, Md. Machine for making cores	July 7, 1868.
83,028	Same.....Pipe-molding machine	Oct. 13, 1868.
83,029	Same.....Packer for packing sand in molders' flasks	Oct. 13, 1868.
83,448	Same.....Mold-blacking machine	Oct. 27, 1868.
3,230	Bensen, David, Nanuet, N. Y. Well curb.....(Design)	Nov. 10, 1868.
3,231	Same.....same.....(Design)	Nov. 10, 1868.
79,190	Benson, John, Yonkers, N. Y. Basin faucet	June 23, 1868.
85,270	Benson, Samuel, Allegheny City, Pa. Pump	Dec. 29, 1868.
79,528	Benson, Samuel, assignor to self, James and John F. Benson, Centralia, Ill. Regulating device for mill stones	June 30, 1868.
85,201	Bent, Alvin F., Antwerp, N. Y. Cheese hoop. (Antedated Dec. 11, 1868)	Dec. 22, 1868.
75,515	Bent, H. H., assignor to self and E. Sims, Antwerp, N. Y. Cheese vat	Mar. 17, 1868.
74,745	Bent, James M., Wayland, Mass. Shoe nail	Feb. 25, 1868.
2,956	Same.....Machine for punching leather.....(Reissue)	June 2, 1868.
78,044	Bent, Samuel S., Port Chester, N. Y. Chicken coop	May 19, 1868.
78,857	Same.....Hen's nest	June 16, 1868.
79,437	Same.....Apparatus to prevent horses cribbing	June 30, 1868.
76,042	Bentley, John W., Woonsocket, R. I. Machine for manufacturing elouded yarn	Mar. 31, 1868.
3,117	Berdan, Hiram, assignor to the Berdan Fire-arms Manufacturing Company, New York, N. Y. Breech-loader.....(Division A, reissue)	Sept. 15, 1868.
3,118	Same.....same.....(Division B, reissue)	Sept. 15, 1868.
82,587	Same.....Metallic cartridge	Sept. 29, 1868.
85,162	Same.....Breech-loading fire-arm	Dec. 22, 1868.
83,030	Berdan, M., Maumee City, Ohio. Plow	Oct. 13, 1868.
	Berg, Peter, *et al.* (*See* Gram, Ernst W., assignor.)	
85,163	Bergen, Garrett P., Brooklyn, N. Y. Combined scissors sharpener and screw-driver	Dec. 22, 1868.
	Same.....(*See* Potter, R. W., assignor).....(Reissue.)	
3,069	Berger, Henry, New York, N. Y. Center piece.....(Design)	June 16, 1868.
3,095	Same.....same.....(Design)	July 14, 1868.
3,096	Same.....same.....(Design)	July 14, 1868.
73,072	Berger, Jonas, Knoxville, Ill. Key coupling for musical instruments	Jan. 7, 1868.
	Bergerson, Ole. (*See* Marquis, John, assignor.)	
79,191	Bergner, Georg, Washington, Mo. Shears	June 23, 1868.
75,843	Bergstresser, Edwin L. Hublersburg, Pa. Seeding attachment to hoes	Mar. 24, 1868.
2,937	Bergstresser, E. L., assignor through mesne assignments to C. M. Titus. Horse rake.....(Reissue)	May 19, 1868.
84,044	Berkey, William Augustus, Grand Rapids, Mich. Construction of fire-proof houses	Nov. 10, 1868.
	Berlin, Henry C., and George H. Jones. (*See* Fry, William T., assignor.)	
	Same.....same.	
	Ber Müller, Louis, and Wm. Richardson. (*See* Richardson & Ber Müller.)	
	Bernard, Pierre. (*See* Poirel, Auguste, assignor.)	
80,120	Berner, William, Pottsville, Pa. Manufacture of tile for flooring, &c	July 21, 1868.
83,449	Berney, Alfred, Jersey City, N. J. Tea-kettle boiler	Oct. 27, 1868.
3,232	Same.....Trade mark.....(Design)	Nov. 10, 1868.
81,467	Bernheisel, Jacob, sr., Green Park, Pa. Lever jack	Aug. 25, 1868.
74,657	Berret, Joseph H., New York, N. Y. Hand stamp	Feb. 18, 1868.
81,738	Berrian, Cornelius, Clinton City, Iowa. Machine for pressing brick	Sept. 1, 1868.
	Berry, Edward, and G. W. Morter. (*See* Morter & Berry.)	
78,177	Berry, Elwin E., Farmington, N. H. Table-leaf support	May 26, 1868.
83,823	Berry, E. M. and L. M., Saltillo, Ind. Medical compound	Nov. 10, 1868.
	Berry, John, and E. H. Barney. (*See* Barney & Berry.)	
	Same.....same.....(Reissue.)	
	Berry, J. S., and H. Whisler. (*See* Whisler & Berry.)	
	Berry, T. F., and O. Brown. (*See* Brown & Berry.)	
80,328	Berryman, Robert, Philadelphia, Pa. Indicator for steam generators	July 28, 1868.
76,389	Berteling, Theodore, New York, N. Y. Flute	Apr. 7, 1868.
77,863	Bertram, August, New Albany, Ind. Finishing leather	May 12, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,941	Bertram, August, New Albany, Ind. Boot and shoe shank	July 14, 1868.
	Besler, John D., and James T. Clark. (*See* Clark & Besler.)	
73,159	Besse, H., Delaware, Ohio. Automatic water gate	Jan. 7, 1868.
79,542	Besser, S., assignor to self and James Draper, Dorchester, Ill. Churn	July 7, 1868.
78,569	Best, Benjamin, Dayton, Ohio. Composition for destroying smut in fruit trees	June 2, 1868.
79,438	Best, M. L., assignor to self and J. F. Hess & Brother, Canton, Ohio. Machine for forming bread pans	June 30, 1868.
77,160	Best, William T., assignor to self and Daniel Vaughan, Scranton, Pa. Churn	Apr. 28, 1868.
3,094	Bethea, James C., Blakely, Ga. Plow (Reissue)	Aug. 25, 1868.
76,882	Betterton, Benjamin V., Piqua, Ohio. Stone paint	Apr. 21, 1868.
3,228	Betts, Henry, Norwalk, Conn. Manufacture of paper stock (Reissue)	Dec. 15, 1868.
81,584	Betts, Lewis F., Chicago, Ill. Lantern. (Antedated Aug. 20, 1868)	Sept. 1, 1868.
81,585	Same.....Can top	Sept. 1, 1868.
76,981	Betts, William H., Brooklyn, N. Y. Window sash lock	Apr. 21, 1868.
74,193	Beurer, Gottlieb, assignor to self and F. Zimmerman, Brooklyn, N. Y. Bedstead	Feb. 11, 1868.
76,390	Bevan, Edward, and Abel Fleming, deceased, by Margaret Fleming, administratrix, assignors to Edward Bevan, England. Device for keeping food warm	Apr. 7, 1868.
79,529	Bevans, Ira N., assignor to self, John H. Alcott, and George G. Griswold, Thomaston, Conn. Car starter	June 30, 1868.
76,982	Bevans, Samuel W., assignor to self and George A. Munson, Plymouth, Conn. Feather-dressing machine	Apr. 21, 1868.
85,202	Beyl, Solomon, Osborn, Ohio. Chalk-line box	Dec. 22, 1868.
79,302	Beyrodt, J. Henry, Louisville, Ky. Bed spring	June 30, 1868.
82,198	Bezy, Auguste Leon, and Isidore Aguan Desnoyer, France. Steam generator	Sept. 15, 1868.
77,953	Bickerstaff, S., Cincinnati, Ohio. Hermetically closed and keyless padlock	May 19, 1868.
80,121	Bickford, Dana, Boston, Mass. Knitting machine	July 21, 1868.
80,122	Same.....Afghan	July 21, 1868.
84,472	Same.....Needle for knitting machine	Dec. 1, 1868.
84,473	Same.....Knitting pile fabrics	Dec. 1, 1868.
83,685	Bicknell, Alfred, South Reading, Mass. Sash guide block	Nov. 3, 1868.
72,964	Bicknell, Ira, Cincinnati, Ohio. Fire kindling and fuel	Jan. 7, 1868.
78,416	Bicknell, James W., New York, N. Y. Thill and pole for carriages	June 2, 1868.
74,658	Biddle, W. J. and H. L., New Madison, Ohio. Animal trap	Feb. 18, 1868.
74,489	Bidwell, Jason A., East Boston, Mass. Wood screw	Feb. 18, 1868.
74,490	Same.....Screw driver and boring tool	Feb. 18, 1868.
75,350	Same.....Machine for threading screws	Mar. 10, 1868.
	Bidwell, Julius A., and Edgar A. Jones. (*See* Jones & Bidwell.)	
74,882	Bidwell, Lawson B., Hartford, Conn. Railroad chair	Feb. 25, 1868.
84,790	Bidwell, L. D., Birmingham, Conn. Mowing machine	Dec. 8, 1868.
81,062	Biederman, Edward J., Brooklyn, N. Y. Sugar packer	Aug. 18, 1868.
73,073	Bierce, William W., Cleveland, Ohio. Apparatus for carbureting	Jan. 7, 1868.
84,161	Bigelow, A., Hamilton, Canada. Shaft coupling	Nov. 17, 1868.
	Bigelow, Charles H., deceased, by Harriet C. B. Bigelow, administratrix, Pittsfield, Mass. Mode of manufacturing turbine wheels (Extension)	May 13, 1868.
77,349	Bigelow, Elijah W., Worcester, Mass. Spit for roasting meat	Apr. 28, 1868.
	Bigelow, George T., administrator of Samuel Nicolson, deceased. (*See* Nicolson, Samuel.) (Extension)	
	Bigelow, J. H., and William F. Collier. (*See* Collier & Bigelow.)	
79,543	Bigelow, Theodore F., Boston, Mass. Vegetable server	July 7, 1868.
79,894	Biggar, William J., and John C. Blood, Conneaut, Ohio. Circuit closer	July 14, 1868.
79,895	Biggar, William J., John C. Blood, and Del. M. Griswold, Conneaut, Ohio. Electro-magnetic burglar-alarm	July 14, 1868.
84,726	Biggs, P. G., H. Granger, and H. A. Butler, Macon, Mo. Combined band cutter and feeder for threshing machines	Dec. 8, 1868.
74,491	Biglin, Michael, and Daniel W. Bennett, Wilkesbarre, Pa. Wagon jack	Feb. 18, 1868.
84,934	Bihn, Frederick, and William Schrader, Frankford, Pa. Recovery of useful products from the waste liquor of gelatine manufacture	Dec. 15, 1868.
82,279	Billings, Charles E., Springfield, Mass. Combined pistol and sword	Sept. 22, 1868.
84,791	Billings, Clark E., Warren, Vt. Apple quarterer	Dec. 8, 1868.
	Billings, Horace. (*See* Moody, C. D., assignor.)	
	Billings, J. D., and G. W. Perry. (*See* Perry & Billings.)	
	Same.....same.	
74,790	Bindewald, P. F., Strongsville, Ohio. Washing machine	Feb. 25, 1868.
	Bing, Daniel, *et al.* (*See* Barclay, John, assignor.)	
	Bingaman, Jacob H., *et al.* (*See* Weise, David S., assignor.)	
74,746	Bingham, Albert, Newtonville, Mass. Knob latch for doors. (Antedated Feb. 7, 1868)	Feb. 25, 1868.
74,041	Bingham, B. D., Boston, Mass. Watches	Feb. 4, 1868.
79,192	Bingham, E. W., Williamsport, Pa. Brick-drying kiln	June 23, 1868.
	Bingham, G. E., and W. Grunert. (*See* Grunert & Bingham.)	
75,844	Bingham, Horatio H., and John C. Hunt, Terre Haute, Ind. Grain dryer	Mar. 24, 1868.
79,630	Bingham, James, and Robert Coward, Pittsburg, Pa. Rock-crusher and tempering machine	July 7, 1868.
74,287	Binkly, L. G., Fairview, Ohio. Whiffletree	Feb. 11, 1868.
78,717	Binns, John, Oskaloosa, Iowa. Flue block	June 9, 1868.
2,951	Binzer, C., New York, N. Y. Lamp shade (Design)	Mar. 17, 1868.
76,701	Birch, George I., New York, N. Y. Ironing board	Apr. 14, 1868.
84,474	Birch, J. S., New York, N. Y. Annunciator. (Antedated Nov. 14, 1868)	Dec. 1, 1868.
	Birch, William H., and James B. Johnson. (*See* Johnson & Birch.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
85,271	Bird, David P., Richmond, Ohio. Flood fence	Dec. 29, 1868.
	Birdsall, David, and John Maslin. (*See* Maslin & Birdsall.)	
80,384	Birkenhead, John, Canton, Mass. Driving wheel for locomotives	July 28, 1868.
81,739	Birkenshaw, Edwin, Ashuelot, N. H. Teazling machine	Sept. 1, 1868.
75,516	Birkey, John Q., Philadelphia, Pa. Gas and other heater	Mar. 17, 1868.
81,977	Birkinshaw, Charles, Chicago, Ill. Sewer pipe	Sept. 8, 1868.
74,288	Birtwistle, George and Robert, Fall River, Mass. Grease or sizing	Feb. 11, 1868.
74,978	Bisbee, Randall, Boston, Mass. Mode of fitting clothing	Mar. 3, 1868.
76,294	Bisbee, Thomas A., assignor to self and Edwin R. Stilwell, Dayton, Ohio. Steam-engine slide valve	Apr. 7, 1868.
76,295	Same.....Piston packing	Apr. 7, 1868.
83,906	Bisbee, William, and Fleming G. Hearn, Yreka, Cal. Self-adjusting hook	Nov. 10, 1868.
74,791	Bischof, Gustav, jr., assignor to self and John L. Kidwell, Great Britain. Preparing finely divided iron, and the separation of copper, silver, and other metals from their solutions	Feb. 25, 1868.
81,740	Bishop, Adolphus F., Norwalk, Conn., John M. Pendleton, New York, N. Y., and John H. Aiken, Norwalk, Conn. Fiber and gum fabric	Sept. 1, 1868.
73,569	Bishop, Bainbridge, New Russia, N. Y. Violin	Jan. 21, 1868.
79,193	Bishop, Charles, Trumbull, Conn. Shears	June 23, 1868.
3,028	Bishop, E. B., New Orleans, La. Dredging machine	July 14, 1868.
83,127	Bishop, George W., Baltimore, Md. Revenue stamp for liquor barrels	Oct. 20, 1868.
75,116	Bishop, George W., assignor to John Laburt, Stamford, Conn. Gate	Mar. 3, 1868.
78,178	Bishop, George W., assignor to Lafayette Farrington, Stamford, Conn. Carpet-cleaning machine. (Antedated May 12, 1868)	May 26, 1868.
	Bishop, J. W., *et al.* (*See* Fowler, Herbert E., assignor.)	
75,845	Bishop, Lewis, Talladega, Ala. Cultivator and seeder	Mar. 24, 1868.
83,031	Bishop, Samuel C., New York, N. Y. Compound for insulating telegraph and electric wires	Oct. 13, 1868.
73,287	Bishop, Samuel C., assignor to Bishop Gutta Percha Company, New York, N. Y. Water-proof and damp-proof paper	Jan. 14, 1868.
73,288	Same.....Water-proof cloth	Jan. 14, 1868.
79,896	Bishop, Samuel C., and William W. Marks, New York, N. Y. Apparatus for insulating telegraph wires	July 14, 1868.
75,846	Bishop, William K. and Oriel D., Harrison, Wis. Machine for sawing staves	Mar. 24, 1868.
	Bissell, Frank S. (*See* Tunnie, Gottfried, assignor.)	
	Bissell, Sylvester, and Andrew B. West. (*See* Johnson, Alonzo, assignor.)	
84,727	Bitner, Eli S., Lock Haven, Pa. Brick machine	Dec. 8, 1868.
82,074	Bitsch, Valentin, St. Louis, Mo. Plane	Sept. 15, 1868.
77,441	Bixler, Andrew H., Carlisle, Pa. Open ring	May 5, 1868.
75,351	Black, James S., Oakland, Ill. Lamp-chimney cleaner	Mar. 10, 1868.
84,046	Black, Levi, and Milton Gaffney, Logan, Ohio. Device for saw carriages	Nov. 17, 1868.
	Blackburn, Thomas. (*See* Herbig, Adam, assignor.)	
	Blackman, Ebenezer, and Alonzo C. Arnold. (*See* Arnold & Blackman.)	
80,703	Blackman, Samuel G., Waterbury, Conn. Car seat	Aug. 4, 1868.
83,907	Blackstone, T. B., Chicago, Ill. Car coupling	Nov. 10, 1868.
80,439	Blackwell, George W., Lebanon, Ind. Farm gate	July 28, 1868.
79,805	Blades, Wm. P., Baltimore, Md. Car brake	July 14, 1868.
82,915	Blair, Elias, Bucyrus, Ohio. Corn-husking pin	Oct. 13, 1868.
73,492	Blair, George A., and A. L. Gladding, Johnsonburg, N. Y. Mode of hanging carriage bodies	Jan. 21, 1868.
79,303	Blair, J. B., Philadelphia, Pa. Gilding and ornamenting glass signs	June 30, 1868.
85,053	Blair, Thomas S., Pittsburg, Pa. Manufacture of steel	Dec. 22, 1868.
79,052	Blaisdell, A. H., Newton Corners, Mass. Carpenters' gauge	June 23, 1868.
	Blaisdell, Elijah W., jr. (*See* Bowers, John, assignor.)	
	Blaisdell, P. (*See* Capen, E. S., assignor.)	
	Blaisdell, R. P. (*See* Cook, Charles O., assignor.)	
77,797	Blaisdell, Wm. L., Port Byron, N. Y. Shaft for vehicles	May 12, 1868.
	Blake & Johnson. (*See* Manville, Eli J., assignor.)	
73,770	Blake, A. Milton, Canton, Ohio. Spring-bed bottom	Jan. 28, 1868.
77,161	Same.....Spring for chairs	Apr. 28, 1868.
84,162	Blake, Amos S., Waterbury, Conn. Padlock	Nov. 17, 1868.
	Blake, David. (*See* Dodge, James, assignor)	(Reissue.)
84,163	Blake, E. K. W., Chicago, Ill. Velocipede	Nov. 17, 1868.
84,989	Blake, E. S., Pittsburg, Pa. Radiator	Dec. 15, 1868.
81,978	Blake, George, assignor to self and Thomas Connar, Whitby, Canada. Harvester rake	Sept. 8, 1868.
3,064	Blake, G. W., assignor through mesne assignments to John Ashton Green and Henry A. Tweed, New York, N. Y. Belt fastening	(Reissue) Aug. 4, 1868.
3,065	Same. ..... same	(Reissue) Aug. 4, 1868.
84,607	Blake, George W., New York, N. Y. Steam generator	Dec. 1, 1868.
84,608	Same.....Ventilation	Dec. 1, 1868.
80,899	Blake, Henry, assignor to self, George W. Otis, and James Blake, East Pepperell, Mass. Belt knife	Aug. 11, 1868.
75,663	Blake, Henry D., assignor to P. and F. Corbin, New Britain, Conn. Machine for riveting hinges	Mar. 17, 1868.
75,724	Same.....Machine for making butt hinges	Mar. 24, 1868.
77,442	Blake, J. D., assignor to self and J. A. Sanborn, Laconia, N. H. Soap stand	May 5, 1868.
77,350	Blake, John W., assignor to self and Amaziah T. Howes, Jefferson, Wis. Sled knee	Apr. 28, 1868.
80,440	Blake, Lewis T., New Haven, Conn. Egg beater	July 28, 1868.
73,570	Blake, Lyman R., Boston, Mass. Mode of cutting channels in boots and shoes	Jan. 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
74, 289	Blake, Lyman R., Boston, Mass. Sewing machine. (Antedated Dec. 1, 1867)	Feb. 11, 1868.
76, 150	Blake, Lyman R., and Asa S. Libby. Nailing machine	Mar. 31, 1868.
	Blake, L. S. (*See* Bureham, J. F., assignor.)	
80, 852	Blake, Oscar B., and Ormond E Colony, Keene, N. H. Measuring faucet	Aug. 11, 1868.
80, 900	Blake, Robert Scranton, Pa. Machinery for punching axe polls	Aug. 11, 1868.
2, 941	Blake, Samuel A., Milford, Conn. Imitation braid for bonnets (Design)	Mar. 3, 1868.
3, 019	Same same (Design)	May 12, 1868.
3, 097	Same same (Design)	July 14, 1868.
82, 790	Blake, Thomas, Stockton, Cal. Bushing for wheels	Oct. 6, 1868.
79, 194	Blakemore, Charles C., assignor to George C. Robinson and Henry A. Manning, Washington C. H., Ohio. Card or ticket case	June 23, 1868.
	Blaker, Alfred. (*See* Hallenbeck, Martin, assignor.)	
	Same same.	
74, 042	Blakeslee, C. D., assignor to self and Elias Skinner, Grand Rapids, Mich. Circular-sawing machine	Feb. 4, 1868.
79, 897	Blakeslee, Charles W., Watertown, E. B. Beecher, Westville, and A. G. Davis, Watertown, Conn. Knitting machine	July 14, 1868.
80, 853	Blakeslee, Charles W., Watertown, Anthony G. Davis, Watertown, and Ebenezer B. Beecher, Westville, Conn. Knitting machine	Aug. 11, 1868.
82, 480	Blakeslee, Edward C., assignor to the Benedict and Burnham Manufacturing Company, Waterbury, Conn. Lamp burner	Sept. 29, 1868.
	Blakeslee, Joel and E. (*See* Baldwin, William, assignor.)	
77, 573	Blakey, John, and A. B. Fox, assignors to selves and James Turner Hall, England. Collar and cuff	May 5, 1868.
	Blakley, Thomas L., and Wesley Cornell. (*See* Cornell & Blakley.)	
81, 468	Blanchard, George R., Baltimore, Md. Railway stock-car	Aug. 25, 1868.
76, 391	Blanchard, John B., Marlboro, Mass. Edge-finishing tool	Apr. 7, 1868.
72, 965	Blanchard, Virgil W., Bridport, Vt. Baggage check	Jan. 7, 1868.
82, 588	Blanco y Nuno, José Maria, Havana, Cuba. Preserving fruit and vegetables	Sept. 29, 1868.
80, 704	Blanding, Sanford O., Smithfield, R. I. Union valve coupling	Aug. 4, 1868.
84, 081	Same Debris check for pumps	Nov. 17, 1868.
75, 725	Blauss, Ferdinand, New York, N. Y. Apparatus for applying water to grindstones	Mar. 24, 1868.
78, 718	Blay, William, Helena, Montana Territory. Pick handle. (Antedated June 4, 1868)	June 9, 1868.
	Blay, William, *et al.* (*See* Griswold, Cramer & Blay.)	
77, 246	Blease, James, Richmond, Ind. Fore parts iron. (Antedated April 25, 1868)	Apr. 28, 1868.
	Bleistein, Samuel, *et al.* (*See* Moore, Bleistein & Shirk.)	
	Blenkinsop, James, *et al.* (*See* McIntosh, J. L., assignor.)	
80, 441	Blessing, C. A., Philadelphia, Pa. Sheet-metal lining for bath tubs	July 28, 1868.
77, 351	Blessing, John M., Jeffersonville, Ohio. Corn planter	Apr. 28, 1868.
	Blewitt, John, and Thomas A. Hunter. (*See* Hunter & Blewitt.)	
91, 586	Bleyley, A. T., Conception, Mo. Churn dasher	Sept. 1, 1868.
77, 574	Blinn, Charles D., Port Huron, Mich. Flexible harrow	May 5, 1868.
75, 352	Blinn, S. C., J. J. Alvord, and H. Brewer, assignors to S. C. Blinn, Tecumseh, Mich. Machine for cutting hoops from the edge of a board	Mar. 10, 1868.
	Blish, Samuel. (*See* Merrill, George, assignor.)	
	Bliss, Albert, jr., and Andrew J. Brubaker. (*See* Illingworth, Benjamin, assignor.)	
84, 406	Bliss, Alfred, New York, N. Y. Lamp burner	Nov. 24, 1868.
	Bliss, Charles F., *et al.* (*See* Jenkins, Nicholas, assignor.)	
82, 481	Bliss, Eliphalet W., assignor to Charles Pratt, Brooklyn, N. Y. Machine for bending the tops and bottoms of the bodies of tin cans	Sept. 29, 1868.
	Bliss, E. W., and John Mays. (*See* Mays & Bliss.)	
	Same same (Reissue.)	
	Bliss, George H., and J. H. Hawes. (*See* Hawes & Bliss.)	
	Same same.	
	Bliss, Jeremy W. (*See* Pease, Henry A., assignor.)	
	Bliss, J. W., and J. A. Trant. (*See* Richards & Trant, assignors.)	
	Bliss, William H., and John Bachelder. (*See* Bachelder & Bliss.)	
79, 942	Bloch, Benoit, France. Aniline dye	July 14, 1868.
3, 103	Same same (Reissue)	Sept. 1, 1868.
	Blocher, John C., and Anthony M. Martin. (*See* Martin & Blocher.)	
73, 160	Block, Abraham, San Francisco, Cal. Sluice blanket	Jan. 7, 1868.
76, 588	Blodgett, C. C., Watertown, N. Y. Clutch for elevating	Apr. 14, 1868.
	Blodgett, John M., and David Fisk. (See Fisk & Blodgett.)	
79, 439	Blodgett, John W., Three Rivers, Mich. Potato digger	June 30, 1868.
82, 375	Bloebaum, E. H., and C. H. Nagel, St. Charles, Mo. Dining table	Sept. 22, 1868.
80, 801	Blood, A. E. and J. B., and F. W. Pope, Lynn, Mass. Conch or cradle. (Antedated July 29, 1868)	Aug. 11, 1868.
78, 417	Blood, A. R., A. Hathaway, and V. R. Beach, Independence, Iowa. Cultivator	June 2, 1868.
79, 304	Same same	June 30, 1868.
82, 199	Blood, H. S., Jefferson, La. Railway safety attachment	Sept. 15, 1868.
82, 482	Same Seat for railway cars	Sept. 29, 1868.
	Blood, John C., *et al.* (*See* Biggar, Blood & Griswold.)	
	Blood, John C., and William J. Biggar. (See Biggar & Blood.)	
82, 280	Blood, Josiah B., Lynn, Mass. Clothes dryer. (Antedated Sept. 12, 1868)	Sept. 22, 1868.
84, 340	Blue, John, Trumansburg, N. Y. Harvester	Nov. 24, 1868.
73, 869	Blume, William M., New York, N. Y. Measuring receiver for stills	Jan. 28, 1868.
79, 440	Blunt, Edmund, jr., Bay Ridge, N. Y. Electro-magnetic burglar and fire alarm	June 30, 1868.
83, 686	Blunt, E., jr., assignor to Henry P. Nichols, trustee, New York, N. Y. Coffee pot	Nov. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75,241	Blunt, Hiram S., New York, N. Y. Metronomes	Mar. 10, 1868.
78,045	Bly, Douglas, Macon, Ga. Piston-rod adjuster	May 18, 1868.
76,619	Blymyer, William G., Findlay, Ohio. Printers' galley	Mar. 17, 1868.
76,702	Blythe, Washington, and Nathaniel Hays, Alexandria, Va. Apparatus for turning locomotive crank pins	Apr. 14, 1868.
	Boalt, Stephen. (*See* Mefford, David M., assignor.)	
76,983	Boardman, Byron, assignor to self and Frank Douglas, Norwich, Conn. Device for turning nuts	Apr. 21, 1868.
84,529	Boardman, Byron, Norwich, Conn. Handle for files	Dec. 1, 1868
81,245	Boardman, Silas R., Fort Wayne, Ind. Water elevator	Aug. 18, 1868
	Boardman, Wm., *et al.* (*See* Holbrook, Charles W., assignor.)	
	Boblet, L. L., *et al.* (*See* Boyd, Jesse C., assignor.)	
75,847	Boeh, William, Newtown, N. Y. Attaching door knobs to spindles	Mar. 24, 1868.
74,979	Bockman, Marcus, Brooklyn, N. Y. Mechanical movement	Mar. 3, 1868.
	Boekman, Marcus, and Charles T. Ulmann. (*See* Ulmann & Bockman.)	
73,074	Bockstaller, Georg, assignor to Lewis Schneider and W. W. McKay, New York, N. Y. Cane and umbrella combined	Jan. 7, 1868
80,329	Bode, Friedrich Max, assignor to C. B. Mueller, Austria. Coffee roaster	July 28, 1868.
78,510	Bodine, Joseph H., and Truman A. Hill, Mt. Morris, N. Y. Device for operating water-wheel gates	June 2, 1868
84,047	Same.....Water wheel	Nov. 17, 1868
	Bodley, Joseph T., and Philander P. Lane. (*See* Lane & Bodley.)	
	Bodley, Joseph T., *et al.* (*See* Smith, Samuel R., assignor.)	
2,933	Bodmer, John James, England. Preparing cement from slag.....(Reissue)	May 19, 1868
80,854	Bogan, Joseph, and J. B. McCray, Clarksville, Ohio. Ointment	Aug. 11, 1868
75,353	Bogel, Henry, Watertown, Wis. Knitting machine	Mar. 10, 1868.
77,798	Bogert, Isaac J., assignor to self and S. C. Crosby, Fayette, Iowa. Stump extractor	May 12, 1868.
83,824	Bogert, John V., New York, N. Y., and M. R. Perkins, Portsmouth, N. H., assignors to selves and John F. Lowell. Sash fastener	Nov. 10, 1868.
85,203	Boggs, T. G., Philadelphia, Pa. Medicine glass	Dec. 22, 1868.
75,848	Boggs, Wilbur F., assignor to self and John T. Bennett, Petersburg, Ill. Machine for measuring cloth	Mar. 24, 1868.
	Bohrer, Julius S. & Company. (*See* Murphy, John D., assignor.)	
75,117	Boicourt, J. S., and T. H. Barnes, Boonsboro, Iowa. Rotary steam engine	Mar. 3, 1868.
85,359	Boifeiullet, H. W., Savannah, Ga. Car coupling	Dec. 29, 1868.
84,792	Boisselier, G. E., St. Louis, Mo. Compression cock	Dec. 8, 1868.
83,243	Bold, William, Sheboygan Falls, Wis. Machine for dressing mill stones	Oct. 20, 1868.
84,048	Bolinger, J. B., assignor to self and L. R. Fitch, Detroit, Mich. Portable forge.	Nov. 17, 1868.
	Bolles, Albert S., and Sarah E. Mosman, administrators of E. P. Mosman, deceased. (*See* Mosman, E. P.)	
82,281	Bollinger, Benjamin, and George G. Nodle, New Berlin, Ohio. Knitting machine.	Sept. 22, 1868.
81,870	Bollinger, B. B., Louisville, Ohio. Register for knitting machine	Sept. 8, 1868.
78,179	Bollinger, Cornelius, Harrisburg, Pa. Steam-engine piston. (Antedated May 14, 1868)	May 26, 1868.
82,483	Bollinger, W. D., Cedar Rapids, Iowa. Axle for carriages	Sept. 29, 1868.
	Bollman, Wendel, and Edward Denmead. (*See* Denmead & Bollman.)	
80,588	Bolton, Simeon R., Prescott, Wis. Stocking darner	Aug. 4, 1868.
83,032	Same.....Wagon brake	Oct. 13, 1868.
81,587	Bomar, Thomas H., Atlanta, Ga. Car coupling	Sept. 1, 1868.
83,597	Bommer, Lorenz, New York, N. Y. Block and die for forming hats	Nov. 3, 1868.
82,200	Bond, Amos, assignor to self and A. D. Moore, Chicopee, Mass. Feather renovator	Sept. 15, 1868.
83,908	Bond, C. W., assignor to self and John A. Gould, Biddeford, Maine. Bill file	Nov. 10, 1868.
	Bond, Edward P., and Jacob H. Ballard. (*See* Ballard & Bond.)	
82,682	Bond, Howard B., Houma, La. Apparatus for defecating cane juice	Oct. 6, 1868.
83,450	Bond, John, Versailles, Ill. Stirrup	Oct. 27, 1868.
74,883	Bond, Joseph N. B., New York, N. Y. Boiler-feed low-water detector	Feb. 25, 1868.
85,054	Bond, N. O., Hyannis, Mass. Summer attachment for stoves and ranges	Dec. 22, 1868.
80,123	Bond, Samuel T., Edenton, N. C. Compound for destroying pain	July 21, 1868.
	Bond, Thomas D., administrator of Singleton F. Burgee, deceased. (*See* Gambrill & Burgee).....(Disclaimer.)	
	Same.....same.....(Extension.)	
83,128	Bond, William H., and George G. Lee, Syracuse, N. Y. Grooving machine	Oct. 20, 1868.
84,728	Bongardt, Johann, assignor to self and L. H. Cohn, New York, N. Y. Process and composition for printing the grain of wood	Dec. 8, 1868.
	Bonham, Isaac. (*See* Ballard, H. D., assignor.)	
	Bonnaterre, Joseph Francis, and Gustave De Villepoix. (*See* De Villepoix & Bonnaterre.)	
83,909	Bonnaz, Antoine, assignor to Emile Cornely, France. Sewing machine for embroidering	Nov. 10, 1868.
83,910	Same.....same	Nov. 10, 1868.
82,589	Bonnell, David, Oswego, N. Y. Grain dryer	Sept. 29, 1868.
75,354	Bonnell, W. H., Buffalo, N. Y. Lantern	Mar. 10, 1868.
83,451	Bonner, Patrick B., New York, N. Y. Mode of soldering galvanized iron	Oct. 27, 1868.
85,055	Bonnet, Charles E., assignor to J. P. Wilkinson & Sons, Philadelphia, Pa. Composition for ornamental molding	Dec. 22, 1868.
76,984	Bonney, Charles S., Penn Yan, N. Y. Thill coupling	Apr. 21, 1868.
82,075	Same.....Farm gate	Sept. 15, 1868.
	Bonney, Lewis, and Joseph C. Snow. (*See* Tucker, John E., assignor.)	
80,124	Bonney, Olpha, jr., San Francisco, Cal. Harvester	July 21, 1868.
75,118	Bonsall, Sterling, and Louis Hillebrand, Philadelphia, Pa. Bell pull	Mar. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,990	Bonsall, Sterling, and Louis Hillebrand, Philadelphia, Pa. Bell pull	Dec. 15, 1868.
78,919	Bonte, Albert P. C., Cincinnati, Ohio. Wood-turning lathe	June 16, 1868.
83,033	Bookwalter, David, Gardiner, Ill. Corn-husking machine	Oct. 13, 1868.
	Bookwalter, John W., and James S. Goode, executors of the estate of James Leffel, deceased. (*See* Leffel, James)	(Reissue.)
	Same.....same	(Reissue.)
	Same.....same	(Reissue.)
	Same.....same	(Reissue.)
80,268	Boon, Alonzo T., and Albert D. Perry, Galesburg, Ill. Apparatus for carburetting gas and air	July 28, 1868.
80,589	Boon, Alonzo T., and James B. Finchure, Galesburg, Ill. Dentists' and barbers' chair	Aug. 4, 1868.
83,825	Booraem, W. E., New York, N. Y. Apparatus for pasting labels	Nov. 10, 1868.
2,907	Booss, Frederick, New York, N. Y. Muff	(Design) Feb. 4, 1868.
73,225	Booth, Edward B., St. Louis, Mo. Sheep wash	Jan. 14, 1868.
	Booth, J. H. (*See* Bean, A. B., assignor.)	
	Booth, Stephen E., administrator of Sheldon S. Hartshorne. (*See* Hartshorne, Sheldon S.)	(Extension.)
84,253	Booth, Thomas, and C. C. Sanderson, Norway, Maine. Let-off mechanism for looms	Nov. 24, 1868.
82,484	Booth, T. J., Jefferson Line, Pa. Stump extractor	Sept. 29, 1868.
76,703	Bope, Jacob W., assignor to self and George R. Chittenden, St. Louis, Mo. Dumping platform for harvesters. (Antedated April 7, 1868)	Apr. 14, 1868.
74,290	Borden, John G., Brewster Station, N. Y. Machine for soldering tin cans	Feb. 11, 1868.
79,943	Bordman, Benjamin, Malden, Mass. Coffee pot	July 14, 1868.
	Bordman, John J., and William P. Parrott. (*See* Parrott & Bordman.)	
83,687	Borgert, John A., Hudson City, N. J. Pile driver	Nov. 3, 1868.
78,360	Borgfeldt, Nicholas H., and F. W. Ritterhoff, New York, N. Y. Machine for granulating and finishing tobacco	May 26, 1868.
82,791	Born, Peter, New York, N. Y. Folding chair	Oct. 6, 1868.
73,771	Borton, Elijah, Morris, Ill. Device for operating pumps	Jan. 28, 1868.
76,704	Borton, Job, Antrim, Ohio. Coal-excavating machine	Apr. 14, 1868.
84,254	Bortree, Lewis S., Grand Rapids, Mich. Horse rake	Nov. 24, 1868.
76,151	Bosart, Louis W., St. Marie, Ill. Portable wire fence	Mar. 31, 1868.
78,783	Same.....Portable fence	June 9, 1868.
83,911	Same.....same	Nov. 10, 1868.
82,376	Boschke, Albert, Boston, Mass. Dredging machine	Sept. 22, 1868.
79,195	Bosdevex, Edmond, Philadelphia, Pa. Grate	June 23, 1868.
74,194	Boshenz, Mathias, Chili, Ill. Harrow	Feb. 11, 1868.
	Boss, J. B., and C. C. Clark. (*See* Deeker, John, assignor.)	
81,587	Bossiere, Georges, France. Decolorizing tanning liquids	Sept. 1, 1868.
80,269	Bostoek, Edward, Albany, N. Y. Tuck eraser for sewing machines	July 28, 1868.
80,270	Same.....same	July 28, 1868.
	Boston & Sandwich Glass Company. (*See* Turpie, David, assignor.)	
	Boston Shoe Stud and Button Company. (*See* Walcott, H. S., assignor.)	
	Same.....(*See* Oliver, Willard F., assignor.)	
	Boston Spring Bed Company. (*See* Willis, N. J., assignor.)	
	Bostwick, H. E. (*See* Robie, D. C., assignor.)	
	Bostwick, J. W. (*See* Heliker & White, assignors.)	
73,691	Boswell, D. K., Columbus, Ohio. Fruit-drying apparatus	Jan. 28, 1868.
74,291	Same.....Range	Feb. 11, 1868.
75,119	Boswell, Elihu, Highland, Ohio. Corn harvester	Mar. 3, 1868.
81,246	Bosworth, C. F., Milford, Conn. Attaching wire to brims of hats	Aug. 18, 1868.
	Boteler, John W., *et al.* (*See* Checkeni, Dominico, assignor.)	
82,916	Bouché, Charles J., Louisville, Ky. Pen rack	Oct. 13, 1868.
80,705	Boucher, Henry H., Doylestown, Pa. Lamp	Aug. 4, 1868.
78,254	Boughton, John W., Appleton, Wis. Sign for tobacconists	May 26, 1868.
79,441	Boughton, John W., New York, N. Y. Paper file	June 30, 1868.
73,289	Bounds, James, Bridgeport, Conn. Plier	Jan. 14, 1868.
78,858	Same.....Box-top fastener	June 16, 1868.
73,947	Bouniol, Jules, Philadelphia, Pa. Drawing clamp	Feb. 4, 1868.
82,201	Bourke, Joseph, Great Britain. Skate	Sept. 15, 1868.
80,901	Bourn, Augustus O., Cranston, R. I. Elbow support for flexible hose	Aug. 11, 1868.
	Bourne, E. H., *et al.* (*See* Leeompte, S. D., assignor)	(Reissue.)
79,944	Bouser, W. H., Paris, Ill. Snap hook	July 14, 1868.
	Bousfield, Edward T., and James Howard. (*See* Howard & Bousfield.)	
74,747	Bouton, Samuel F., and Nathan P. Ames, Chicago, Ill. Spring-bed bottom	Feb. 25, 1868.
76,392	Boutte, Therence, New Iberia, La. Apparatus for evaporating cane juice	Apr. 7, 1868.
83,244	Bovey, George C., Cincinnati, Ohio. Brick machine	Oct. 20, 1868.
74,884	Bowden, John and Walter, Bushwick, N. Y. Bellows	Feb. 25, 1868.
82,792	Bowdle, T. J., S. R. Lawder, and T. E. Johnston, Piqua, Ohio. Machine for tenoning blind slats	Oct. 6, 1868.
79,305	Bowen, A. E., Baltimore, Md. Crutch	June 30, 1868.
73,161	Bowen, George A., assignor to self and Samuel C. Parrott, Trenton, N. J. Watch	Jan. 7, 1868.
75,355	Bowen, George W., Fort Wayne, Ind. Well borer	Mar. 10, 1868.
81,130	Bowen, James B., Cleanthus A. Reed, and Charles A. Whelan, Madison, Wis. Harvester rake	Aug. 18, 1868.
	Bowen, P. C., and L. M. Lull. (*See* Lull & Bowen.)	
85,360	Bowen, Richard E., Colden, N. Y. Fence post	Dec. 29, 1868.
	Bowen, Smith, *et al.* (*See* Springer, Joseph H., assignor.)	
77,162	Bower, John A., Middlefield, Ohio. Carriage lock	Apr. 28, 1868.
82,282	Bower, Wesley L., Joliet, Ill. Land marker	Sept. 22, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81, 131	Bowerman, Thomas H., and Calvin J. Dart, Cold Water, Mich. Sash fastening.	Aug. 18, 1868.
75, 849	Bowers, Charles F., Boston, Mass. Secret bed	Mar. 24, 1868.
77, 575	Bowers, Henry, Albany, N. Y. Draught and shaft tug	May 5, 1868.
73, 493	Bowers, Isaac W., Boston, Mass. Wood-bending machine	Jan. 21, 1868.
75, 356	Bowers, John, assignor to Elijah W. Blaisdell, jr., Clinton, Wis. Gate	Mar. 10, 1868.
76, 152	Bowers, Peter H., Brooklyn, N. Y. Printing wall paper	Mar. 31, 1868.
80, 125	Bowers, Sylvester, Penn Yan, N. Y. Broiler	July 21, 1868.
76, 153	Bowlsby, George W., Monroe, Mich. Government revenue stamp	Mar. 31, 1868.
79, 806	Same.....Revenue stamp	July 14, 1868.
80, 442	Same.....Horse hay fork	July 28, 1868.
73, 290	Bowly, Franklin, Winchester, Va. Instrument for drawing ellipses	Jan. 14, 1868.
	Bowman, George M., *et al.* (*See* Jones, J. M., assignor.)	
	Bowman, James T., *et al.* (*See* Warner, Daniel, assignor.)	
83, 245	Bowman, R. J., Mansfield, Ind. Wheel for vehicles	Oct. 20, 1868.
77, 163	Bowman, Silas H. Half Moon Bay, Cal. Manufacture of brick	Apr. 28, 1868.
77, 864	Bowsher, Nelson P., Ligonier, Ind. Power indicator	May 12, 1868.
76, 393	Boyce, Elijah Y., Middlebury, Vt. Washing machine	Apr. 7, 1868.
76, 705	Boyce, James Edward, and Robert Harrington, England. Umbrella. (Patented in England June 17, 1867)	Apr. 14, 1868.
83, 034	Boyd, Asahel C., Grafton, Mass. Folding chair	Oct. 13, 1868.
75, 620	Boyd, Francis E., Boston, Mass. Feeding nail plates	Mar. 17, 1868.
73, 494	Boyd, Francis E., and P. Shelton Tyler, Boston, Mass. Breech-loading fire-arm.	Jan. 21, 1868.
3, 245	Same.....same.....(Reissue)	Dec. 29, 1868.
	Boyd, George, *et al.* (*See* Camfield, Hampton R., assignor.)	
84, 530	Boyd, James, assignor to self and N. C. Garretson, Mamaroneck, N. Y. Window-blind-slat holder	Dec. 1, 1868.
83, 826	Boyd, James T., Indianapolis, Ind. Uterine supporter. (Antedated Oct. 31, 1868)	Nov. 10, 1868.
73, 291	Boyd, Jesse C., assignor to self, C. P. Wilson, and L. L. Boblet, Milroy, Ind. Cultivator	Jan. 14, 1868.
73, 571	Boyd, Lewis R., New York, N. Y. Manufacture of locking rings for closing fruit jars	Jan. 21, 1868.
	Boyd, Robert. (*See* Gordon, Norman N., assignor.)	
	Boyd, Robert H., and William W. Grier. (*See* Grier & Boyd.)	
	Boyd, Robert H., and John Gracie. (*See* Gracie & Boyd.)	
	Same.....same.	
85, 424	Boyd, Robert S., Smithland, Ky. Road scraper	Dec. 29, 1868.
78, 859	Boyd, Thomas, Allegheny City, Pa. Heating buildings	June 16, 1868.
78, 418	Boyd, William, Hartford, N. Y. Machine for bending circles	June 2, 1868.
84, 407	Boyd, W. P., Thorntown, Ind. Gauge for mortising window sash	Nov. 24, 1868.
85, 361	Boyden, George F., Providence, R. I. Furniture protector	Dec. 29, 1868.
84, 793	Boyden, W. H., Rockland, R. I. Dresser copper for warp-dressing machines	Dec. 8, 1868.
75, 120	Boydston, Benjamin S., Richmond, Ind. Ironing stand and clothes dryer. (Antedated Feb. 28, 1868)	Mar. 3, 1868.
82, 590	Same.....Lamp	Sept. 29, 1868.
78, 920	Boyer, John G., assignor to Moses Wiant and George Gorr, Springfield, Pa. Stump extractor. (Antedated March 27, 1868)	June 16, 1868.
78, 046	Boyington, Wm. W., Chicago, Ill. Pavement	May 19, 1868.
	Boyle, E. O., and John D. Wilkinson. (*See* Wilkinson & Boyle.)	
	Boyle, James O. (*See* Collinson, Henry, assignor.)	
	Boyle, John. (*See* Miller, William, assignor.)	
	Boyle, J. S., *et al.* (*See* Flora, Orlando V., assignor.)	
81, 871	Boyle, Robert Kirk, assignor to self and Guiseppe Tagliabue, New York, N. Y. Printing telegraph instrument	Sept. 8, 1868.
82, 202	Boyle, William K., Brookville, Md. Manufacture of artificial stone. (Antedated Sept. 7, 1868)	Sept. 15, 1868.
3, 151	Same.....Bladensburg, Md.....same.....(Reissue)	Oct. 6, 1868.
84, 082	Boylson, Almena R., Chicago, Ill. Waist belt	Nov. 17, 1868.
82, 683	Boylston, Francis, New York, N. Y. Children's carriage	Oct. 6, 1868.
3, 224	Same.....same.....(Reissue)	Dec. 8, 1868.
73, 226	Boynton, Eben Moody, Grand Rapids, Mich. Saw	Jan. 14, 1868.
73, 227	Same.....Saw tang	Jan. 14, 1868.
76, 589	Boynton, H. Storrs, Cortland, N. Y. Adjustable clothes dryer	Apr. 14, 1868.
3, 102	Boynton, John F., assignor to Henri L. Stuart, New York, N. Y. Steam generator.....(Reissue)	Aug. 25, 1868.
3, 228	Boynton, John F., assignor to the Barrons Patent Steel Manufacturing Company, New York, N. Y. Converting iron into steel.....(Reissue)	Dec. 1, 1868.
72, 966	Boynton, John W., East Hartford, Conn., and John A. McGaw, Newark, N. J. Mode of removing burrs and other vegetable matters from wool	Jan. 7, 1868.
77, 711	Boynton, N. A., assignor to self and Daniel S. Paris, New York, N. Y. Fender ring for heating-stoves	May 12, 1868.
73, 495	Boynton, Ovette, Hinesburg, Vt. Lamp	Jan. 21, 1868.
	Boynton, W. (*See* Cronk, M. C., assignor.)	
75, 726	Brabrook, George, assignor to Reed & Barton, Taunton, Mass. Name-plate for coffin, &c	Mar. 24, 1868.
	Brackenridge, Philippine S., administratrix of Edward Stieren, deceased. (*See* Stieren, Edward).....(Extension.)	
74, 292	Brackett, E. C., assignor to self and Henry C. Genitsen, Dedham, Mass. Toy	Feb. 11, 1868.
	Brackett, Fred., *et al.* (*See* Hoffman, Austin D., assignor.)	
	Brackett, Samuel A., *et al.* (*See* Locke, Charles S., assignor.)	
80, 802	Brada, Charles, Charlestown, Mass. Reclining chair	Aug. 11, 1868.
	Bradburn, John, and Peter Sweeney. (*See* Sweeney & Bradburn.)	
	Bradbury and Goodsell. (*See* Heaton, Abram, assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,296	Bradbury, Lewis R., Charlestown, Mass. Spring-bed bottom	Apr. 7, 1868.
	Braden, Thomas. (*See* Hughes, N. G., assignor.)	
73,772	Bradford, Charles A. and Wesley, Crown Point Center, N. Y. Rein holder	Jan. 28, 1868.
83,035	Bradford, Charles K., Lynnfield, Mass. Velocipede	Oct. 13, 1868.
80,126	Bradford, G. W., Brooklyn, N. Y. Stove-pipe suspender	July 21, 1868.
83,912	Bradford, James Henry, Westboro, Mass. Stencil plate for numbering barrels, &c	Nov. 10, 1868.
80,902	Bradford, J. Stricker, New York, N. Y. Ferry bridge	Aug. 11, 1868.
78,784	Bradford, Purmort, assignor to Sargent & Company, New Haven, Conn. Cast-metal bracket	June 9, 1868.
	Bradley & Hubbard. (*See* Evarts, John A., assignor.)	
	Same ..... same.	
	Same ..... same.	
	Same ..... same.	
83,913	Bradley, B. H., Waterbury, Conn. Picture nail	Nov. 10, 1868.
83,914	Bradley, Charles C., Brodhead, Wis. Draught equalizer for wagons	Nov. 10, 1868.
77,352	Bradley, C. H., Coatesville, Pa. Churn	Apr. 28, 1868.
	Bradley, Eber. (*See* Styer, Joseph T., assignor.)	
	Bradley, E. F., and Truman Piper. (*See* Piper & Bradley.)	
82,203	Bradley, F. A., assignor to self, James G. English, and E. F. Mersick, New Haven, Conn. Top-prop for carriages	Sept. 15, 1868.
74,293	Bradley, F. Stanley, New Haven, Conn. Bed bottom	Feb. 11, 1868.
79,196	Bradley, H. W., Binghamton, N. Y. Paint compound	June 23, 1868.
3,002	Bradley, James A., and F. N. Smith, New York, N. Y. Ornamentation of a horse brush ..... (Design)	Apr. 14, 1868.
74,885	Bradley, Jeremy, Owatonna, Minn. Plow	Feb. 25, 1868.
77,576	Bradley, John, assignor to David L. Bartlett and Horace W. Robbins, Baltimore, Md. Boiler for heating purposes	May 5, 1868.
79,197	Bradley, Joseph W., and George H. Jordan, Rockport, Mo. Churn	June 23, 1868.
80,443	Bradley, Miles D., Ballston Spa, N. Y. Machine for cutting and assorting broom corn	July 28, 1868.
	Bradley, N., and George Bradway. (*See* Bradway & Bradley.)	
83,246	Bradley, Nathaniel L., and John A. Evarts, assignors to Bradley & Hubbard, West Meriden, Conn. Gas fixture	Oct. 20, 1868.
74,492	Bradley, T. M., Chestnut Level, Pa. Sewing machine	Feb. 18, 1868.
78,419	Bradley, Wesley, Vienna, Maine. Cart body	June 2, 1868.
82,377	Bradley, Willard H., New York, N. Y. Anglers' reel	Sept. 22, 1868.
77,306	Bradshaw, William, and Charles Lyon, Delphi, Ind. Wrench	June 30, 1868.
77,248	Bradstreet, S. Y., Monticello, Iowa. Safety truck	Apr. 28, 1868.
3,024	Same ..... same ..... (Reissue)	July 7, 1868.
76,043	Bradway, George, and N. Bradley, Maquoketa, Iowa. Reel	Mar. 31, 1868.
76,154	Brady, C. H., assignor to self and William Brady, Mount Joy, Pa. Corn sheller	Mar. 31, 1868.
83,756	Brady, Edward, Philadelphia, Pa. Skate fastening	Nov. 3, 1868.
76,590	Brady, Edward, and John Sloan, assignors to Edward Brady, Philadelphia, Pa. Hot-air furnace	Apr. 14, 1868.
74,980	Brady, George W., New York, N. Y. Safety attachment to railroad cars	Mar. 3, 1868.
78,180	Brady, Thomas H., New Britain, Conn. Lantern	May 26, 1868.
79,945	Bragdon, James, Boston, Mass. Glue pot	July 14, 1868.
83,358	Bragg, Wilson, Connersville, Ind. Automatic car coupling	Oct. 27, 1868.
78,570	Bragg, W. N., assignor to self, W. H. Trainer and J. B. Winston, Richmond, Va. Car seat and chair	June 2, 1868.
74,792	Brahn, James, Jersey City, N. J. Shoe for car brakes	Feb. 25, 1868.
77,577	Braidwood, William, Mount Vernon, N. Y. Printing press	May 5, 1868.
80,444	Same ..... New York, N. Y. ..... same	July 28, 1868.
73,292	Brainard, Edwin D., Albany, N. Y. Refrigerating and condensing apparatus for preserving animal and vegetable substances	Jan. 14, 1868.
86,588	Same ..... Refrigerator	Sept. 1, 1868.
78,511	Brainerd, Alexander H., Rome, N. Y. Churn dasher	June 2, 1868.
75,242	Brakeley, Joseph, Bordentown, N. J. Mode of preserving eggs	Mar. 10, 1868.
76,591	Same ..... Lumber dryer	Apr. 14, 1868.
77,712	Same ..... Dryer	May 12, 1868.
75,727	Braman, H. B., Boston, Mass. Reclining chair	Mar. 24, 1868.
76,044	Bramble, James, and Hugh M. Deihl, Fort Wayne, Ind. Piano stool	Mar. 31, 1868.
83,914	Bramble, James, and Albert H. Nirdlinger, Fort Wayne, Ind. Ticket holder	Nov. 10, 1868.
78,860	Bramhall, George R., Chicago, Ill. Method of lowering cylinders	June 16, 1868.
79,544	Branagan, William R., Burlington, Iowa. Steam generator	July 7, 1868.
81,589	Branch, Victor R. M., Richmond, Va. Churn	Sept. 1, 1868.
80,445	Brand, Philipp, Springfield, Ill. Elevator	July 28, 1868.
85,056	Brandeis, Leopold, Brooklyn, N. Y. Method of making cores for molding articles of lead and other metals	Dec. 22, 1868.
85,057	Same ..... Solder	Dec. 22, 1868.
	Brangwin, T., and E. Warren. (*See* Warren & Brangwin.)	
76,045	Branham, Joseph W., Franklin, Ind. Draught regulator	Mar. 31, 1868.
79,946	Branson, James L., Cincinnati, Ohio. Hand loom	July 14, 1868.
	Branson, James L., and James L. Haven. (*See* Albertson & Byers, assignors.)	
	Brasher, William M. & Company. (*See* Christie, Hugh, assignor) ..... (Design.)	
81,063	Brassington, Walter J., Brooklyn, N. Y. Gas burner	Aug. 18, 1868.
80,052	Brattain, Benjamin F., Noblesville, Ind. Portable fence	July 21, 1868.
84,609	Brauer, Louis, Washington, D. C. Apparatus for making extracts, decoctions, &c	Dec. 1, 1868.
85,058	Braun, Joseph, Rochester, Pa. Apparatus for drying and pressing coats. (Antedated Dec. 11, 1868)	Dec. 22, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
85,059	Brau, Joseph, Rochester, Pa. Apparatus for drying and pressing pantaloons. (Antedated Dec. 11, 1868)	Dec. 22, 1868.
85,060	Same....Apparatus for cleaning clothes. (Antedated Dec. 11, 1868)	Dec. 22, 1868.
78,921	Brau, J. Tobias, Randolph Center, Wis. Wind wheel	June 16, 1868.
	Bray, Benj., Salem, Mass. Spring roller for window curtains, &c..(Extension)	Dec. 3, 1868.
	Bray, Mellen. (*See* Talpey, Joseph A., assignor.)	
	Same.....(*See* Turner, Henry, assignor.)	
	Bray, Mellen, and N. C. Lombard. (*See* Lombard & Bray.)	
82,076	Bray, Wilson, Stockton, N. J. Refrigerator	Sept. 15, 1868.
83,293	Brayley, James, Buffalo, N. Y. Shaft coupling	Jan. 14, 1868.
	Brayley, James, *et al.* (*See* Bronson, Levi, assignor.)	
	Brayley, James, and Mary Pitts, administrators of John A. Pitts, deceased. (*See* Pitts, John A)	(Extension.)
84,673	Brayton, George B., Providence, R. I. Machine for cutting eyelets	Dec. 8, 1868.
84,853	Brayton, Robert, Fremont, Ohio. Oil injector for steam and other enginery	Dec. 15, 1868.
77,578	Breasted, Charles, Chicago, Ill. Barrel sifter	May 5, 1868.
79,307	Breathilt, J. B., Cooper County, Mo. Nail extractor	June 30, 1868.
78,922	Brecht, Gustavus V., St. Louis, Mo. Clamp for hub-boring machines	June 16, 1868.
84,674	Breckenridge, M. P., Meriden, Conn. Self-regulating air valve for steam heaters	Dec. 8, 1868.
77,443	Bredt, Ernst, New York, N. Y. Button. (Antedated April 25, 1868)	May 5, 1868.
	Breed & Company. (*See* Heneage, Robert, assignor.)	
	Breed, Daniel. (*See* Fisher, John F., assignor.)	
73,496	Breed, D. F., Valparaiso, Ind. Wood-bending machine	Jan. 21, 1868.
	Breed, F. W., and Robert Heneage. (*See* Heneage & Breed.)	
76,706	Breevort, Henry, Brooklyn, N. Y. Detachable ball joint	Apr. 14, 1868.
	Breitweiser, Henry. (*See* Adler, Max, assignor.)	
84,531	Bremerman, Frederick, Indianapolis, Ind. Coupling for the hounds and poles of wagons	Dec. 1, 1868.
73,228	Breneman, A. N., Lancaster, Pa. Shoe holder	Jan. 14, 1868.
82,378	Breneman, C. K., Ludington, Mich. Combined clothes rack	Sept. 22, 1868.
	Brenton, Joseph L. (*See* Haskin, Henry P., assignor.)	
82,077	Brett, John, Memphis, Mich. Machine for forming eaves troughs	Sept. 15, 1868.
80,053	Brett, Joseph, Geneva, Ohio. Mode of mulching strawberry beds	July 21, 1868.
76,883	Brett, Thomas, assignor to self and W. H. Saxton, Geneva, Ohio. Rest for grinding harvester cutters	Apr. 21, 1868.
83,129	Brettell, Edward W., Elizabeth, N. J. Permutation lock	Oct. 20, 1868.
77,865	Brettell, George E., Rochester, N. Y. Waste valve for pumps	May 12, 1868.
85,051	Bretz, John, William Sangster, and John F. Bretz, Springfield, Ill. Brick machine	Dec. 22, 1868.
	Bretz, John, and William Sangster. (*See* Sangster & Bretz.)	
81,872	Brewer, C. W., Racine, Wisconsin. Piano hammer	Sept. 8, 1868.
85,272	Same.....Churn	Dec. 29, 1868.
	Brewer, H., *et al.* (*See* Blinn, Alvord & Brewer.)	
85,425	Brewer, James F., Plantsville, Conn. Poker	Dec. 29, 1868.
79,198	Brewer, John, Philadelphia, Pa. Expanding mandrel	June 23, 1868.
82,793	Brewer, John, New Vienna, Ohio. Combined land roller and clod pulverizer	Oct. 6, 1868.
84,164	Brewster, D. C., Kent, Ohio. Extension spoke	Nov. 17, 1868.
79,101	Brewster, Edward E. Cleveland, Ohio. Washing machine	June 23, 1868.
	Brewster, Frank. (*See* Hoffman, Austin D., assignor.)	
80,127	Brewster, Selah S., Manchester, Mich. Apparatus for removing boxes from wagons	July 21, 1868.
74,886	Briant, A. C., Lafayette, Ind. Animal trap	Feb. 25, 1868.
	Brickett, N. A. (*See* Johnson, John, assignor.)	
81,132	Briekill, W. A., New York, N. Y. Feed-water heater for steam fire engines	Aug. 18, 1868.
84,991	Briekley, J. F., Winchester, Ind. Pump	Dec. 15, 1868.
	Bridge, James P. (See Cowling, Eben L., assignor.)	
	Same.....(*See* Drew, Thomas, assignor.)	
	Bridge, Lewis, and David Stuart. (See Stuart & Bridge.)	
	Same.....same.	
	Same.....same.	
	Bridgeport Brass Company. (*See* Doolittle, T. B., assignor.)	
	Bridgeport Knitting Company. (*See* Larkin, Samuel, assignor.)	
75,357	Bridges, Albert, Newton, Mass. Car truck	Mar. 10, 1868.
	Bridges, Albert, *et al.* (*See* Reynolds, C. H., assignor.)	
	Bridgham, Samuel R. (*See* Marshal, Horace B., assignor.)	
79,545	Bridgman, J. S., and E. G. Wellman, Rockport, N. Y. Gas burner	July 7, 1868.
80,385	Brierly, James, assignor to self and James Brierly, Worcester, Mass. Operating shuttle box in looms	July 28, 1868.
78,047	Brierly, James L., Auburn, Mass. Pipe wrench and cutter	May 19, 1868.
82,591	Brigden, John T., Hornellsville, N. Y. Machine for punching tubes	Sept. 29, 1868.
	Briggs, Charles, and Joseph Shirt. (*See* Shirt & Briggs.)	
81,742	Briggs, C. W., Springfield, Mass. Charcoal furnace	Sept. 1, 1868.
	Briggs, Elisha, jr., *et al.* (*See* Rice & Briggs.)	
80,446	Briggs, F. Markham, Livonia, Mich. Lamp for destroying insects in trees	July 28, 1868.
	Briggs, Henry F., *et al.* (*See* Day, Lester, assignor.)	
84,165	Briggs, Horace C., West Auburn, Maine. Hoeing machine	Nov. 17, 1868.
80,903	Briggs, James, Lyons, Ohio. Sawing machine	Aug. 11, 1868.
77,164	Briggs, Joshua, Peterboro, N. H. Piano-forte stool	Apr. 28, 1868.
81,133	Briggs, Leonard C., Boston, Mass. Let-off for looms	Aug. 18, 1868.
82,684	Briggs, Lucius, assignor to self and George Buntin, Grosvenor Dale, Conn. Temple for looms	Oct. 6, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No	Name, residence, and invention or discovery.	Date.
78,642	Briggs, M. G., Boston, Mass. Folding or ironing table	June 2, 1868.
85,204	Brigham, Charles F., Worcester, Mass. Runner attachment for carriages	Dec. 22, 1868.
83,247	Bright, Richard A., jr., Providence, R. I. Cigar machine	Oct. 20, 1868.
76,592	Brimblecom, John W., assignor to William Carleton, Lynn, Mass. Lamp burner	Apr. 14, 1868.
81,590	Brin, Arthur, France. Apparatus for carburcting air and applying the same	Sept. 1, 1868.
84,083	Brinckerhoff, George E., Brooklyn, N. Y. Catamenial sack	Nov. 17, 1868.
79,631	Briner, Henry and Emil, Manhattanville, N. Y. Steel shank for boots and shoes	July 7, 1868.
81,979	Bringier, M. S., Ascension Parish, La. Mode of purifying water	Sept. 8, 1868.
	Brininstool, S. B., *et al.* (*See* Pease, C. C., assignor.)	
85,205	Brinkerhoff, Charles, Fishkill, N. Y. India-rubber fender for interfering horses	Dec. 22, 1868.
74,981	Brinkerhoff, Jacob, Auburn, N. Y. Corn sheller	Mar. 3, 1868.
	Brinley, W. B. (*See* James, Eben, assignor.)	
83,452	Brinser, S. C., Middletown, Pa. Horse rake	Oct. 27, 1868.
84,048	Brinton, Joseph H., Thornbury, Pa. Horse hay fork	Nov. 17, 1868.
84,935	Same.....Thornbury Township, Pa. Cultivator	Dec. 15, 1868.
78,048	Briody, B., Detroit, Mich. Artificial limb	May 19, 1868.
83,453	Brisbane, Sarah H., Fordham, N. Y. Scissors	Oct. 27, 1868.
83,757	Bristol, Charles B., New Haven, Conn. Curry comb	Nov. 3, 1868.
80,447	Bristol, G. H., Romeo, Mich. Water elevator	July 28, 1868.
82,078	Bristol, P. M., Ludington, Mich. Saw-sharpening device	Sept. 15, 1868.
	Brittingham, Wm. B. (*See* Gray, Robert D., assignor.)	
81,873	Britton, Hiram M., assignor to self and Joel F. Richardson, Cincinnati, Ohio. Railroad-car heater. (Antedated March 9, 1868)	Sept. 8, 1868.
78,719	Britton, Walter, Abington, Ill. Tire shrinking and punching machine	June 9, 1868.
73,075	Broad, Elisha, St. Anthony's Falls, Minn. Cant hook	Jan. 7, 1868.
81,743	Broadnax, Amos, Mont Clair, N. J. Apparatus for rendering lard, tallow, &c.	Sept. 1, 1868.
81,744	Same.....Rendering and refining lard, oils, &c	Sept. 1, 1868.
	Broadnax, Amos, and Rollin B. Gray. (*See* McLeod, N. N., assignor)..(Reissue.)	
80,904	Brobst, Jacob, Fort Wayne, Ind. Metallic heel pattern	Aug. 11, 1868.
77,954	Brocard, Hyppolyte, France. Packing for joints of steam and water pipes	May 19, 1868.
81,247	Brock, Elias, and Judson Schultz, assignors to Judson Schultz, Ellenville, N. Y. Machine for unhairing hides	Aug. 18, 1868.
81,591	Brock, G. H., Huntington, N. Y. Organ pipe	Sept. 1, 1868.
73,572	Brock, Solomon, Brooklyn, N. Y. Paper file	Jan. 21, 1868.
76,394	Brock, W. E., New York, N. Y. Dummy for displaying clothing	Apr. 7, 1868.
80,590	Brockington, S. C., Groton, Conn. Lamp	Aug. 4, 1868.
3,020	Brocksieper, F. W., assignor to Sargeant & Company, New Haven, Conn. Bracket.....(Design)..	May 12, 1868.
3,021	Same.....same.....(Design)..	May 12, 1868.
3,022	Same.....same.....(Design)..	May 12, 1868.
3,023	Same.....same.....(Design)..	May 12, 1868.
3,024	Same.....same.....(Design)..	May 12, 1868.
3,025	Same.....same.....(Design)..	May 12, 1868.
3,026	Same.....same.....(Design)..	May 12, 1868.
3,027	Same.....same.....(Design)..	May 12, 1868.
3,028	Same.....same.....(Design)..	May 12, 1868.
3,029	Same.....same.....(Design)..	May 12, 1868.
3,030	Same.....same.....(Design)..	May 12, 1868.
3,031	Same.....same.....(Design)..	May 12, 1868.
3,032	Same.....same.....(Design)..	May 12, 1868.
3,033	Same.....Card receiver.....(Design)..	May 12, 1868.
3,034	Same.....Match safe.....(Design)..	May 12, 1868.
64,659	Brockway, Edwin, Haverstraw, N. Y. Boiler feeder	Feb. 18, 1868.
82,685	Brockway, Joseph W., New York, N. Y. Straw cutter	Oct. 6, 1868.
80,054	Brockway, R. W., and Henry Frederick, Akron, Ohio. Fence	July 21, 1868.
76,046	Brodhead, James F., Rondout, N. Y. Saw set	Mar. 31, 1868.
76,884	Brodhead, Wessel, Meadville, Pa. Carpenters' gauge	Apr. 21, 1868.
80,905	Brokenshire, John, Oswego, N. Y. Pump	Aug. 11, 1868.
	Bromberg, S., *et al.* (*See* Thoma, Alois, assignor.)	
	Bromley, John & Sons. (*See* Allinson, James, assignor).....(Design.)	
	Same..... (*See* Crabtree, Benjamin, jr., assignor).....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
84,675	Brönner, Julius, Prussia. Gas burner	Dec. 8, 1868.
82,079	Bronson, George H., New York, N. Y. Manufacture of artificial fuel	Sept. 15, 1868.
78,571	Bronson, Levi, assignor to self and James Brayley, Buffalo, N. Y. Shaft coupling	June 2, 1868.
	Bronson, Samuel N., *et al.* (*See* Hicks & Doty, assignors.)	
77,444	Bronson, Willis S., Hartford, Conn. Base-burning stove	May 5, 1868.
77,445	Same.....Fire grate	May 5, 1868.
85,062	Same.....Base-burning stove	Dec. 22, 1868.
83,248	Brooke, William E., Trenton, N. J. Shutter and blind operator	Oct. 20, 1868.
73,573	Brooks, Almond, Columbus, Ind. Machine for supporting tin cans when being soldered	Jan. 21, 1868.
79,308	Brooks, Asa T., New Britain, Conn. Door bell	June 30, 1868.
77,165	Brooks, Asa T., assignor to Russell and Erwin Manufacturing Company, New Britain, Conn. Key-hole guard for door locks	Apr. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73, 497	Brooks, Eliphalet C., San Francisco, Cal. Spring attachment for vehicles	Jan. 21, 1868.
75, 728	Brooks, George, and Samuel Clement, Detroit, Mich. Machine for making "Excelsior"	Mar. 24, 1868.
82, 917	Brooks, George W., Clinton, Mass. Centering square	Oct. 13, 1868.
82, 283	Brooks, H. G., New York, N. Y. Steam generator	Sept. 22, 1868.
83, 916	Same ..... same	Nov. 10, 1868.
78, 572	Brooks, Henry S., and J. S. Lehman, Martickville, Pa. Mode of constructing iron posts for rail fence	June 2, 1868.
83, 827	Brooks, Horatio N., Bloomington, Ill. Combined water-elevator and dairy	Nov. 10, 1868.
77, 166	Brooks, Lorin, New York, N. Y. Boot and shoe conformator	Apr. 28, 1868.
84, 676	Brooks, Reuben, jr., and W. N. Manning, Rockport, Mass. Ruffling device for sewing machines	Dec. 8, 1868.
76, 593	Brooks, R. M., Woodbury, Ga. Cotton press	Apr. 14, 1868.
76, 594	Same ..... Cotton gin	Apr. 14, 1868.
79, 309	Same ..... Griffin, Ga. Railroad rail	June 30, 1868.
80, 128	Same ..... Scrubbing brush	July 21, 1868.
81, 469	Brooks, Thomas G., Oneida, Ill. Hames	Aug. 25, 1868.
82, 485	Brooks, William D., Bethany, Pa. Horse hay fork	Sept. 29, 1868.
84, 794	Same ..... Elevator	Dec. 8, 1868.
78, 049	Brooks, W. P., Bloomington, Ill. Draught attachment for vehicles	May 19, 1868.
80, 906	Broome, Nathaniel W., Baltimore, Md. Apparatus for curing tobacco	Aug. 11, 1868.
	Brose, D., and T. Nevergold. (*See* Nevergold & Brose.)	
74, 493	Brosius, Clarence, Hancock, Md. Skid for elevating and lowering barrels, &c.	Feb. 18, 1868.
76, 297	Brosius, John, Raueh's Gap, Pa. Safety pocket attachment	Apr. 7, 1868.
	Brough, John, and Joseph Stokes. (*See* Stokes & Brough.)	
76, 595	Broughton, John, New York, N. Y. Breech-loading fire-arm. (Antedated Oct. 14, 1867)	Mar. 14, 1868.
	Brown & Brothers. (*See* Hendricks, Joseph E., assignor.)	
	Brown, A. C. (*See* Burdge, J. E., assignor.)	
80, 129	Brown, A. J., New Castle, Del. Combined wash stand and water closet	July 21, 1868.
76, 985	Brown, Adam S., Lebanon, Pa. Tube well	Apr. 21, 1868.
79, 807	Brown, Albert, Troy, N. Y. Hot-water tank on cooking stove	July 14, 1868.
80, 591	Brown, Albert C., Chicago, Ill. Weather strip	Aug. 4, 1868.
84, 166	Brown, Amos W., Lansingburg, N. Y. Brush	Nov. 17, 1868.
82, 686	Brown, Anson R., Albion, Mich. Mold for making acupuncture instruments	Oct. 6, 1868.
84, 255	Same ..... Bandage for preternatural enlargements	Nov. 24, 1868.
84, 854	Same ..... Instrument for acupuncturation	Dec. 15, 1868.
85, 063	Brown, Benjamin F., Woburn, Mass. Submerged pumps	Dec. 22, 1868.
	Brown, B. F., Dorchester, Mass. Hanging carriage bodies ..... (Extension)	Dec. 8, 1868.
78, 785	Brown, C., and L. A. Gerth, Peoria, Ill. Plow	June 9, 1868.
83, 758	Brown, Charles, Albermarle County, Va. Process of preserving timber from decay	Nov. 3, 1868.
78, 181	Brown, Charles, Buffalo, N. Y. Hay and straw cutting machine	May 26, 1868.
83, 917	Brown, Charles, assigner to self and Aaron G. Salmon, Adrian, Mich. Carriage	Nov. 10, 1868.
81, 745	Brown, Charles, Buffalo, N. Y., and David L. Miller, Madison, N. J. Baling press	Sept. 1, 1868.
83, 918	Brown, C. D., Bainbridge, N. Y. Machine for dressing hop poles	Nov. 10, 1868.
76, 986	Brown, Charles E., East Randolph, Mass. Sewing machine	Apr. 21, 1868.
82, 284	Brown, Charles F., Warren, R. I. Projectile	Sept. 22, 1868.
3, 211	Same ..... Breech-loading cannon ..... (Reissue)	Nov. 24, 1868.
	Brown, Charles H., and E. D. Chamberlain. (*See* Chamberlain, Dexter H., assignor) ..... (Reissue.)	
3, 115	Brown, Charles K., assignor to self, Charles A. Brown and Franklin Field, Troy, N. Y. Shirt collar ..... (Design)	July 21, 1868.
85, 426	Same ..... Machine for coloring paper	Dec. 29, 1868.
80, 803	Brown, Charles S., Pittston, Maine. Supporting attachment for sails	Aug. 11, 1868.
	Brown, Collins B., Upper Alton, Ill. Harvester rake ..... (Extension)	June 26, 1868.
73, 498	Brown, Conrad, Goshen, N. Y. Combined knob latch and lock	Jan. 21, 1868.
83, 249	Brown, Conrad, New Albany, Ind. Compound for the cure of dropsy	Oct. 20, 1868.
	Brown, C. W., and B. B. Taggart. (*See* Taggart & Brown.)	
72, 967	Brown, Darius C., Lowell, Mass. Harness for looms	Jan. 7, 1868.
77, 446	Same ..... Harness frame for looms	May 5, 1868.
77, 713	Brown, D. C., Lowell, and John Ashworth, North Andover, Mass., assignor to D. C. Brown. Machine for making wire heddles for loom harness	May 12, 1868.
	Brown, David F. (*See* Thorp, Joseph W., assignor.)	
79, 102	Brown, David S., jr., New York, N. Y. Machine for cutting soap	June 23, 1868.
	Brown, E. (*See* Green, Wm. W., jr., assignor.)	
78, 050	Brown, Edmund, Burlington, Vt. Vegetable masher	May 19, 1868.
80, 055	Brown, Edmund D., Battle Creek, Mich. Pole for vehicles	July 21, 1868.
82, 379	Brown, Edward, New York, N. Y. Connecting rod. (Antedated Sept. 16, 1868)	Sept. 22, 1868.
	Brown, Edward, Waterbury, Conn. Machine for making hinges. (Extension)	May 14. 1868.
84, 286	Brown, Edward, New York, N. Y. Hinge machine	Nov. 24, 1868.
78, 786	Brown, Edward L., Philadelphia, Pa. Process of combining wrought and cast metal	June 9, 1868.
	Brown, Edward W., Stillwater, R. I. Loom ..... (Extension)	July 25, 1868.
73, 948	Brown, Edwin, Roxbury, and Edwin W., assignors to Edwin W. Brown, Boston, Mass. Photographic printing apparatus	Feb. 4, 1868.
	Brown, Elias. (*See* Foster, Caleb, assignor.)	
	Same ..... same.	
75, 850	Brown, Elijah C., Crawfordsville, Ind. Corn and seed planter	Mar. 24, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75,851	Brown, Elijah C., Crawfordsville, Ind. Guide for corn and seed planter.	Mar. 24, 1868.
74,294	Brown, Francis H., Stamford, Conn. Neck-tie holder	Feb. 11, 1868.
77,447	Brown, F. W., Philadelphia, Pa. Device for soldering lids of cans. (Antedated April 21, 1868)	May 5, 1868.
	Brown, George. (*See* Dodd, James, assignor.)	
	Same (*See* Jenkins, Nicholas, assignor.)	
	Same (*See* Burnham, Edward E., assignor.)	
76,596	Brown, George A., Kalamazoo, Mich. Car-stake holder	Apr. 14, 1868.
82,687	Same Spring-bed bottom	Oct. 6, 1868.
76,155	Brown, George C., Philadelphia, Pa. Portable derrick	Mar. 31, 1868.
80,855	Brown, George F. H., assignor to the Union Comb Company, Leominster, Mass. Machine for sawing combs	Aug. 11, 1868.
73,229	Brown, G. W., Rockford, Ill. Spiritometer	Jan. 14, 1868.
	Brown, George W. & Company. (*See* Alexander, John, assignor.)	
76,707	Brown, Harvey, Harlem, N. Y. Portable cooking stove	Apr. 14, 1868.
83,688	Same Cooking stove	Nov. 3, 1868.
	Brown, Henry, *et al.* (*See* Waldron, John J., assignor.)	
	Brown, Henry, and Garrettson Smith. (*See* Smith & Brown) (Design.)	
	Same same (Design.)	
	Same same (Design.)	
	Same same (Design.)	
77,866	Brown, Henry D., Tipton, Iowa. Sheep-shearing chair. (Antedated April 25, 1868)	May 12, 1868.
81,874	Brown, Henry L., Mansfield Center, Conn. Silk-winding machine	Sept. 8, 1868.
84,085	Brown, Henry L., Adrian, Mich. Horse rake	Nov. 17, 1868.
	Brown, Henry L., and A. Barr Irwin. (*See* Owen, John, assignor.)	
	Brown, Henry S., *et al.* (*See* Newell, Amos, assignor.)	
	Same same.	
81,334	Brown, Hiram, Lowell, Mass. Excavator	Aug. 25, 1868.
84,677	Brown, Hiram, Burton, Ohio. Fastener for lasts	Dec. 8, 1868.
76,395	Brown, Ira S. and Charles N., assignors to selves and J. Mason Gross, Providence, R. I. Saw. (Antedated Jan. 3, 1868)	Apr. 7, 1868.
74,295	Brown, Isaac W., assignor to self and George D. Nettleton, New Haven, Conn. Motive power	Feb. 11, 1868.
73,570	Brown, Jairus, Portland, Mich. Tuyere iron	Jan. 21, 1868.
77,353	Brown, Jairus, assignor to self and Theodore B. Hubbard, Portland, Mich. Reel.	Apr. 28, 1868.
83,454	Brown, James, Matteawan, N. Y. Trace fastening	Oct. 27, 1868.
81,064	Brown, James, Pawtucket, R. I. Bearing for flyer in spinning machines	Aug. 18, 1868.
84,167	Brown, James B., Peekskill, N. Y. Garden roller	Nov. 17, 1868.
82,794	Brown, James H., Mitchell, Ind. Peach parer	Oct. 6, 1868.
79,724	Brown, James R., assignor to E. H. Ashcroft, Boston, Mass. Pipe tongs	July 7, 1868.
79,199	Brown, Jesse, San Francisco, Cal. Sewer	June 23, 1868.
	Brown, John, New York, N. Y. Hot-water apparatus (Extension)	May 29, 1868.
76,885	Brown, John, Utica, N. Y. Caster for furniture	Apr. 21, 1868.
85,206	Brown, John H., assignor to Moses K. Moody, Watertown, N. Y. Machine for pegging shoes	Dec. 22, 1868.
85,207	Same Machine-made channeled and piereed soles for boots and shoes	Dec. 22, 1868.
	Brown, John H., and Joseph Taney. (*See* Taney & Brown.)	
82,080	Brown, John W., Wooster, Ohio. Apparatus for domestic manufacture of gas	Sept. 15, 1868.
	Brown, J. B. (*See* Hutchinson, George E., assignor.)	
	Brown, Jonathan C. (*See* Smith, Henry C., assignor) (Reissue.)	
74,650	Brown, J. H., Hudson, Wis. Bed bottom	Feb. 18, 1868.
	Brown, J. M. (*See* Seely, Samuel J., assignor.)	
	Same same.	
	Brown, J. R., and E. H. Ashcroft. (*See* Ashcroft & Brown.)	
	Brown, Joseph S., and Leonard Worcester. (*See* Worcester & Brown.)	
	Brown, Mercer, and John Herold. (*See* Herold & Brown.)	
74,195	Brown, Morgan W., West Farms, N. Y. Mode of preparing paper for wrapping tobacco, snuff, soap and other articles. (Antedated Jan. 27, 1868)	Feb. 11, 1868.
78,182	Same New York, N. Y. Process for making transparent soap	May 26, 1868.
81,470	Brown, N. B., Antwerp, N. Y. Windlass	Aug. 25, 1868.
	Brown, Nathan P. (*See* Horton, Wm. H., assignor.)	
76,597	Brown, Nathaniel H., assignor to self and Joseph A. Veazie, Derry, N. H. Horserake	Apr. 14, 1868.
2,930	Brown, Neail N., Philadelphia, Pa. Glass bottle (Design)	Feb. 11, 1868.
79,632	Brown, O., and T. F. Berry, Capron, Ill. Carpenters' gauge	July 7, 1868.
76,886	Brown, O. B., Malden, Mass. Toy boomerang pistol	Apr. 21, 1868.
85,362	Brown, Philip A., Indianapolis, Ind. Mold for forming roofing tiles	Dec. 29, 1868.
	Brown, Richard. (*See* Letzkus, John, assignor.)	
80,592	Brown, Robert, Norwich, Conn. Steam trap	Aug. 4, 1868.
85,064	Brown, Samuel, assignor to self and C. R. Carver, Philadelphia, Pa. Feed attachment for machinery	Dec. 22, 1868.
77,448	Brown, Silas H., Troy, N. Y. Stop valve	May 5, 1868.
76,987	Brown, Smith M. and Harvey J., Holly, Mich. Ticket holder	Apr. 21, 1868.
82,795	Brown, Smith S., Pawtucket, R. I. Cheese cutter and box	Oct. 6, 1868.
82,796	Same Curtain fixture	Oct. 6, 1868.
76,708	Brown, Spencer H., and Charles H. Willets, New York, N. Y. Corset spring	Apr. 14, 1868.
3,081	Same Toy gun (Design)	June 30, 1868.
79,200	Brown, Thomas, Allegheny, Pa. Hydrant	June 23, 1868.
81,471	Brown, Thomas F., jr., Concord, N. H. Skein holder	Aug. 25, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,472	Brown, Thomas S., Poughkeepsie, N. Y. Harvester	Aug. 25, 1868.
81,473	Same.....Harvester rake	Aug. 25, 1868.
83,359	Brown, T. W., Reading, Pa. Hot-air register	Oct. 27, 1868.
80,593	Brown, Thomas W., England. Cotton-seed cleaner	Aug. 4, 1868.
72,968	Brown, T. Yardley, Reading, Pa. Mode of fastening artificial teeth	Jan. 7, 1868.
82,797	Brown, William, Duncannon, Pa. Sash fastening	Oct. 6, 1868.
73,949	Same.....State room for railroad car	Feb. 4, 1868.
74,661	Brown, William, West Cambridge, Mass. Curtain fixture. (Antedated Feb. 6, 1868)	Feb. 18, 1868.
75,517	Brown, William, Addison, Mich. Farm gate	Mar. 17, 1868.
81,065	Brown, William, Worcester, Mass. Sofa bed	Aug. 18, 1868.
84,086	Brown, William, England. Rolling mill	Nov. 17, 1868.
85,065	Brown, William G., Canton, N. Y. Reel	Dec. 22, 1868.
	Brown, William H. (*See* Page, James T., assignor.)	
81,592	Brown, William P., Watertown, N. Y. Advertising show-frame	Sept. 1, 1868.
73,870	Browne, A. W., Brooklyn, N. Y. Lamp	Jan. 28, 1868.
74,793	Same.....Lamp burner	Feb. 25, 1868.
82,285	Browne, A. W., assignor to Charles R. Squire, Brooklyn, N. Y. Rotary steam engine	Sept. 22, 1868.
81,248	Browne, A. W., Brooklyn, and W. F. Goodwin, East New York, N. Y. Mechanical movement	Aug. 18, 1868.
77,799	Browne, Charles L., Washington, D. C. Flame aerator	May 12, 1868.
74,296	Browne, George W., Brooklyn, N. Y. Row-lock	Feb. 11, 1868.
78,923	Browne, Henry H., Mount Vernon, N. Y. Advertising device	June 16, 1868.
82,286	Browne, John David, Cincinnati, Ohio. Mop head	Sept. 22, 1868.
82,287	Same.....Sash pulley	Sept. 22, 1868.
76,298	Brownell, A. C., Brooklyn, N. Y. Bath tub	Apr. 7, 1868.
82,288	Brownell, Stephen, Irving, N. Y. Hay rack	Sept. 22, 1868.
75,621	Brownfield, Eugene T., Smithfield, Pa. Churn	Mar. 17, 1868.
75,622	Same.....Apparatus for tempering cream preparatory to churning	Mar. 17, 1868.
	Browning, N. W., and William Howell. (*See* Howell & Browning.)	
	Browning, Ross C. (*See* Lever, James S., assignor.)	
	Browning, Ross C., *et al.* (*See* Lugo, Orazio, assignor.)	
78,573	Brownson, W. G., Wellsville, Ohio. Telegraphic repeater	June 2, 1868.
76,709	Broy, Daniel, Canton, Mo. Hand corn planter	Apr. 14, 1868.
	Brubaker, Andrew J., and Albert Bliss, jr. (*See* Illingworth, Benjamin, assignor.)	
80,448	Bruce, David, Brooklyn, N. Y. Type machine	July 28, 1868.
83,828	Same.....Type-casting machine	Nov. 10, 1868.
3,236	Bruce, David, assignor to David Wolfe Bruce, Brooklyn, N. Y. Printers' type. (Design)	Nov. 17, 1868.
3,237	Bruce, David W., New York, N. Y. Ray-shaded printers' type.....(Design)	Nov. 17, 1868.
	Same.....(*See* Herriet, Julius, assignor).....(Design.)	
	Same.....same.....(Design.)	
74,982	Bruce, Rufus N., assignor to self and Amos Call, Springfield, Mass. Planer chuck	Mar. 3, 1868.
	Bruce, Sidney T., and Leslie Marmaduke. (*See* Marmaduke & Bruce.)	
76,988	Brück, Otto, New York, N. Y. Pocket-book and fan combined	Apr. 21, 1868.
77,249	Brumbach, Louis, Reading, Pa. Machine for wool-burring	Apr. 28, 1868.
74,043	Brundage, E. F., assignor to self, William T. and William Eaves, Virginia City, Nevada. Safety hook	Feb. 4, 1868.
	Bruner, J. Stanley. (*See* Crowley, Daniel, assignor.)	
	Bruno, J. D., *et al.* (*See* Ford, Bruno & Clarke.)	
77,449	Bruno, T., Saginaw, Mich. Machine for sawing lath	May 5, 1868.
72,969	Brunswick, E., Chicago, Ill. Billiard-cue rack	Jan. 7, 1868.
80,056	Brunton, John Dickinson, England. Machine for sinking shafts. (Patented in England Jan. 5, 1867)	July 21, 1868.
73,162	Brush, Albert, East Constable, N. Y. Hollow auger	Jan. 7, 1868.
	Bryan, Dillingham & Company. (*See* Guillod, Edward, assignor.)	
	Same.....same.	
78,420	Bryan, James M., Penningtonville, Pa. Tire-bending and punching machine	June 2, 1868.
	Bryan, Thomas F. (*See* Jepson, Godfrey, assignor.)	
75,623	Bryant, Abner H., Wilmington, Del. Suspension egg carrier	Mar. 17, 1868.
81,593	Same.....Safety attachment for egg carrier	Sept. 1, 1868.
	Bryant, H. D., *et al.* (*See* Harris, Aaron B., assignor.)	
79,808	Bryant, H. H., Boston, Mass. Fire-proof safe	July 14, 1868.
79,809	Same.....Fire-proof structure	July 14, 1868.
	Bryant, Hezekiah H. (*See* Warren, Gardner, assignor.)	
80,449	Bryant, Martin V., North Plains, Mich. Spring punch	July 28, 1868.
	Bryant, N. F. (*See* Parrott, Wm. P., assignor.)	
84,532	Bryson, A. P., Prospect, Pa. Churn	Dec. 1, 1868.
79,442	Bryson, James D., and Alonzo Potter, New Castle, Pa. Spike machine	June 30, 1868.
81,474	Bryson, James D., and J. H. Hartsuff, New Castle, Pa. Curb for water wheels	Aug. 25, 1868.
82,486	Bryson, James D., New Castle, Pa. Casing for water wheels	Sept. 29, 1868.
74,983	Bryson, Robert, Schenectady, N. Y. Harvester rake	Mar. 3, 1868.
76,989	Buchanan, Andrew, Brooklyn, N. Y. Quartz crusher	Apr. 21, 1868.
75,852	Buchanan, R. E., Carrollton, Ill. Sash stop	Mar. 24, 1868.
83,919	Buchanan, Walter, jr., Main Prairie, Cal. Fastening horse-powers to the ground	Nov. 10, 1868.
84,168	Buehtel, Joseph, Portland, Oregon. Contact pad for photographic printing	Nov. 17, 1868.
83,250	Buehter, H., Louisville, Ky. Chair seat	Oct. 20, 1868.
73,575	Buek, Charles E., Racine, Wis. Axletree	Jan. 21, 1868.
75,664	Buek, Charles H., St. Louis, Mo. Window for stoves	Mar. 17, 1868.
76,047	Buck, Charles H., 2d, West Arlington, Vt. Attachment for sewing machines	Mar. 31, 1868.
79,443	Buck, Erastus, Vincennes, Ind. Belt shipper	June 30, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
85,066	Buck, Isaac N., Elgin, Ill. Burglar alarm	Dec. 22, 1868.
81,335	Buckel, George, Detroit, Mich. Plane	Aug. 25, 1868.
85,363	Same.....Chair seat	Dec. 29, 1868.
	Buckel, Wesley, *et al.* (*See* Trimble, George W., assignor.)	
82,081	Buckingham, E. L., Jefferson, Wis. Chair seat	Sept. 15, 1868.
77,867	Buckingham, Isaac, assignor to self and H. W. Randall, Seymour, Conn. Automatic car ventilator	May 12, 1868.
79,725	Buckius, George H., assignor to self, C. Aultman, A. C. Tonner, and P. H. Sowers, Canton, Ohio. Harness ring	July 7, 1868.
81,336	Same.....Harness saddle	Aug. 25, 1868.
	Buckius, George H., *et al.* (*See* Yates, Wm., assignor.)	
76,887	Buckland, A. W., and A. M. Daniels, assignors to selves, Benjamin Bennett, and Albert Fuller, Hartford, Conn. Artificial fuel	Apr. 21, 1868.
77,579	Buckland, E. H., Springfield, Mass. Watch-case spring	May 5, 1868.
77,580	Same.....Spring for watch case	May 5, 1868.
76,990	Buckley, D. M., Athens, Ohio. Clothes dryer	Apr. 21, 1868.
	Buckley, Thomas T., *et al.* (*See* Sherman & Russell, assignors.)	
	Buckley, William O., and Jasper N. Smith. (*See* Smith & Buckley.)	
84,729	Buckman, Edward and Alexander, Greenbush, N. Y. Gate	Dec. 8, 1868.
73,692	Bucknam, Frederic, Portland, Me. Reversible frying rack. (Antedated Jan. 11, 1868)	Jan. 28, 1868.
	Buckwalter, Francis & Company. (*See* Steffe, Jacob, assignor).....(Design.)	
78,421	Budd, Daniel, Valatie, N. Y. Machine for cleaning and renovating feathers	June 2, 1868.
	Budd, Walter J. (*See* Wiegand, S. Lloyd, assignor.)	
	Same.....same.	
82,798	Budding, B. Q., Worcester, Mass. Boot and shoe heel polishing machine	Oct. 6, 1868.
78,255	Buell, A. B., and G. W. Root, Pittsfield, Mass. Shears	May 26, 1868.
	Buell, James, executor of James MacGregor, jr., deceased. (*See* MacGregor, James, jr.....(Extension.)	
84,408	Buell, Jonathan S., Buffalo, and Willard B., Pompey, N. Y. Screw press	Nov. 24, 1868.
82,688	Buell, William H., Union City, Mich. Mode of securing horse-powers to the ground	Oct. 6, 1868.
76,710	Buercky, John, assignor to self and John C. Bandtel, Overpeck's Station, Ohio. Broom	Apr. 14, 1868.
74,662	Buff, Harrison T., Franklin, Ind. Rotary steam engine	Feb. 18, 1868.
	Buffalo Dental Manufacturing Company. (*See* Hayes, George E., assignor.)	
	Same.....same.	
84,678	Buffington, A. R., U. S. Army. Mechanical movement	Dec. 8, 1868.
82,487	Buffington, Henry T., jr., Buffalo, N. Y. Fagot for beam	Sept. 29, 1868.
76,048	Buffum, Charles, Lynn, Mass. Application of an inner sole to a last	Mar. 31, 1868.
	Buford, B. D. (*See* Underwood, F. J., assignor.)	
73,871	Bugbee, Francis M., Kingsville, Ohio. Button	Jan. 28, 1868.
82,204	Bugbee, H. K., Williamstown, N. J. Portable platform-scale	Sept. 15, 1868.
84,169	Bugh, C. J., Eau Claire, Wis. Tanning process	Nov. 17, 1868.
82,488	Buhrer, Jacob, Munich, Bavaria. Drying and burning kiln. (Patented in England Feb. 28, 1867)	Sept. 29, 1868.
79,546	Bulgin, Edwin G., Vienna, N. J. Cheese safe, gauge, and cutter	July 7, 1868.
81,475	Bulgin, William G., Vienna, N. J. Machine for sawing lath	Aug. 25, 1868.
72,970	Bull, Daniel, Amboy, Ill. Table-leaf support	Jan. 7, 1868.
2,961	Bull, George M., New Baltimore, N. Y. Tobacco pipe.....(Design)	Mar. 31, 1868.
80,130	Same.....same	July 21, 1868.
83,455	Bull, Henry C., and Samuel T. Shelley, Louisville, Ky. Hose coupling	Oct. 27, 1868.
84,992	Same.....Steam-engine throttle valve	Dec. 15, 1868.
85,427	Bull, James, Galesburg, Ill. Scissors. (Antedated Dec. 19, 1868)	Dec. 29, 1868.
81,875	Bull, Joseph K., Buckingham, Iowa. Grain binder	Sept. 8, 1868.
2,992	Bullard, E. W., Barre, Mass. Hay spreader.....(Reissue)	June 16, 1868.
74,794	Bullard, E. W., assignor to self and J. W. Jenkins, Barre, Mass. Horse rake	Feb. 25, 1868.
74,663	Bullard, Henry, Middletown, Conn. Sirup pitcher	Feb. 18, 1868.
79,726	Same.....Handle for tea and coffee pots	July 7, 1868.
77,250	Bullard, Isaac, Dedham, Mass. Vegetable slicer	Apr. 28, 1868.
73,773	Bullard, Libertine, Marlboro, Mass. Shoe	Jan. 28, 1868.
75,853	Bullivant, Thomas, England. Method of hanging window sash	Mar. 24, 1868.
	Bullock, Charles K. (*See* Custer, Christian, assignor.)	
77,868	Bullock, John H., Gold Hill, Nevada. Shoe for amalgamator	May 12, 1868.
83,920	Bullock, William S., and Hugh Hanigan, Wilmington, Del. Dumping wagon	Nov. 10, 1868.
72,971	Bundel, Henry, and James Williams, Dayton, Ohio. Seed-planting machine	Jan. 7, 1868.
78,051	Bundy, Jonathan, West Liberty, Iowa. Mode of construction of peat cars	May 19, 1868.
79,947	Bunker, Isaac N., Weymouth, Mass. Steering-wheel stop	July 14, 1868.
82,489	Bunker, William G., Portage, Wis. Trace buckle	Sept. 29, 1868.
78,052	Bunnell, Isaac S., assignor to self, Otis and George W. Reynolds, Carbondale, Pa. Corn husker	May 19, 1868.
73,774	Bunnell, J. H., New York, N. Y. Telegraph repeater	Jan. 28, 1868.
	Bunnell, L. S., *et al.* (*See* Weaver, Joel D., assignor.)	
81,746	Bunsen, George C., Belleville, Ill. Door holder	Sept. 1, 1868.
	Buntin, George. (*See* Briggs, Lucius, assignor.)	
85,273	Bunton, William, Pittsburg, and John Davis, Birmingham, Pa. Method of rolling bars of metal	Dec. 29, 1868.
	Burbank, Charles W., and Howard M. Thompson. (*See* Thompson & Burbank.)	
83,829	Burbank, Robert I., Boston, Mass. Vegetable cutter for animal food	Nov. 10, 1868.
85,067	Same.....Machine for cutting hay, straw, and vegetables	Dec. 22, 1868.
83,130	Burch, Lyman D., Sherburne, N. Y. Plow point	Oct. 20, 1868.
	Burch, T., and G. T. Woodbury. (*See* Woodbury & Burch.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78,183	Bureh, William C., Glouceester, N. J. Hand drill	May 26, 1868.
78,256	Bureham, F. J., assignor to self and L. S. Blake, Raeine, Wis. Process of tanning hides and skins	May 26, 1868.
74,984	Burehard, Anson, New Brenton, Ill. Double hoe	Mar. 3, 1868.
82,918	Burehard, John A., Beloit, Wis. Corn planter	Oet. 13, 1868.
79,201	Burchard, John A., and Riehard Tattershall, Beloit, Wis. Gate. (Antedated Feb. 12, 1868)	June 23, 1868.
80,271	Burehardt, Charles T., New York, N. Y. Car eoupling	July 28, 1868.
	Burdett, Paris & Co. (*See* Paris, Daniel E., assignor.)	
76,299	Burdge, J. E., assignor to A. C. Brown, Cineinnati, Ohio. Spinning maehine	Apr. 7, 1868.
	Burdge, J. E., and David A. Seott. (*See* Seott & Burdge.)	
84,087	Burdick, J. M., Ilion, N. Y. Hay spreader	Nov. 17, 1868.
78,924	Burdiek, Norman, assignor to self, Jacob H. Shear, and Joseph Packard, Albany, N. Y. Cupola furnaee	June 16, 1868.
84,730	Burdiek, Orrin H., assignor to self and David M. Osborne, Albany, N. Y. Harvester rake	Dec. 8, 1868.
77,955	Burdiek, S. P., New York, N. Y. Buekle	May 19, 1868.
85,428	Burditt, William and George H., Boston, Mass. Drive-well	Dee. 29, 1868.
83,598	Burgan, B. S., Congress, Ohio. Horse hay fork	Nov. 3, 1868.
	Burgee, Singleton F., and Horatio N. Gambrill. (*See* Gambrill & Burgee.) (Extension.)	
	Same.....same.....(Disclaimer.)	
73,294	Burger, John, assignor to self and Albert Manvel, Elizabethport, N. J. Apparatus for raising sunken vessels. (Antedated Jan. 4, 1868)	Jan. 14, 1868.
77,450	Burger, Lewis, assignor to self and Isaac L. Hamburger, Springfield, Ill. Door directory	May 5, 1868.
82,289	Burgess, Benjamin F., Norvell, Mich. Saw	Sept. 22, 1868.
80,330	Burgess, B. F., jr., Boston, Mass. Window serubber	July 28, 1868.
83,599	Burgess, C. T., England. Harvester rake. (Patented in England September 8, 1866)	Nov. 3, 1868.
73,230	Burgess, H. W., Ithaca, N. Y. Strap holder	Jan. 14, 1868.
79,547	Burgess, William D., and George W. Zeigler, Maumee, Ohio. Plow	July 7, 1868.
	Burgie, H. C., and J. L. Collins. (*See* Collins & Burgie.)	
81,980	Burhaus, Albert, assignor to self and Henry H. Burhaus, Albany, N. Y. Potato digger	Sept. 8, 1868.
	Burhenne, Gustavus, and T. M. Rusehhaupt. (*See* Rusehhaupt & Burhenne.)	
72,972	Burk, H. C., Mineral Point, Ohio. Meehanieal movement	Jan. 7, 1868.
80,131	Burk, Thomas L., Greensburg, Ind. Fenee	July 21, 1868.
76,396	Burke, John, Brooklyn, N. Y. Musieal return-ball	Apr. 7, 1868.
73,576	Burke, T. J., Chicago, Ill. Conerete-briek press	Jan. 21, 1868.
75,518	Burke, William H., assignor to self and James E. Wilson, Brighton, Mass. Car brake	Mar. 17, 1868.
81,594	Burkhart, J. W., Cameron, Mo. Hand spinning maehine	Sept. 1, 1868.
74,664	Burkholder, Cornelius H., York Springs, Pa. Fly net	Feb. 18, 1868.
80,386	Burleigh, Charles, Fitehburg, Mass. Drill holder	July 28, 1868.
80,387	Same.....Drilling-maehine earriage	July 28, 1868.
80,706	Burling, George W., Trenton, N. J. Stove leg	Aug. 4, 1868.
79,727	Burlingame, Wm. L., Leslie, Mieh. Ladder	July 7, 1868.
81,860	Burnap, John A., Albany, N. Y. Pulley	Sept. 1, 1868.
	Burnap, William H. (*See* Maris, Andrew J., assignor.)	
80,272	Burnett, Henry K., Poughkeepsie, N. Y. Harvester	July 28, 1868.
75,358	Burnett, James H., jr., Newark, N. J. Trunk	Mar. 10, 1868.
74,297	Burnett, Nelson W., South Hadley, Mass. Pattern square	Feb. 11, 1868.
	Burnett, William, San Franciseo, Cal., and John Absterdam, New York, N. Y. Use of fusible disks in steam boilers.....(Extension)	Feb. 10, 1868.
78,053	Burnham, Charles, Philadelphia, Pa. Gas heater	May 19. 1868.
84,855	Burnham, Edward E., assignor to self and George Brown, Gloucester, Mass. Mode of preserving bait for fishing	Dec. 15, 1868.
	Burnham, E. G., and A. M. White. (*See* White & Burnham.)	
82,689	Burnham, John, Batavia, Ill. Truss	Oct. 6, 1868.
74,044	Burnham, John, assignor to self and David L. Hough, La Salle, Ill. Cultivator	Feb. 4, 1868.
78,257	Burnham, John W., and Wilson Conlon, Middletown Point, N. J. Potato digger	May 26, 1868.
75,121	Burnham, N. F., York, Pa. Water wheel	Mar. 3, 1868.
80,804	Burnham, Oramus W., Hillsborough, N. Y., and Henry F. Burnham, Aeworth, N. H. Elevator for sirup pans. (Antedated Mareh 9, 1868)	Aug. 11, 1868.
	Burnham, Perez B. (*See* Mitehell, John B., assignor.)	
	Burnham, Samuel C. (*See* Harrison, Andrew J., assignor.)	
77,451	Burns, Daniel, Bay City, Mieh. Combined low-water detector and safety valve	May 5, 1868.
83,921	Burns, E. S., La Crosse, Wis. Tatting-shuttle winder	Nov. 10, 1868.
85,429	Burns, Jabez, New York, N. Y. Kettle for eulinary purposes	Dee. 29, 1868.
78,512	Burns, James, assignor to self, Richard MeCullough, and John Fanning, New York, N. Y. Maehine for shaving serews	June 2, 1868.
83,600	Burns, James W., Medway, Ohio. Letter paekage	Nov. 3, 1868.
81,134	Burns, Paul M., Freetown, Mass. Wash boiler	Aug. 18, 1868.
	Burr, Bartlett. (*See* Jenkyn, Thomas, assignor.)	
80,132	Burr, Henry A., Brooklyn, N. Y. Table for eompress	July 21, 1868.
	Burr, Henry C., and Jaeob B. Smith. (*See* Smith & Burr.)	
76,397	Burr, H. G., Minneapolis, Minn. Hot-air furnaee	Apr. 7, 1868.
	Burr, Milo S. (*See* La Forme, J., assignor.) .....(Reissue.)	
81,135	Burr, Nelson G., Homer, N. Y. Carriage top	Aug. 18, 1868.
80,707	Burr, Remus D., Kingsboro, N. Y. Glove	Aug. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
74, 494	Burr, Sanford S., Dedham, Mass. Folding bedstead	Feb. 18, 1868.
	Burridge, W. H., and C. Leavitt. (*See* Leavitt & Burridge.)	
	Burritt, Joseph C., and William H. Akins. (*See* Akins & Burritt)....(Extension.)	
83, 922	Burrough, Edward E., Baltimore, Md. Apparatus for making extracts and essences	Nov. 10, 1868.
85, 208	Burrow, Walter, Great Britain. Rack for bottles	Dec. 22, 1868.
3, 214	Burrows, Fred. W., New York, N. Y. Tobacco pipe .....(Design)..	Nov. 3, 1868.
74, 985	Burrows, Henry, Lowell, Mass. Apparatus for dyeing piece goods	Mar. 3, 1868.
85, 430	Burrows, William, New York, N. Y. Combined beam compass and calipers	Dec. 29, 1868.
	Bursoley, Barnabas. (*See* Perkins, Charles B., assignor.)	
78, 574	Burson, James, Yates, Ill. Paddle wheel. (Antedated May 23, 1868)	June 2, 1868.
83, 923	Burson, W. W., Rockford, Ill. Automatic gate. (Antedated Oct. 31, 1868)	Nov. 10, 1868.
79, 202	Burson, W. W., and John Nelson, Rockford, Ill. Knitting machine. (Antedated June 12, 1868)	June 23, 1868.
85, 274	Burt, George E., Harvard, Mass. Harvester	Dec. 29, 1868.
85, 275	Same.....same	Dec. 29, 1868.
	Same.....Machine for cleaning and assorting bristles .....(Extension)..	Feb. 6, 1868.
74, 986	Same.....Mowing machine	Mar. 3, 1868.
3, 220	Burt, George E., assignor through mesne assignments to Nathan H. Spofford, Boston, Mass. Machine for cleaning and assorting bristles. (Division A, reissue)..	Dec. 1, 1868.
3, 221	Same.....same .....(Division B, reissue.)	
84, 257	Burt, George E., and Edwin A. Hildreth, Harvard, Mass. Hay spreader	Nov. 24, 1868.
84, 475	Burt, George E., and Stanley B. Hildreth, Harvard, Mass. Ratchet attachment for harvesters	Dec. 1, 1868.
80, 594	Burt, John, Sturgis, Mich. Skein-setter for axles	Aug. 4, 1868.
82, 592	Same.....Potato digger	Sept. 29, 1868.
85, 276	Burt, John, assignor to self and Willett M. Slocum, Fall River, Mass. Wrench.	Dec. 29, 1868.
	Burtis, Daniel H. (*See* Sangster, James, assignor.)	
	Same.....same.	
83, 251	Burtis, John H., Brooklyn, N. Y. Wash boiler	Oct. 20, 1868.
	Same.....(*See* Staples, M. W., assignor).....(Reissue.)	
	Same.....(*See* Sanders, A. K., assignor.)	
83, 601	Burtis, William, New York, N. Y. Propeller shaft	Nov. 3, 1868.
76, 598	Burton, Allen, Chicago, Ill. Post-hole auger	Apr. 14, 1868.
75, 854	Burton, A. G., Rochester, N. Y. Lock for drawers, &c	Mar. 24, 1868.
81, 057	Burton, Bethel, Brooklyn, N. Y. Manufacture of water-proof percussion caps, &c.	Aug. 11, 1868.
81, 058	Same.....Priming metallic cartridges	Aug. 11, 1868.
81, 059	Same.....Breech-loading fire-arm	Aug. 11, 1868.
74, 665	Burton, C. S., Seneca County, Ohio. Staging	Feb. 18, 1868.
81, 747	Burton, Henry, Richview, Ill. Beehive	Sept. 1, 1868.
75, 359	Burton, J. N., Senoia, Ga. Hat buckle	Mar. 10, 1868.
80, 388	Burton, Oscar F., Jersey City, N. J. Truck	July 28, 1868.
77, 452	Busehman, Victor H., Baltimore, Md. Rack for billiard cues. (Antedated April 25, 1868)	May 5, 1868.
76, 991	Busey, W. G., Georgetown, D. C. Fertilizer	Apr. 21, 1868.
	Bush, C. T., *et al.* (*See* Deitz, John M., assignor.)	
76, 156	Bush, Franklin, assignor to self and Jeptha Garrard, Cincinnati, Ohio. Still	Mar. 31, 1868.
	Bush, P. P., and George T. Palmer. (*See* Palmer & Bush.)	
	Bush, Samuel, and L. W. Hanson. (*See* Hanson & Bush.)	
83, 252	Bush, W. E., Damascus, Pa. Car coupling	Oct. 20, 1868.
85, 277	Bushby, Thomas, England. Pill-making machine. (Antedated Dec. 17, 1868)	Dec. 29, 1868.
83, 830	Bushnell, C. R., St. Anthony's Falls, Minn. Head block	Nov. 10, 1868.
79, 948	Bushnell, Edwin L., Poughkeepsie, N. Y. Harvester-cutter sharpener	July 14, 1868.
80, 805	Bushnell, Ensign A., Horicon, Wis. Machine for sharpening horseshoe calks. (Antedated July 18, 1868)	Aug. 11, 1868.
	Bushnell, S., and T. D. McCall. (*See* McCall & Bushnell.)	
75, 360	Busse, Henry W., Chicago, Ill. Combined knob latch and door lock	Mar. 10, 1868.
84, 258	Bussell, Erastus T., Indianapolis, Ind. Car spring	Nov. 24, 1868.
76, 711	Busser, Jacob, Philadelphia, Pa. Shifting-bucket propeller	Apr. 14, 1868.
77, 581	Bussey, Esek, Troy, N. Y. Oven	May 5, 1868.
74, 495	Bussey, John, assignor to self and John F. Gunkel, Cincinnati, O. Corkscrew	Feb. 18, 1868.
76, 300	Bussey, W. C., San Francisco, Cal. Combination lock for doors	Apr. 7, 1868.
	Bussey, William C., and Charles Fleischel. (*See* Fleischel & Bussey.)	
81, 337	Butler, A. L., Ripon, Wis. Farm gate	Aug. 25, 1868.
83, 131	Butler, Beauman, and Charles F. Ramsay, St. Johnsbury, Vt. Saw frame	Oct. 20, 1868.
	Butler, Edward, *et al.* (*See* Swafford, Butler & Hess.)	
	Butler, H. A., *et al.* (*See* Biggs, Granger & Butler.)	
74, 748	Butler, Henry H., Troy, Mich. Farm gate	Feb. 25, 1868.
84, 259	Butler, John, Brooklyn, N. Y. Method of generating fixed gases from hydrocarbon vapors	Nov. 24, 1868.
74, 987	Butler, J. H., Scottsville, Ky. Rake	Mar. 3, 1868.
74, 887	Butler, Manlove, Vernon, Ind. Animal trap	Feb. 25, 1868.
85, 431	Butler, William A., New York, N. Y. Automatically-operating pan for water closets	Dec. 29, 1868.
	Butler, W. H., and Wm. McFarland. (*See* McFarland & Butler.)	
73, 499	Butterfield, George, and A. G. Treadwell, Boston, Mass. Chair-seat supporter	Jan. 21, 1868.
78, 575	Butters, J. M., North Fryeburg, Maine. Clothes dryer	June 2, 1868.
84, 409	Butterworth, William H., Trenton, N. J. Hay spreader	Nov. 24, 1868.
78, 513	Button, Elijah, Annapolis, Md. Cork extractor	June 2, 1868.
76, 599	Butts, Henry L., Norwich, Conn. File for grooving rolls. (Antedated March 28, 1868)	Apr. 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Butts, Isaac H. (*See* Banister & Rowell, assignors.)	
81,876	Butts, J. H., Stroudsburg, Pa. Medical compound	Sept. 8, 1868.
75,361	Butts, J. J., and A. S. Stone, Plainview, Minn. Universal joint	Mar. 10, 1868.
	Butz, Alfred. (*See* Hammer, George, assignor.)	
74,298	Butz, Edward M., Allegheny, Pa. Corn planter	Feb. 11, 1868.
77,956	Butz, John P., and Abner McFarland, Enterprise, Ind. Gate	May 19, 1868.
79,203	Buxton, F., and George Crosby, Lake Village, N. H. Edge plane for boots, &c.	June 23, 1868.
79,310	Buynitzky, Edwin L., Russia. Wash boiler	June 30, 1868.
	Buynitzky, Stephen N., and Julius Petsch. (*See* Petsch & Buynitzky.)	
76,992	Buzby, Albert G., Philadelphia, Pa. Steam safety valve	Apr. 21, 1868.
78,258	Same.....Copying ink	May 26, 1868.
78,422	Same.....Railroad rail	June 2, 1868.
83,759	Same.....Substitute for a billiard table	Nov. 3, 1868.
	Same.....(*See* Sparks, J. C., assignor.)	
82,082	Buzzell, Azro, West Fairlee, Vt. Carriage spring	Sept. 15, 1868.
3,205	Same.....same.....(Reissue)	Nov. 24, 1868.
82,690	Buzzell, John G., assignor to self and Charles Cummings, Lynn, Mass. Carriage wheel	Oct. 6, 1868.
	Byers, S. C., and J. Albertson. (*See* Albertson & Byers.)	
74,496	Byler, W. P., Leavenworth, Kansas. Combined corn planter, sower, revolving harrow, and cultivator	Feb. 18, 1868.
80,907	Byrkit, A. R. and C. S., Fairfield, Iowa. Sewing machine	Aug. 11, 1868.
75,855	Byrnes, James W., Washington, D. C. Composition pavement for streets	Mar. 24, 1868.
	Byrnes, William M. (*See* Warren, Gardner, assignor.)	
73,872	Cabell, S. G., Quincy, Ill. Preventing incrustation of steam boilers	Jan. 28, 1868.
80,450	Cabell, S. G., assignor to self and Peter T. Abell, Quincy, Ill. Track clearer for railroads	July 28, 1868.
83,924	Cabell, S. G., assignor to Flora B. Cabell, Quincy, Ill. Fluting machine	Nov. 10, 1868.
80,273	Cabourg, T., France. Boot-soling machine	July 28, 1868.
	Cadey, Chauncey M., *et al.* (*See* Reidy, Frank W., assignor.)	
80,856	Caduc, Philip, San Francisco, and W. H. De Vahn, Sacramento, Cal. Street pavement	Aug. 11, 1868.
77,714	Cadwell, Caleb, Waukegan, Ill. Harvester	May 12, 1868.
	Cadwell, O. S., jr., and W. S. McNeil. (*See* McNeil & Cadwell.)	
82,380	Cady, Benjamin F., Chittenango, N. Y. Sled knee	Sept. 22, 1868.
	Cady, C. J., and D. McNeely. (*See* McNeely & Cady.)	
83,456	Cagwin, Francis L., Portland, Maine. Steam generator	Oct. 27, 1868.
77,453	Cahill, George, assignor to Isaac G. Johnson, J. F. Hunter, and Peter P. Keller, New York, N. Y. Machine for tapping and drilling	May 5, 1868.
83,925	Cahill, M. S., Boston, Mass. Bronze dressing for leather	Nov. 10, 1868.
2,874	Cahoon, Charles W., Portland, Maine. Lamp.....(Reissue)	Feb. 25, 1868.
80,133	Same.....same	July 21, 1868.
83,457	Same.....Steam generator	Oct. 27, 1868.
84,993	Same.....Lamp burner	Dec. 15, 1868.
78,423	Caine, Daniel, Battle Creek, Mich. Machine for sowing fertilizers and seeds	June 2, 1868.
83,360	Cajar, Frederick, assignor to self and James Anderson, Manhattanville, N. Y. Spring	Oct. 27, 1868.
76,157	Calahan, Edward A., Brooklyn, N. Y. Telegraphic indicator. (Antedated March 23, 1868)	Mar. 31, 1868.
76,993	Calahan, Edward A., assignor to the Gold and Stock Telegraph Company, Brooklyn, N. Y. Printing telegraph	Apr. 21, 1868.
75,362	Caldera, L., and L. Montu, Italy. Piano-forte	Mar. 10, 1868.
81,748	Caldwell, A. B., assignor to self and Jacob Pinkerton, Syracuse, N. Y. Journal box	Sept. 1, 1868.
73,775	Caldwell, J., Chillicothe, Ohio. Vegetable cutter	Jan. 28, 1868.
74,988	Caldwell, John, Providence, R. I. Lantern	Mar. 3, 1868.
73,433	Caldwell, John K., Allegheny City, Pa. Brick-drying apparatus	Jan. 21, 1868.
75,243	Same.....Brick-carrying car	Mar. 10, 1868.
	Calely, E. L., and J. R. Rose. (*See* Rose & Calely).....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
81,595	Calhoun, A. Harvey, and George W. Collins, West Lebanon, Pa. Spoke tenoning machine	Sept. 1, 1868.
	Calhoun, Charles W., and John H. Gray. (*See* Gray & Calhoun.)	
	Calhoun, D. P. (*See* Fowler, Herbert E., assignor.)	
78,514	Calkins, James, New York, N. Y. Preserving wood	June 2, 1868.
81,749	Same.....Lamp	Sept. 1, 1868.
	Call, Amos. (*See* Bruce, Rufus N., assignor.)	
80,331	Callaghan, John, assignor to self and Job Newton, St. Louis, Mo. Track clearer for railroads	July 28, 1868.
74,888	Callaghon, Cornelius, Great Britain. Breech-loading fire-arms	Feb. 25, 1868.
79,949	Callahan, W. P., Dayton, Ohio. Force pump for hydraulic presses	July 14, 1868.
80,908	Callan, James, Bridgeport, Conn. Needle-sharpening attachment for sewing machines	Aug. 11, 1868.
84,679	Callender, Mills L., assignor to self and Sidney L. Holdrege, New York, N. Y. Gas retort	Dec. 8, 1868.
	Callender, W. H. D., *et al.* (*See* Schneider, P. F., assignor.)	
74,749	Calley, Ela, Franklin, N. H. Mode of attaching circular saws to their mandrels	Feb. 25, 1868.
76,158	Calvert, Frank, assignor to self and Stephen W. Huse, Lowell, Mass. Hair picker	Mar. 31, 1868.
79,103	Calvert, Moses, Marshall, Ohio. Churn	June 23, 1868.
82,919	Cambensy, T. A., Chicago, Ill. Hollow window-cross-bar of sheet iron	Oct. 13, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
88,689	Cambridge, William C., assignor to self and J. T. Griffin, England. Grate bar for furnaces	Nov. 3, 1868.
	Cameron, J. C. (*See* Cummings, David, jr., assignor.)	
78,259	Cameron, W. E., Green Island, N. Y. Folding stool	May 26, 1868.
85,278	Camfield, Hampton R., assignor to self, John H. Fitzsimmons, and George Boyd, Susquehanna Depot, Pa. Steam ports of steam engines	Dec. 29, 1868.
82,593	Cammerer, David, Cincinnati, Ohio. Beer cooler	Sept. 29, 1868.
	Cammeyer, Wm. H. (*See* Lewis, Samuel, assignor.)	
	Same.....same.	
74,497	Camp, B. J., Marion, Ohio. Scroll saw	Feb. 18, 1868.
3,126	Same.....same.....(Reissue)	Sept. 22, 1868.
82,381	Camp, John, assignor to self and Henry Marshall, Olney, Ill. Lifting jack	Sept. 22, 1868.
	Camp, Tertius L., and Isaac H. West. (*See* West & Camp.)	
81,596	Campbell, A., Oxford, Ind. Animal trap	Sept. 1, 1868.
74,299	Campbell, Abner, assignor to self and James Whitehill, Frederick, Md. System of indexing for records	Feb. 11, 1868.
78,424	Campbell, Alexander, Oxford, Ind. Corn cultivator	June 2, 1868.
	Campbell, Andrew Dwight. (*See* Ward, Joseph E., assignor.)	
85,279	Campbell, Angus, Downieville, Cal. Derrick	Dec. 29, 1868.
	Campbell, Benjamin F. (*See* Whittier, Charles, assignor.)	
	Same.....same.	
80,595	Campbell, Daniel, assignor to Henry and Robert H. Seymour, Elizabeth, N. J. Pruning shears	Aug. 4, 1868.
85,280	Campbell, Duncan McDougald, and John Stevens, Oswego, N. Y. Marble-sawing machine	Dec. 29, 1868.
	Campbell, Edward B., *et al.* (*See* Ackerman, Campbell & Golden.)	
	Campbell, Harvey. (*See* Baker, David B., assignor.)	
83,036	Campbell, James, Newtown, Ill. Plow	Oct. 13, 1868.
73,776	Campbell, James, Peoria, Ill. Ventilating mill stones	Jan. 28, 1868.
	Campbell, James, *et al.* (*See* Schlingman, Glander & Campbell.)	
	Campbell, James, and Joseph R. Jordan. (*See* Jordan & Campbell.)	
73,950	Campbell, John A., assignor to self and David Sharp, South Boston, Mass. Car brake	Feb. 4, 1868.
73,434	Campbell, J. C. and M. V., Syracuse, N. Y. Compound for pavements	Jan. 21, 1868.
	Campbell, John H., and William McFarland. (*See* McFarland & Campbell.)	
73,777	Campbell, John S., Newton, N. J. Check-rein hook	Jan. 28, 1868.
84,410	Campbell, John T., Altoona, Pa. Nut planer	Nov. 24, 1868.
82,290	Campbell, Lawrence, Marengo, Mich. Pruning and hedge shears	Sept. 22, 1868.
81,249	Campbell, Manly T., Lima, Pa. Clothes dryer	Aug. 18, 1868.
84,088	Campbell, Robert M., Cambridgeport, Mass. Sash supporter	Nov. 17, 1868.
2,908	Campbell, Robert R., assignor to the Lowell Manufacturing Company, Lowell, Mass. Carpet pattern.....(Design)	Feb. 4, 1868.
2,909	Same.....same.....(Design)	Feb. 4, 1868.
3,104	Same.....same.....(Design)	July 14, 1868.
79,633	Campbell, Rufus and Albion P., Hillsdale, Mich. Brick machine	July 7, 1868.
81,597	Campbell, S. O., Leavenworth, Kansas. Corn planter	Sept. 1, 1868.
73,778	Campbell, S. P., Quincy, Mass. Button for carriage curtains	Jan. 28, 1868.
74,300	Campbell, Thomas A., New York, N. Y. Machine for oiling wool	Feb. 11, 1868.
77,869	Campbell, W. B., Abington, Iowa. Rotary steam engine	May 12, 1868.
78,425	Campbell, Wesley B., assignor to self and Harrison Smith, Abington, Iowa. Rotary steam engine	June 2, 1868.
81,598	Canary, Thomas L., Brownsburg, Ind. Base-ball tally board	Sept. 1, 1868.
	Candee & Company. (*See* Elliott, Lewis, jr., assignor.)	
78,576	Candee, A. B., and L. S. Taylor, assignors to Ætna Nut Company, Southington, Conn. Die for making axle nuts	June 2, 1868.
74,301	Candee, C. E., Jersey City, N. J. Paper clip	Feb. 11, 1868.
77,454	Candee, George, Berlin Heights, Ohio. Feed-water heater for steam generators	May 5, 1868.
	Candee, L., & Company. (*See* Hotchkiss, H. L., assignor.)	
82,799	Canfield, F. P., Brighton, Mass. Hoistingapparatus	Oct. 6, 1868.
80,134	Canter, William, assignor to Samuel and Alexander Reinstein, New York, N. Y. Machine for manufacturing chenille	July 21, 1868.
74,302	Canterbury, John M., Mexico, Mo. Field marker	Feb. 11, 1868.
	Cantine, Lewis H., *et al.* (*See* Manley, Almon D., assignor.)	
79,634	Capen, E. S., assignor to self and P. Blaisdell, Worcester, Mass. Loose pulley	July 7, 1868.
75,363	Capewell, George J., West Cheshire, Conn. Lamp burner	Mar. 10, 1868.
76,600	Same.....Machine for attaching buttons to fabrics. (Antedated Apr. 9, 1868)	Apr. 14, 1868.
79,635	Same.....Glass-pressing machine	July 7, 1868.
74,888	Capps, Charles R., Illiopolis, Ill. Animal trap	Feb. 25, 1868.
84,856	Capron, Bork, Lee Center, N. Y. Roofing composition	Dec. 15, 1868.
77,251	Capron, E. P. H., Springfield, Ohio. Farm gate	Apr. 28, 1868.
78,054	Same.....Road scraper	May 19, 1868.
82,594	Same.....Ladder	Sept. 29, 1868.
76,888	Capron, E. P. H., assignor to self, George H. Gerrish, and D. B. Rich, Springfield, Ohio. Brick machine	Apr. 21, 1868.
	Capron, E. P. H. and George V. (*See* Hubbell, Abijah, assignor.)	
78,055	Carbnow, Alexander, Potsdam, N. Y. Bolt cutter	May 19, 1868.
81,250	Card, Edward, North Providence, R. I. Shoe buttoner. (Antedated Aug. 7, 1868)	Aug. 18, 1868.
83,458	Same.....Providence, R. I. Double-oven cooking stove	Oct. 27, 1868.
	Card, E. S., *et al.* (*See* Weed, Henry J., assignor.)	
	Cardwell, Perrin H., and James S. Lester. (*See* Lester & Cardwell.)	
	Carey, Henry C., *et al.* (*See* Moxey, John G., assignor.)	
84,533	Carey, Isaac, Warwick, N. Y. Water meter	Dec. 1, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Carey, Jason S., and Jason McVay. (*See* Serviss, Wm., assignor.)	
83,926	Carey, Stephen Q., Waxahatchie, Texas. Hay and cotton press	Nov. 10, 1868.
81,338	Carey, Wilson W., assignor to self and George W. Harris, Lowell, Mass. Tool for turning moldings	Aug. 25, 1868.
75,856	Cargill, W. B., New Haven, Conn. Corset clasp	Mar. 24, 1868.
78,056	Same.....Fastening for corsets	May 19, 1868.
73,873	Cargill, W. B., assignor to self and J. Strouse & Company, New Haven, Conn. Fastening for corsets	Jan. 28, 1868.
79,950	Carkeet, James H., Montgomery, Ala. Double-acting hinge	July 14, 1868.
83,760	Same.....Butt hinge	Nov. 3, 1868.
81,750	Carkhuff, Dennis W., Lambertville, N. J. Device for operating wagon brakes	Sept. 1, 1868.
84,857	Carkhuff, R., assignor to self and T. H. Wilson, Lewisburg, Pa. Harvester rake. (Antedated Dec. 3, 1868)	Dec. 15, 1868.
	Carl, J., and John Tipton. (*See* Tipton & Carl.)	
80,909	Carleton, William, Boston, Mass. Lamp burner	Aug. 11, 1868.
	Same.....(*See* Merrill, Rufus S., assignor.)	
	Same.....(*See* Brimblecom, John W., assignor.)	
	Same.....(*See* Fowle, Joseph W., assignor.)	
	Carleton, William, and R. S. Merrill. (*See* Merrill & Carleton.)	
	Same.....(*See* Reichmann, Christian, assignor.).....(Reissue.)	
85,281	Carlin, John, New York, N. Y. Game called Vineo	Dec. 29, 1868.
	Carlisle, John, and P. F. Kessler. (*See* Kessler & Carlisle.)	
73,577	Carll, John F., Brooklyn, N. Y. Sand pump for oil wells	Jan. 21, 1868.
	Carlon, John, & Company. (*See* Waterman, L. B., assignor.)	
84,858	Carlton, James, Walla-Walla, Wash. Ter. Churn	Dec. 15, 1868.
	Carman, Albro R. (*See* Claflin, Frank O., assignor.)	
72,973	Carmichael, Peter D. M., Le Roy, N. Y. Match safe	Jan. 7, 1868.
74,303	Carmichael, Thomas W., Indianapolis, Ind. Automatic fan, table caster, and lamp stand	Feb. 18, 1868.
83,361	Carnell, George, Samuel Williams, and William Ellis, Philadelphia, Pa. Mill for tempering clay	Oct. 27, 1868.
76,049	Carney, Andrew, New York, N. Y. Hose	Mar. 31, 1868.
75,857	Carpenter, George W., Jarvis, Ind. Combined weather strip and door alarm	Mar. 24, 1868.
82,083	Carpenter, Calvin, assignor to H. H. Wolcott, Astoria, N. Y. Lubricating material	Sept. 15, 1868.
74,196	Carpenter, Calvin, jr., assignor to H. H. Wolcott, Astoria, N. Y. Hydro-carbon burner	Feb. 11, 1868.
81,136	Carpenter, Car, Buffalo, N. Y. Method of generating gas from petroleum	Aug. 18, 1868.
81,137	Same.....Apparatus for heating railroad cars	Aug. 18, 1868.
	Same.....(*See* Sloan, Wm. M., assignor.)	
73,874	Carpenter, Charles F., Louisville, Ky. Reducing lead ores	Jan. 28, 1868.
74,498	Carpenter, Daniel H., Hector and Hiram L. Slaght, Lodi, N. Y. Churn	Feb. 18, 1868.
77,800	Carpenter, Edward M., Middletown, N. Y. Suspension bridge	May 12, 1868.
84,680	Carpenter, Elijah, Carbondale, Pa. Weather strip	Dec. 8, 1868.
	Carpenter, F., *et al.* (*See* Weed, Henry J., assignor.)	
83,459	Carpenter, Henry, Brooklyn, E. D., N. Y. Peach basket. (Antedated Oct. 17, 1868)	Oct. 27, 1868.
	Carpenter, H. (*See* Riley, Wm., assignor.)	
	Carpenter, H. M., *et al.* (*See* Hoffman, Austin D., assignor.)	
	Carpenter, I., and F. Smith. (*See* Smith & Carpenter.)	
73,500	Carpenter, Newel, White Creek, Wis. Hop-press power	Jan. 21, 1868.
78,426	Carpenter, N. L., Natchez, Miss. Steam-boiler furnace	June 23, 1868.
76,159	Carpenter, R. W., Chicago, Ill. Coupler for organs, &c	Mar. 31, 1868.
73,076	Carpenter, Stephen D., Madison, Wis. Construction of lumber wagons	Jan. 7, 1868.
85,209	Same.....Grain binder	Dec. 22, 1868.
85,210	Same.....same	Dec. 22, 1868.
85,282	Same.....Revolving harrow and cultivator combined	Dec. 29, 1868.
	Carpenter, S. V. R. (*See* Osgood, James W., assignor.)	
	Carpenter, T. B. and J. E. (*See* Gerard, George L., assignor.)	
81,138	Carpenter, William, Fairbury, Ill. Braiding attachment for sewing machines	Aug. 18, 1868.
85,364	Same.....Cloth guide for sewing machines	Dec. 29, 1868.
73,501	Carpenter, Wm. D., assignor to self and J. Staekpole, South Berwick, Maine. Harvester	Jan. 21, 1868.
80,910	Carpenter, W. H., New York, N. Y. Form block for baskets	Aug. 11, 1868.
	Carr, Charles. (*See* Graham, W. A., assignor.)	
74,890	Carr, Charles F., and Gilbert F. Holbrook, Norwich, N. Y. Boot and shoe last	Feb. 25, 1868.
76,889	Carr, John, and Charles Lucop, England. Manufacture of meat and other biscuit. (Patented in England Jan. 18, 1868)	Apr. 21, 1868.
79,311	Carr, Matthew M., assignor to self and Thos. S. Carr, Ringwood, Ill. Wagon body	June 30, 1868.
83,037	Carr, Samuel E., Danville, Pa. Composition for forming building blocks, pavements, tiles, &c	Oct. 13, 1868.
77,582	Carr, William, Yellow Springs, Ohio. Burglar trap	May 5, 1868.
2,962	Carr, William S., New York, N. Y. Container for water closets.....(Design)	Mar. 31, 1868.
76,398	Same.....Water closet	Apr. 7, 1868.
79,728	Same.....same	July 7, 1868.
80,708	Same.....same	Aug. 4, 1868.
82,595	Same.....same	Sept. 29, 1868.
85,211	Carreer, John, Southington, Conn. Pocket cutlery	Dec. 22, 1868.
	Carrier, Asa L., and O. H. Reed. (*See* Reed & Carrier.)	
82,691	Carrier, Chauncey, Columbus, N. Y. Towel and clothes rack	Oct. 6, 1868.
81,339	Carrington, Elijah M., New York, N. Y. Self-cementing bands for holding bank notes, papers, &c	Aug. 25, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,301	Carrington, E. O. and Edwin, West Meriden, Conn. Machine for grinding and cutting down augers	Apr. 7, 1868.
80,911	Carroll, John C., Litchfield, Ill. Oil cup for steam engines	Aug. 11, 1868.
80,135	Carroll, Joseph F., South Boston, Mass. Artists' stretching frame	July 21, 1868.
76,601	Carroll, P. P., Washington, D. C. Swing cradle	Apr. 14, 1868.
83,460	Same.....Ironing table	Oct. 27, 1868.
	Carroll, W., and S. H. Rhoades. (*See* Rhoades & Carroll.)	
78,427	Carroll, William T., Medway, Mass. Ring for spinning machines	June 2, 1868.
84,795	Carse, Henry, Pittsburg, Pa. Bottling machine	Dec. 8, 1868.
85,068	Carsley, R. B., New York, N. Y. Alarm rug	Dec. 22, 1868.
74,197	Carson, James T., Greensboro, N. C. Belt punch. (Antedated Jan. 6, 1868)	Feb. 11, 1868.
81,340	Carson, John S., Brook Haven, Miss. Churn dasher	Aug. 25, 1868.
81,341	Same.....same	Aug. 24, 1868.
85,164	Carson, M. T., Cleveland, Ohio. Lubricating cup	Dec. 22, 1868.
74,795	Carson, R. A., and W. T. Peter, Briensburg, Ky. Cattle pricker	Feb. 25, 1868.
75,858	Carstens, Nicolaus and Charles, New York, N. Y. Weeding machine	Mar. 24, 1868.
79,810	Carter, Albert, Forestville, Conn. Machine for attaching spangles to hoops of skirts	July 14, 1868.
81,342	Carter, Benjamin F., Manville, R. I. Let-off mechanism for looms	Aug. 25, 1868.
82,692	Carter, Charles, Auburn, N. Y. Mortising machine	Oct. 6, 1868.
77,167	Carter, Charles P., Poughkeepsie, N. Y. Mechanical power	Apr. 28, 1868.
77,455	Same.....Implement for sharpening watch-wood	May 5, 1868.
73,295	Carter, Henry T., St. Louis, Mo. Car truck	Jan. 14, 1868.
79,104	Same.....Portland, Maine. Car truck for changing gauges	June 23, 1868.
83,602	Carter, James E., Portland, Maine. Non-freezing hydrant	Nov. 3, 1868.
	Carter, John B., *et al.* (*See* Ritz, Adam G., assigner.)	
	Carter, T. J., *et al.* (*See* Smith, Andrew, assignor.)	
	Carter, T. J., *et al.* (*See* Smith & Watson, assignors.)	
84,994	Carter, W., St. Louis, Mo. Bee house	Dec. 15, 1868.
73,163	Cartwright, James, Youngstown, Ohio. Process of mixing iron and steel	Jan. 7, 1868.
76,890	Cartwright, Joseph, assignor to self, James Cartwright, jr., and W. K. Lewis, South Reading, Mass. Sheet-metal can	Apr. 21, 1868.
	Cartwright, Peter, and William H. St. John. (*See* St. John & Cartwright.)	
82,490	Cartwright, Thomas, Davenport, Iowa. Fish net	Sept. 29, 1868.
73,296	Carusi, Samuel, Washington, D. C. Postage stamp	Jan. 14, 1868.
82,205	Carver, A. J., and E. P. Horn, Green Hill, Tenn. Hog-cholera medicine	Sept. 15, 1868.
74,796	Carver, C. H., Taunton, Mass. Churn	Feb. 25, 1868.
	Carver, C. R. (*See* Brown, Samuel, assignor.)	
84,534	Cary, Alanson, New York, N. Y. Furnace for desulphurizing steel and other wire	Dec. 1, 1868.
83,927	Cary, H. F., Boston, Mass. Machine for applying reinforcing patches to button-holes of collars	Nov. 10, 1868.
84,796	Cary, M., Racine, Wis. Medicine	Dec. 8, 1868.
76,994	Cary, Sheldon and Spencer C., New York, N. Y. Bottle stopper	Apr. 21, 1868.
80,806	Caryl, A. H., Groton, Mass. Hay spreader	Aug. 11, 1868.
	Case, A. N., and Horace Palmer. (*See* Palmer & Case.)	
78,428	Case, A. W., South Manchester, N. H. Thrust bearing	June 2, 1868.
80,136	Case, D. W., Garden City, Minn. Water wheel	July 21, 1868.
	Case, George M., *et al.* (*See* Corbit, Orput & Case.)	
77,252	Case, H. J., and F. I. Johnson. Washing machine	Apr. 28, 1868.
80,596	Case, Henry J., assignor to Henry Richardson, Auburn, N. Y. Clamping knives or cutters of mowing machines while being ground	Aug. 4, 1868.
	Case, James A., *et al.* (*See* Lowrey, Case & Chew.)	
81,066	Case, Jarvis, Lafayette, Ind. Corn planter	Aug. 18, 1868.
3,144	Case, Jarvis, assignor to self and Wm. Baldwin, Lafayette, Ind. Seed planter. (Reissue)	Oct. 6, 1868.
76,050	Case, J. B., Fletcher, Vt. Lever purchase	Mar. 31, 1868.
75,364	Case, John M., Athens, Ohio. Angular shaft coupling	Mar. 10, 1868.
82,084	Same.....Worthington, Ohio.....same	Sept. 15, 1868.
	Case, Newton. (*See* Waters, H. N., assignor.)	
84,535	Case, O., and B. D. Evans, Columbus, Ohio. Street lamp	Dec. 1, 1868.
	Case, Rufus D., *et al.* (*See* Barclay, John, assignor.)	
83,815	Case, Schuyler S., Marion, N. Y. Churn	Nov. 3, 1868.
	Cashe & Company. (*See* Davis, Lewis H., assignor.)	
81,251	Cashe, Joseph, assignor to Cashe & Company, Newark, Del. Link for endless chain for horse-powers	Aug. 18, 1868.
84,341	Casilear, George W., Washington, D. C. Method of preventing the alteration of numbers on bonds, &c	Nov. 24, 1868.
80,597	Cass, N. H., Henryville, Ind. Medical compound for treating hog cholera	Aug 4, 1868.
78,925	Cassard, George Carleton, assignor to self, L. and J. L. Cassard, Baltimore, Md. Lard cooler	June 16, 1868.
76,602	Cassel, John I., and William Quinn, Eaton, Ohio. Beehive	Apr. 14, 1868.
81,751	Cassel, Joseph B., Worcester Township, Pa. Lard press and sausage stuffer	Sept. 1, 1868.
85,212	Cassiday, Charles H., assignor to self, Wilson Jewell, and Joseph White, Philadelphia, Pa. Toy	Dec. 22, 1868.
74,989	Cassidy, John, Montezuma, Iowa. Sled brake	Mar. 3, 1868.
	Cassity, Martin P. M., administrator of Isaac H. Steer, deceased. (*See* Steer, Isaac H)	(Extonsion.)
74,304	Castellaw, Alfred, Chester, Ill. Steak crusher	Feb. 11, 1868.
	Casthelaz, John, and G. Disignoble. (*See* Desiguoble & Casthelaz.)	
75,365	Castle, Alfred H., Ann Arbor, Mich. Insulator	Mar. 3, 1868.
79,951	Same.....same	July 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,912	Castle, Edmund, Lincolnton, N. C. Quartz crusher	Aug. 11, 1868.
75,366	Castle, Simeon B., Cortland, N. Y. Elevator	Mar. 10, 1868.
79,053	Castle, T. W. M., and J. B. Conner, Adrianee, Ind. Printing-press frisket	June 23, 1868.
76,712	Castle, W. H., Washington, D. C. Water elevator	Apr. 14, 1868.
75,519	Caswell, Ezra, Lyons, N. Y. Bed bottom	Mar. 17, 1868.
	Cate, Norman S. (*See* St. John, George B., assignor.)	
76,891	Cate, O., Boston, Mass. Sash fastener. (Antedated April 9, 1868)	Apr. 21, 1868.
73,951	Catheart, James L., Georgetown, D. C. Steering apparatus	Feb. 4, 1868.
	Same.....Attaching propellers to the driving shaft.....(Extension)	Apr. 2, 1868.
75,122	Cattaneo, Angelo, Newark, N. J. Machine for fulling hat bodies	Mar. 3, 1868.
81,252	Same.....Felting machine	Aug. 18, 1868.
73,779	Cauffman, B. F., Millerstown, Pa. Cane mill	Jan. 28, 1868.
81,752	Same.....Evaporator	Sept. 1, 1868.
84,610	Cauldwell, James A., Horse Heads, N. Y. Corn sheller	Dec. 1, 1868.
81,139	Caven, William, Cincinnati, Ohio. Stove grate	Aug. 18, 1868.
	Cavort, Michael P. (*See* Pratt, Daniel J., assignor.)	
74,990	Cawl, Hugh, Douglass Corning, and James W. Wheeler, Troy, N. Y. Plaiter for sewing machines	Mar. 3, 1868.
78,926	Cawthorne, Robert, Lyons, Iowa. Tire setter	June 16, 1868.
77,354	Center, J. C., Bath, Ill. Adjustable harrow	Apr. 28, 1868.
77,715	Chabot, C., Philadelphia, Pa. Sewing machine	May 12, 1868.
	Chadwell, Thomas, *et al.* (*See* Vaugh, Chadwell, Childress & Webber.)	
81,067	Chadwick, Edward W., assignor to self and Wm. P. Chadwick, Edgartown, Mass. Car coupling	Aug. 18, 1868.
	Chadwick, J. B. (*See* Wright, Rufus, assignor.)	
84,049	Chadwick, John H., assignor to self and George B. Peck, Bristol, R. I. Car coupling	Nov. 17, 1868.
74,499	Chadwiek, Joseph H., Wheaton, Ill. Carriage-spring brace	Feb. 18, 1868.
	Chadwiek, Joseph H. (*See* Chubbuck, S. E., assignor.)	
	Chadwick, J. H., and S. E. Chubbuck. (*See* Chubbuck & Chadwick.)	
	Chadwick, Thomas, and J. A. Hammer. (*See* Hammer & Chadwick.)	
	Chadwick, William E. (*See* Monroe, Benjamin, assignor.)	
2,947	Chaffee, Charles S., and Charles H. Vandereook, Birmingham, Conn. Hoop-skirt.....(Design)	Mar. 10, 1868.
78,260	Chaffee, E. M., Providence, R. I. Rubber and gutta-pereha hose	May 26, 1868.
75,520	Chaffee, W. T., assignor to self and Samuel M. Drinker, Richmond, Va. Grain separator	Mar. 17, 1868.
	Chalfant, John N., and Samuel L. Denney. (*See* Denney & Chalfant.)	
80,709	Chalmers, James, assignor to James Chalmers, jr., England. Non-eonductor of heat	Aug. 4, 1868.
83,461	Chamberlain, D. H., West Roxbury, Mass. Elevator for buildings	Oct. 27, 1868.
2,847	Chamberlain, Dexter H., assignor to E. D. Chamberlain and Charles H. Brown, West Roxbury, Mass. Hand stamp.....(Reissue)	Jan. 21, 1868.
	Chamberlain, E. L., and E. C. Pomeroy. (*See* Meyers, Nicholas, assignor.)	
77,716	Chamberlain, Henry, Dayton, Wis. Store window	May 12, 1868.
83,253	Chamberlain, Nathaniel L., Boston, Mass. Hand stamp	Oct. 20, 1868.
78,184	Chamberlain, William A., Alexander, N. Y. Bed bottom	May 26, 1868.
	Chamberlain, William H., and Robert G. Jameson. (*See* Jameson & Chamberlain.)	
74,046	Chamberlain, William T., assignor to self and James W. Chamberlain, Norwieh, Conn. Steam engine	Feb. 4, 1868.
	Chamberlayne, E. L., and E. C. Pomeroy. (*See* Meyers, Nicholas, assignor.)	
	Same.....same.	
	Chamberlin, G. W., and James S. Stone. (*See* Stone & Chamberlin.)	
80,332	Chamberlin, John V., assignor to self, S. D. Paterson, and John V. Chamberlin, Cincinnati, Ohio. Lock for seeuring railroad switches	July 28, 1868.
83,362	Chamberlin, Joseph E., Wilmington, Del. Jig saw	Oct. 27, 1868.
74,891	Chamberlin, Stephen, Boston, Mass. Tip sled	Feb. 25, 1868.
74,500	Chamberlin, Taylor, and T. Elwood Garrett, Philadelphia, Pa. Pump	Feb. 18, 1868.
74,991	Chamberlin, William H., Medina, N. Y. Potato digger	Mar. 3, 1868.
83,690	Chambers, Andrew, Providenee, R. I. Maehine for drying eloth	Nov. 3, 1868.
75,244	Chambers, B., jr., Washington, D. C. Letter balanee	Mar. 10, 1868.
83,254	Chambers, Charles F., Hutsonville, Ill. Washing maehine	Oct. 20, 1868.
74,045	Chambers, James, Boston, Mass. Steam heating apparatus. (Antedated Jan. 31, 1868)	Feb. 4, 1868.
	Chambers, James V., and Matthew Simms. (*See* Simms & Chambers.)	
84,936	Chambers, John D., assignor to self and Erasmus D. Rowland, Carthage, Mo. Corn planter	Dee. 15, 1868.
75,859	Chambers, John F., Calistoga, Cal. Washing maehine	Mar. 24, 1868.
76,160	Same.....Shingle machine	Mar. 31, 1868.
83,691	Chambers, Thomas, St. Louis, Mo. Pump	Nov. 3, 1868.
84,476	Chameroy, Edmund A., Franee. Fluid meter	Dee. 1, 1868.
	Chamness, Eli, and John Vaughn. (*See* Vaughn & Chamness.)	
	Same.....same.	
3,104	Champion, J. P., Phelps, N. Y. Apparatus for raising and seeuring the legs of horses to shoe them.....(Reissue)	Sept. 1, 1868.
74,501	Champlin, J. Henry, Essex, Conn. Spike	Feb. 18, 1868.
73,231	Chandler, Hiram C., Erie Township, Ind. Shovel plow	Jan. 14, 1868.
81,891	Chandler, R. K., Ruther Glen, Va. Stoeking streteher	Sept. 8, 1868.
	Chandler, T. W. (*See* Marshall, Hammond, assignor.)	
75,624	Chandler, William H., assignor to self, John Wheeler, and Earl D. Barden, North Seituate, R. I. Machine for strapping and grinding cards	Mar. 17, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,137	Chandor, L., assignor to Cassius M. Clay, Russia. Lamp	July 21, 1868.
81,599	Chaney, N. P., Potsdam, N. Y. Churn	Sept. 1, 1868.
73,164	Chantrell, John, Bristol, Conn. Knitting machine	Jan. 7, 1868.
76,051	Chapin, E. M., and Solon Rust, Pine Meadow, Conn. Carpenters' plane	Mar. 31, 1868.
78,429	Chapin, Henry S., Delhi, Ohio. Railroad frog	June 2, 1868.
78,643	Chapin, L., Antwerp, N. Y. Cheese hoop	June 9, 1868.
	Chapin, Wm. H., *et al.* (*See* Worth, H. B., assignor.)	
	Chaplin, Edward. (*See* Payne, Edward, assignor.)	
76,399	Chaplin, Joseph M., assignor to self, E. E. Allen, and F. M. Loveland, Morrisville, Vt. Potato washer and pan combined	Apr. 7, 1868.
83,038	Chaplin, J. M., Middleport, N. Y. Fence	Oct. 13, 1868.
73,952	Chapman, Abner, Delta, N. Y. Horse rake	Feb. 4, 1868.
	Chapman, C. C., and Almon Hunt. (*See* Hunt & Chapman.)	
83,928	Chapman, Chandler P., Madison, Wis. Wind wheel	Nov. 10, 1868.
72,780	Chapman, Edwin, and C. T. Allaire, Rochester, N. Y. Steam generator	Jan. 28, 1868.
74,892	Chapman, George T., New York, N. Y. Horseshoe	Feb. 25, 1868.
80,598	Chapman, G. W., jr., assignor to self and W. A. Plantz, Iowa Falls, Iowa. Harvester cutter	Aug. 4, 1868.
	Chapman, John T., and John B. Wood. (*See* Wood & Chapman.)	
81,600	Chapman, Joseph L., Philadelphia, Pa. Rolling mill	Sept. 1, 1868.
82,085	Chapman, Luke, Collinsville, Conn. Wrench	Sept. 15, 1868.
3,186	Chapman, Luman L., Philadelphia, Pa. Corset (Design)	Sept. 1, 1868.
3,082	Chapman, Maro S., Hartford, Conn. Seroll to be applied to envelopes (Design)	June 30, 1868.
82,382	Chapman, Nathan, Milford, Mass. Hay spreader	Sept. 22, 1868.
77,957	Chapman, O. D., Chicago, Ill. Tube well	May 19, 1868.
73,297	Chapman, Samuel A., Waterbury, Conn. Hinge	Jan. 14, 1868.
75,521	Chapman, S. B., New York, N. Y. Car wheel	Mar. 17, 1868.
77,168	Chapman, William Z. W., New York, N. Y. Inhaling gas	Apr. 28, 1868.
84,611	Chappell, Isaac H., and James Montgomery, Decatur, Ill. Cultivator	Dec. 1, 1868.
75,367	Chappell, N. L., New York, N. Y., and C. H. Pettit, Jersey City, N. J. Bung	Mar. 10, 1868.
82,693	Chappell, William, Buffalo, N. Y. Chimney top	Oct. 6, 1868.
81,982	Charles, Lewis, Clear Springs, Md. Farm gate	Sept. 8, 1868.
84,260	Charloville, Joseph, St. Louis county, Mo. Step-ladder	Nov. 24, 1868.
76,603	Charlton, James, Allegheny City, Pa. Rubber for washing clothes. (Antedated April 1, 1868)	Apr. 14, 1868.
	Charlton, William B., *et al.* (*See* Hargrave, Thomas C., assignor.)	
	Charlton, W. B., and T. C. Hargrave. (*See* Hargrave & Charlton.)	
80,333	Charnley, Sylvester, Portage City, Wis. Oil cup	July 28, 1868.
	Charters, John. (*See* Anthony, C. F., assignor.)	
73,077	Chase, A. J., Boston, Mass. Watch-key protector	Jan. 7, 1868.
85,069	Chase, Charles E., and Benjamin F. Devendorff, assignors to selves and Joseph S. Randall, Wyoming Township, Mich. Grubbing machine	Dec. 22, 1868.
79,444	Chase, C. Thurston, Albany, N. Y. Inkstand	June 30, 1868.
75,522	Chase, Daniel G., Boston, Mass. Shuttle for looms	Mar. 17, 1868.
75,523	Chase, Daniel L. F., Boston, Mass. Steam-engine governor	Mar. 17, 1868.
82,491	Chase, Frederic, Philadelphia, Pa. Zincing or tinning bath	Sept. 29, 1868.
	Chase, Henry, *et al.* (*See* Fay, George, assignor) (Design.)	
75,860	Chase, James, Rochester, N. Y. Curtain fixture	Mar. 24, 1868.
74,305	Chase, Jefferson, Orange, Mass. Lock for barrel hoops	Feb. 11, 1868.
84,342	Chase, John, Farmington, Pa. Harrow	Nov. 24, 1868.
80,138	Chase, Joseph, Ripley, Ohio. Beehive	July 21, 1868.
75,524	Chase, Justus, jr., Watertown, N. Y. Bake pan	Mar. 17, 1868.
	Chase, Nathan B., and Washington Stickney. (*See* Stickney & Chase.)	
78,644	Chase, S. E., Boston, Mass. Making horseshoe nails	June 9, 1868.
75,525	Chase, Sidney E., Mendon, Mich. Covering for shaft couplings	Mar. 17, 1868.
76,604	Chase, Silas E., Boston, Mass. Shuttle for looms	Apr. 14, 1868.
80,451	Chase, Willard W., assignor to self and Solon W. Abbott, Springfield, N. H. Ash bin	July 28, 1868.
77,958	Chase, William P., assignor to R. Hoe & Company, Boston, Mass. Bookbinders' beveling machine	May 19, 1868.
78,720	Chatelin, Edouard, assignor to Ernest Franeillon, Switzerland. Watch	June 9, 1868.
81,343	Chatterton, R. D., England. Snow clearer	Aug. 25, 1868.
80,452	Chauvassaignes, Paul A. M., and Jaeques P. Lambrigot, France. Telegraph instrument	July 28, 1868.
76,882	Checkeni, Dominico, assignor to self, John W. Boteler, and Charles K. Sherwood, New York, N. Y. Toy	Apr. 21, 1868.
85,365	Cheek, M. D., Memphis, Tenn. Baling press	Dec. 29, 1868.
80,599	Cheek, Nash, Chapel Hill, N. C. Burglar alarm lock. (Antedated July 30, 1868)	Aug. 4, 1868.
85,596	Cheeseman, Andrew M., assignor to self and John Watson, Trenton, N. J. Valve seat	Sept. 29, 1868.
	Cheever, B. H., and E. J. Smith. (*See* Smith & Cheever.)	
	Cheever, John H. (*See* Forsyth, James B., assignor.)	
	Chenery, Isaac. (*See* Clapp, Erastus S., assignor.)	
84,477	Cheney, Alonzo M., and Handley B. Kimball, Charlotte, Mich. Horse hay fork	Dec. 1, 1868.
80,807	Cheney, Ethan R., South Boston, Mass. Die for making toe calks for horseshoes	Aug. 11, 1868.
	Cheney, E. R. (*See* Weaver & Allen, assignors.)	
81,476	Cheney, J. W. H., Hartford, Conn. Cutting printers' leads	Aug. 25, 1868.
	Cheney, Stephen, *et al.* (*See* Preston, K. H. C., assignor.)	
	Same same.	
73,232	Chenoweth, George E., Baltimore, Md. Balance feed-water valve	Jan. 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78,261	Chenoweth, James B., and Edwin P. Baugh, assignors to Baugh & Sons, Philadelphia, Pa. Apparatus for treating offal	May 26, 1868.
	Cherry, James N., and L. Richardson Comstock. (*See* Comstock & Cherry.)	
77,959	Chesebrough, Robert A., New York, N. Y. Lubricating oil	May 19, 1868.
79,952	Same.....Elevated railway	July 14, 1868.
73,781	Chesebrough, R. A., assignor to William H. Chesebrough, New York, N. Y. Heating railroad cars	Jan. 28, 1868.
82,206	Chesley, William, Cincinnati, Ohio. Globe valve	Sept. 15, 1868.
81,601	Chesterman, Edwin, Boston, Mass. Interfering strap for horses	Sept. 1, 1868.
77,717	Chesterman, Edwin, assignor to self and Edwin A. Eaton, Boston, Mass. Boot and shoe	May 12, 1868.
	Cheston, John P., *et al.* (*See* Cullen, John B., assignor.)	
	Chew, Joseph K. (*See* Smith, Simon B., assignor.)	
	Chew, Richard, *et al.* (*See* Lowrey, Case & Chew.)	
77,253	Cheyney, S. L., Wooster, Ohio. Dryer	Apr. 28, 1868.
83,250	Chichester, Lewis S., Brooklyn, N. Y. Grain dryer	Oct. 20, 1868.
74,893	Chichester, Lewis S., assignor to self, G. H. Nichols, and C. W. Mills, Brooklyn, N. Y. Grain dryer	Feb. 25, 1868.
	Chichester, Lewis S., *et al.* (*See* Taggart, Chichester & Mills).....(Reissue.)	
	Chichester, Lewis S., and C. W. Mills. (*See* Mills & Chichester.)	
	Same.....same.	
72,974	Chicken, William, Chelsea, Mass. Sewing machine	Jan. 7, 1868.
73,078	Child, Pascal P., assignor to S. R. Fox Manufacturing Company, St. Louis, Mo. Combined latch and bolt	Jan. 7, 1868.
82,597	Child, Samuel, Baltimore, Md. Refrigerator	Sept. 29, 1868.
82,086	Childe, W. H., Gainesville, Ala. Car wheel and frog	Sept. 15, 1868.
	Childress, E. H., *et al.* (*See* Vaughn, Chadwell, Childress & Webber.)	
78,185	Childs, Charles H., Cleveland, Ohio. Gas apparatus	May 26, 1868.
	Childs, R. H. and W. H., *et al.* (*See* Love, John C., assignor).....(Reissue.)	
73,782	Childs, James R., Richmond, Va. Head-rest for seats	Jan. 28, 1868.
84,612	Chillingworth, Felix, Springfield, Mass. Seabbard for trowel bayonets	Dec. 1, 1868.
75,665	Chilson, Gardner, Boston, Mass. Cooking stove	Mar. 17, 1868.
76,302	Same.....Stove grate	Apr. 7, 1868.
79,312	Same.....same	June 30, 1868.
	Same.....Furnace or heat-generator and radiator.....(Extension)	Sept. 24, 1868.
82,598	Chinn, Richard H., Washington, D. C. Fountain pen	Sept. 29, 1868.
82,087	Chinnock, Charles, Brooklyn, N. Y. Measuring funnel	Sept. 15, 1868.
82,088	Chinnock, Charles, assignor to J. Little Hyde, Brooklyn, N. Y. Feed bag	Sept. 15, 1868.
77,254	Chinnock, George, New York, N. Y. Lamp burner	Apr. 28, 1868.
77,255	Chipman, D. and W. F., Mount Carmel, Ill. Machine for planting corn	Apr. 28, 1868.
80,913	Chipman, George W., Boston, Mass. Carpet lining	Aug. 11, 1868.
3,298	Chipman, N. P., and William T. Collins, Washington, D. C. Badge.....(Design)	Dec. 29, 1868.
75,861	Chipman, W. W., assignor to self and W. D. Gookin, Brooklyn, N. Y. Manufacture of whiting and Paris white	Mar. 24, 1868.
74,306	Chipron, P. Charles, Highland, Ill. Corn sheller	Feb. 11, 1868.
79,445	Chisholm, William, Cleveland, Ohio. Dumping car	June 30, 1868.
	Chittenden, George R. (*See* Smith, J. B., assignor.)	
	Same.....(*See* Bope, Jacob W., assignor.)	
	Chittenden, George R., and Charles A. Smith. (*See* McGregor, James, assignor).....(Reissue.)	
84,478	Chittock, James, Chicago, Ill. Rein holder	Dec. 1, 1868.
81,602	Choate, Ira, assignor to self and Daniel Lee, Exeter, N. H. Locomotive spark arrester	Sept. 1, 1868.
77,355	Choate, R. B., Springfield, Vt. Mop wringer	Apr. 28, 1868.
84,089	Choate, William B., Galt, Canada West. Heat radiator	Nov. 17, 1868.
84,731	Chollet, Louis J., and Celeste H. E. Hamilton, France. Poultice cloth	Dec. 8, 1868.
81,877	Chrisman, W. F., Trenton, Tenn. Pessary	Sept. 8, 1868.
3,074	Christian, Andrew, New York, N. Y. Children's carriage.....(Reissue)	Aug. 11, 1868.
81,603	Same.....Velocipede	Sept. 1, 1868.
83,363	Same.....Folding perambulator	Oct. 27, 1868.
75,368	Christian, Charles, Milwaukee, Wis. Hand corn sheller	Mar. 10, 1868.
80,389	Same.....Sheboygan, Wis. Whip socket	July 28, 1868.
79,446	Christian, John B., Mount Carroll, Ill. Fish hook	June 30, 1868.
77,456	Christian, John B., Mount Carroll, and John Gunn, Salem Township, Ill. Railroad	May 5, 1868.
78,927	Christiansen, John, assignor to self and B. Kreischer, New York, N. Y. Hoisting apparatus	June 16, 1868.
3,187	Christie, Hugh, Morrisania, N. Y. Carpet pattern.....(Design)	Sept. 1, 1868.
3,061	Christie, Hugh, assignor to D. Powers & Sons, Morrisania, N. Y. Floor-cloth pattern.....(Design)	June 2, 1868.
3,216	Same.....Floor-oil-cloth pattern.....(Design)	Nov. 3, 1868.
3,215	Christie, Hugh, assignor to William M. Brasher & Company, New York, N. Y. Floor-oil-cloth pattern.....(Design)	Nov. 3, 1868.
	Christie, James and Henry G. Dayton. (*See* Dayton & Christie.)	
82,800	Christie, John, Lowell, Mich. Bed bottom	Oct. 6, 1868.
75,729	Christman, William, Philadelphia, Pa. Liniment for horses and other animals	Mar. 24, 1868.
80,057	Christoph, Louis, France, William Hawksworth, North Britain, and Gustavus P. Harding, England. Apparatus for drawing metal. (Patented in England April 10, 1862)	July 21, 1868.
76,995	Christy, James, Philadelphia, Pa. Nut fastener. (Antedated April 14, 1868)	Apr. 21, 1868.
83,761	Christy, S. K., Noblesville, Ind. Car coupler	Nov. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78,515	Christy, Thomas J., Olney, Ill. Harvester cutter. (Antedated May 25, 1868)	June 2, 1868.
79,456	Chubb, A. L., Grand Rapids, Mich. Field roller	June 30, 1868.
79,315	Chubb, Thomas J., Williamsburg, N. Y. Apparatus and process for making steel. (Antedated Dec. 30, 1867)	June 30, 1868.
79,314	Same.....Making steel direct from the ore. (Antedated Jan. 15, 1868)	June 30, 1868.
74,750	Chubbuck, S. E. and Isaac Y., assignors to selves and S. E. Chubbuck, jr., Roxbury, Mass. Piston	Feb. 25, 1868.
79,548	Chubbuck, S. E., assignor to J. H. Chadwick, Boston, Mass. Machine for making tin-lined lead pipe	July 7, 1868.
79,549	Chubbuck, S. E., and J. H. Chadwick, assignors to J. H. Chadwick, Boston, Mass. Machine for making tin-lined lead pipe	July 7, 1868.
74,198	Chumard, E. M., Pittston, Pa. Wagon brake	Feb. 11, 1868.
83,929	Same.....Brake for vehicles	Nov. 10, 1868.
85,366	Church, Asa H., Hubbardstown, Mass. Toy	Dec. 29, 1868.
78,057	Church, D. M., assignor to self and William T. and T. E. Beard, Birmingham, Conn. Shuttle for sewing machines	May 19, 1868.
79,204	Church, Isaac, jr., Norwalk, Conn. Operating slide valves	June 23, 1868.
72,975	Churchill, Daniel, Iowa, Ill. Cultivator	Jan. 7, 1868.
	Churchill, Henry, and Jesse W. Hatch. (*See* Hatch & Churchill.) (Extension.)	
74,894	Churchill, Olney, Canton, Pa. Carriage jack	Feb. 25, 1868.
73,693	Cilley, G. W., and G. H. Spaulding, assignors through mesne assignments to the American Molded Collar Company, Norwich, Conn. Machine for molding paper collars	Jan. 21, 1868.
	Cincinnati Britannia Company. (*See* Woodworth, D. B., assignor.)	
	City Machine Company. (*See* Streeter, James S., assignor.)	
	City Manufacturing Company. (*See* Chinnock, George, assignor)	
82,599	Claflin, Frank O., assignor to self and Albro R. Carman, Brooklyn, N. Y. Implement for lasting boots and shoes	Sept. 29, 1868
80,058	Clagett, Z. S., Washington, D. C. Corn planter	July 21, 1868
80,914	Clancy, Patrick G., Augusta, Maine. Sheep shears	Aug. 11, 1868.
	Clapp, Charles. (*See* Cole, Calvin, assignor) (Reissue.)	
79,898	Clapp, Erastus S., assignor to self and Isaac Chenery, Montague, Mass. Spectacles	July 14, 1868
73,435	Clapp, Seth E., assignor to self and George P. Clapp, Cambridge, Mass. Corkpull	Jan. 21, 1868.
74,199	Clapp, Seth E., assignor to self and Charles L. Ridgway, Cambridge, Mass. Corkscrew	Feb. 11, 1868.
77,583	Clapp, Seth E., assignor to self and John J. Ridgway, Cambridge, Mass. Biscuit cutter	May 5, 1868.
75,730	Clapp, S. H., Malden, Mass. Brick kiln	Mar. 24, 1868.
80,600	Clark, Alvin B., Richmond, Ind. Post driver	Aug. 4, 1868.
74,502	Clark, Alvin B., and Charles Davis, Richmond, Ind. Washing machine	Feb. 18, 1868.
	Clark, Amos F., and Saxton J. Arnold. (*See* Arnold & Clark.)	
78,721	Clark, Andrew, Lafayette, Ind. Apple parer, corer, and slicer	June 9, 1868.
81,344	Clark, Augustus D., Wilkinsonville, Mass. Shuttle for looms	Aug. 25, 1868.
83,693	Clark, A. W., and George W. Marble, Charlestown, N. H. Bow-iron for carriages	Nov. 3, 1868.
81,753	Clark, Charles, Dayton, Ky. Rope-making machine	Sept. 1, 1868.
75,369	Clark, Charles B., Buffalo, N. Y. Clamp for scrub brushes	Mar. 10, 1868.
75,862	Same.....Blind hinge. (Antedated October 18, 1867)	Mar. 24, 1868.
80,453	Same.....Brush holder	July 28, 1868.
82,920	Same.....Blind hinge	Oct. 13, 1868.
83,603	Same.....same	Nov. 3, 1868.
	Same.....(*See* Ferguson, E. L., assignor.)	
82,383	Clark, C. B., and E. L. Ferguson, Buffalo, N. Y. Mop head	Sept. 22, 1868.
	Clark, C. C., and J. B. Boss. (*See* Decker, John, assignor.)	
75,370	Clark, Dominicus N., Eastport, Maine. Railway chair and fastening	Mar. 10, 1868.
74,751	Clark, Edwin E., Ann Arbor, Mich. Sewing machine	Feb. 25, 1868.
76,996	Clark, Elijah J., Kalamazoo, Mich. Automatic fly-brush and fan	Apr. 21, 1868.
80,139	Clark, E. W., Tallahassee, Fla. Double buckle	July 21, 1868.
82,471	Clark, George, jr., Boston, Mass. Apparatus for extinguishing fires	Sept. 22, 1868.
	Clark, George D., and Charles R. Bacon. (*See* Bacon & Clark.)	
80,710	Clark, George D., assignor to self and Clark & Cowles, Plainville, Conn. Fastening for buttons	Aug. 4, 1868.
	Clark, George P., and T. C. Robinson. (*See* Robinson & Clark.)	
	Clark, Henry, Cedar Keys, Fla. Machine for feeding sheets of paper to printing presses (Extension)	Apr. 24, 1868.
68,430	Clark, Henry C., and Robert B. Little, Providence, R. I. Apparatus for conveying and dumping coal	June 2, 1868
80,808	Clark, Henry F., Lowell, Mich. Bed spring	Aug. 11, 1868.
75,731	Clark, Hezekiah M., Cleveland, Ohio. Lamp	Mar. 24, 1868.
82,207	Clark, Holley M., Brewer, Maine. Hand rake	Sept. 15, 1868.
75,732	Clark, Horace, assignor to Dwight L. Clark, Northampton, Mass. Medical compound	Mar. 24, 1868.
84,613	Clark, Isaac H., Boston, Mass. Application of carbonic acid in fire engines. (Antedated Nov. 27, 1868)	Dec. 1, 1868.
77,256	Clark, Jacob, Clarksville, Pa. Water wheel	Apr. 28, 1868.
	Clark, James B. (*See* Wright, Henry, assignor.)	
79,205	Clark, James B., Plantsville, Conn. Whiffletree plate	June 23, 1868.
	Clark, J. B., *et al.* (*See* Davis, Edward M., assignor.)	
	Clark, James E., and O. F. Green. (*See* Green & Clark.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
85,165	Clark, James M., Lancaster, Pa. Door fastener	Dec. 22, 1868.
80,601	Clark, James T., and John D. Besler, Galesburg, Ill. Switch	Aug. 4, 1868.
84,859	Clark, John C., La Grange, Mich. Fire shield	Dec. 15, 1868.
75,123	Clark, John C., Elmira, N. Y. Potato digger	Mar. 3, 1868.
82,801	Clark, John J. and Thomas, Elgin, Ill. Blind-slat tenoning machine	Oct. 6, 1868.
80,390	Clark, John K., assignor to self, Charles B. and Henry R. Clark, Mount Pleasant, Iowa. Door holder	July 28, 1868.
81,068	Clark, John Walker, Philadelphia, Pa. Artificial teeth	Aug. 18, 1868.
81,983	Clark, Jonathan M., New York, N. Y. Steam generator	Sept. 8, 1868.
76,636	Clark, Luman B., Bainbridge, N. Y. Hop pole	July 7, 1868.
79,206	Clark, Lyman, Pine Island, Minn. Car brake	June 23, 1868.
	Clark, Marion E. (*See* Yocum, Samuel H., assignor.)	
80,393	Clark, M. J., New Richmond, Ohio. Railroad car stove	July 28, 1868.
76,052	Clark, Milton W., assignor to R. Ball & Co., Worcester, Mass. Cutter-head for tenoning blind slats	Mar. 31, 1868.
80,392	Same.....Blind-slat tenoning machine	July 28, 1868.
74,503	Clark, N. C., Low Moor, Iowa. Well-boring apparatus	Feb. 18, 1868.
79,899	Clark, Nathan F., assignor to self and George H. Cook, Lawrence, Mass. Machine for making roving	July 14, 1868.
80,602	Clark, O. W., Appleton, Wis. Elevator bucket	Aug. 4, 1868.
85,213	Clark, Patrick, Rahway, N. J. Fan blower	Dec. 22, 1868.
82,492	Clark, Peter, Brooklyn, N. Y. Brick machine. (Antedated Sept. 24, 1858)	Sept. 29, 1868.
78,058	Clark, P. J., West Meriden, Conn. Lantern	May 19, 1868.
76,303	Clark, Richard S., Great Bend, Pa. Envelope	Apr. 7, 1868.
73,298	Clark, Robert W., Pittsburg, Pa. Tuyere iron	Jan. 14, 1868.
73,502	Same.....Forge hearth	Jan. 21, 1868.
84,411	Clark, Samuel J. M., and John L. Farrell, Boston, Mass. Screw tap	Nov. 24, 1868.
84,343	Clark, Sarah M., Beaver Dam, Wis. Reservoir cook stove	Nov. 24, 1868.
	Clark, Smith & Co. (*See* Beckwith, Francis W., assignor.)	
3,083	Clark, S. M., Washington, D. C. Trade-mark.....(Design)	June 30, 1868.
	Clark, Spencer M. (*See* Gwynn, Stuart, assignor.)	
	Clark, Spencer M., and Stuart Gwynn. (*See* Gwynn & Clark)	
74,047	Clark, S. W., assignor to self, N. A. Wright, and W. A. Terry, Prairie-du-Chien, Wis. Hand-spinning wheel	Feb. 4, 1868.
75,124	Clark, Thaddeus L., Mt. Vernon, Ohio. Spring equalizer for mill spindles	Mar. 3, 1868.
75,371	Same.....Head block	Mar. 10, 1868.
	Clark, Thomas R., *et al.* (*See* Heath, Henry, assignor.)	
85,283	Clark, Thomas S., Lena, Ill. Blacksmiths' forge	Dec. 29, 1868.
	Clark, V. B. and Hiram Wentworth. (*See* Wentworth & Clark.)	
	Clark, Warren, and E. F. Olds (*See* Olds & Clark.)	
73,875	Clark, William, Valatie, N. Y. Check and harness rein	Jan. 28, 1868.
72,976	Clark, William D., Ottawa, Ill. Farm gate	Jan. 7, 1868.
81,140	Clark, William E., Boston, Mass. Cutting printers' leads	Aug. 18, 1868.
80,140	Clark, William E., assignor to Henry F. Marsh, Attleboro, Mass. Pen rack	July 21, 1868.
84,170	Clark, W. F., Hagaman's Mills, N. Y. Bridle	Nov. 17, 1868.
	Clark, William H., *et al.* (*See* Mallary, G. H., assignor.)	
78,262	Clark, William R., Indianola, Ill. Corn planter	May 26, 1868.
74,048	Clark, William W., New York, N. Y. Brush	Feb. 4, 1868.
81,141	Clarke, Charles, Coral, Ill. Carriage wheel	Aug. 18, 1868.
73,436	Clarke, George H., assignor to the Salamander Grate Bar Company, Brooklyn, N. Y. Grate bar for furnaces	Jan. 21, 1868.
77,584	Clarke, George P., New York, and Marmont B. Edson, Brooklyn, N. Y. Register for steam engines	May 5, 1868.
78,645	Clarke, George R., New York, N. Y. Hoisting machine	June 9, 1868.
78,646	Same.....Elevator	June 9, 1868.
77,585	Clarke, Greville E., Racine, Wis. Skein and box for axles	May 5, 1868.
75,526	Clarke, James A., New York, N. Y. Ferry-bridge guard	Mar. 17, 1868.
80,391	Same.....Ferry bridge	July 28, 1868.
78,059	Clarke, John, England. Wrapper for needles	May 19, 1868.
81,142	Clarke, John N., Cincinnati, Ohio. Horseshoe	Aug. 18, 1868.
77,586	Clarke, Joshua R., Cohoes, N. Y. Waste gate	May 5, 1868.
74,307	Clarke, Leroy, Candor, N. Y. Hay raker and loader	Feb. 11, 1868.
	Clarke, L. C., *et al.* (*See* Ford, Bruno & Clarke.)	
76,997	Clarke, Nicholas P., assignor to self and Charles E. Griffin, Central Falls, R. I. Spool stand	Apr. 21, 1868.
79,315	Clarke, Robert, Mt. Vernon, Ohio. Car standard	June 30, 1868.
	Clarke, William, jr., and R. Beaumont. (*See* Beaumont & Clarke.)	
83,039	Class, Carl August, St. Louis, Mo. Child's pedal for pianos, &c	Oct. 13, 1868.
82,291	Clausen, Francis, San Francisco, Cal. Belt buckle	Sept. 22, 1868.
	Clay, Cassius M. (*See* Chandor L., assignor.)	
	Same.....(*See* Vander Weide, Michel, assignor.)	
78,361	Clay, R. J., Flushing, N. Y. Alphabet toy	May 26, 1868.
73,503	Clayton, George, and Collis B. Allen, Willoughby, Ohio. Churn	Jan. 21, 1868.
80,334	Clayton, William, Bristol, Conn. Table cutlery	July 28, 1868.
79,729	Cleaveland, Judson A., Lafayette, Ind. Tool for turning shafting, &c	July 7, 1868.
82,600	Cleaveland, Wallace W., Coldwater, Mich. Turning wagon hubs	Sept. 29, 1868.
	Clemendot, Louis, and Jean Maurice Dufournet. (*See* Dufournet & Clemendot.)	
83,930	Clemens, Gilbert H., New York, N. Y. Elastic calk for boots and shoes	Nov. 10, 1868.
81,878	Clemens, Gilbert H. and Everett, New York, N. Y. Steam safety valve. (Antedated Aug. 28, 1868)	Sept. 8, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,457	Clement, Austin E., Wapakoneta, Ohio. Chimney cowl	June 30, 1868.
	Clement, D. B., and S. S. Hickok. (*See* Hickok & Clement.)	
82,691	Clement, Nathan S., New Britain, Conn. Fruit basket	Sept. 29 1868.
	Clement, Samuel, and George Brooks. (*See* Brooks & Clement.)	
83,831	Clement, W. T., Northampton, Mass. Cutlery. (Antedated Oct. 28, 1868)	Nov. 10, 1868.
73,437	Same.....Manufacture of hoes	Jan. 21, 1868.
83,640	Clements, George R., Prescott, Wis. Dropper for harvesters	Oct. 13, 1868.
84,681	Clemons, Andrew B., Ansonia, Conn. Friction-clutch pulley	Dec. 8, 1868.
83,041	Clemons, David, Scranton, Pa. Hames for harness	Oct. 13, 1868.
77,960	Clemons, George F., Springfield, Mass. Heel calk. (Antedated May 15, 1868)	May 19, 1868.
76,733	Clemson, William, Middletown, N. Y. Saw	Mar. 24, 1868.
75,734	Same.....same	Mar. 24, 1868.
80,141	Clendenen, H., Beverly, Ohio. Saw-filing machine	July 21, 1868.
	Clenighen. Robert. (*See* Hadley, Amos, assignor.)	
80,142	Cleveland, C. H., Salem, Ala. Suspender	July 21, 1868.
81,984	Same.....same	Sept. 8, 1868.
78,577	Cleveland, William C., Cambridge, Mass. Spool guard	June 2, 1868.
79,105	Clewley, Charles W., deceased, by George P. Tew, administrator, assignor to the American Eyelet Company, Providence, R. I. Eyelet machine	June 23, 1868.
77,169	Cliff, George, Memphis, Mich. Loom	Apr. 28, 1868.
84,995	Clifford, C., Fulton, N. Y. Vapor and steam condenser to be applied to brewers' boilers and like apparatus	Dec. 15, 1868.
73,233	Clifford, Charles J., New Hampshire, N. J. Apparatus for determining deviation of locomotive crank-pins from true center	Jan. 14, 1868.
	Clifford, John C. (*See* Cook, J. C., assignor.)	
	Clifford, John R., and William H. Hall. (*See* Hall & Clifford.)	
83,762	Clifford, Walter, Holly Springs, Miss. Mode of carrying knapsacks	Nov. 3, 1868.
82,384	Clifford, William, assignor to A. F. Jennings & Company, and Thomas R. Coveny, Mina, N. Y. Wagon jack	Sept. 22, 1868.
80,454	Clifton, John G., Northfield, Ind. Buckle	July 28, 1868.
82,089	Clifton, Joseph H., New Castle, Pa. Cultivator	Sept. 15, 1868.
83,931	Clifton, Leander, Barry, Ill. Cultivator	Nov. 10, 1868.
75,527	Clime, John C., assignor to self and J. Moore Hendricks, Philadelphia, Pa. Bedstead	Mar. 17, 1868.
77,457	Same.....Bedstead fastener	May 5, 1868.
78,647	Clime, John C., assignor to self and Henry C. King, Philadelphia, Pa. Bedstead.	June 9, 1868.
81,604	Cline, James. assignor to John Walls, Eaton, Ohio. Cloth-guiding attachment for sewing machines	Sept. 1, 1868.
76,713	Cline, J. J., High Hill, Ohio. Animal trap	Apr. 14, 1868.
79,953	Cline, William, Boston, Mass. Luggage supporter for saddles	July 14, 1868.
84,090	Clinton, Lyman, North Haven, Conn. Horse rake	Nov. 17, 1868.
	Clinton Wire Cloth Company. (*See* Waters, Charles H., assignor.)	
	Same.....same.	
2,832	Clogston, Thomas S., Boston, Mass. Heating apparatus.....(Reissue)	Jan. 14, 1868.
83,364	Clopton, N. A. and J. S., Fauquier County, Va. Seeding machine	Oct. 27, 1868.
79,316	Close, Henry M., Chariton, Iowa. Implement for sharpening the calks of horse-shoes	June 30, 1868.
80,528	Close, Thomas J., Philadelphia, Pa. Settee	July 28, 1868.
	Cloud, William H. (*See* Norton, F. I., assignor.)	
84,614	Clough, Jesse R., deceased, by Samuel H. Halstead, administrator, Godfrey, Ill. Wind mill	Dec. 1, 1868.
82,090	Clough, Nathan, Lowell, Mass., and James Baldwin, Manchester, N. H. Shuttle.	Sept. 15, 1868.
83,462	Clough, Theodore, Dobbs Ferry, N. Y. Lamp	Oct. 27, 1868.
75,245	Clough, William, Cincinnati, Ohio. Process of deodorizing and refining saccharine and other fluids	Mar. 10, 1868.
81,253	Clough, William R., Cambridge, Mass. Paper file	Aug. 18, 1868.
79,207	Clow, Abram, Port Byron, N. Y. Thread-guiding plate for tatting shuttles	June 23, 1868.
76,998	Clump, George, assignor to self and William Enerle, Hamden, Conn. Apparatus for relieving choked animals	Apr. 21, 1868.
83,256	Cluxton, T. M., Rising Sun, Ind. Head-block for carriages	Oct. 20, 1868.
80,455	Coates, William B., Philadelphia, Pa. Fireplaces	July 28, 1868.
77,356	Coates, W. B., assignor to David Lyman, Philadelphia, Pa. Starching apparatus.	Apr. 28, 1868.
	Coats, George W., and James Russell, Springfield, Mass. Machine for sticking card teeth.....(Extension)	May 25, 1868.
77,718	Coats, Paxson, Cincinnati, Ohio. Condenser for spirit stills	May 12, 1868.
76,999	Cobb, A. F., Chapel Hill, Mo. Beehive	Apr. 21, 1868.
80,809	Cobb, John W., Melrose, and Edwin A. Hill, Quincy, Mass. Manufacture of rubber and other coated cloth and fabrics	Aug. 11, 1868.
3,193	Cobb, John W., assignor of one-half interest to Edwin A. Hill, Melrose, Mass. Machine for filling cylindrical molds for rubber goods.....(Reissue)	Nov. 17, 1868.
78,060	Cobb, William F., Whitestown, Ind. Tenoning machine	May 19, 1868
	Coburn, D., and G. W. Pearson. (*See* Pearson & Coburn.)	
76,161	Coburn, Edwin, jr., Lewiston, Maine. Tooth plugger	Mar. 31, 1868
77,357	Cochran, Andrew J., Indianapolis, Ind. Tenoning chisel	Apr. 28, 1868
75,625	Cochran, John Webster, New York, N. Y. Fixed-ammunition holder for cartridge boxes	Mar. 17, 1868
75,626	Same.....same	Mar. 17, 1868
75,627	Same.....Breech-loading fire-arm	Mar. 17, 1868
74,504	Cochran, Milton B., Davenport, Iowa. School desk and seat	Feb. 18, 1868
83,605	Cochran, William J., assignor to self and John Cochran, Baltimore, Md. Annealing pot for annealing car wheels	Nov. 3, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,550	Cochrane, E. C., assignor to self and J. B. White, Buffalo, N. Y. Guard fastener for doors	July 7, 1868.
83,042	Cockshoot, Joseph, jr., and Henry Weatherill, Great Britain. Car brake. (Antedated Oct. 10, 1868)	Oct. 13, 1868.
83,832	Codd, D., Ottawa, Canada. Corn sheller	Nov. 10, 1868.
79,551	Coddington, John F., Bound Brook, N. J. Harvester	July 7, 1868.
72,977	Cody, A., J. Bartlett, and H. M. Jones, Ukiah City, Cal. Composition for roofing	Jan. 7, 1868.
	Cody, John T., and Timothy Holland. (*See* Holland & Cody.)	
	Coe, Jacob H., and Nelson C. Thomas. (*See* Thomas & Coe.)	
	Coe, John B., and Jerome Redding. (*See* Redding & Coe.)	
74,505	Coe, John T., assignor to self and Edward F. Coe, Chambersburg, Pa. Churn	Feb. 18, 1868.
	Coffee, George C. (*See* Morgan, M. S., assignor.)	
84,091	Coffin, John E., Portland, Maine. Machinery for folding and cording the edge of paper	Nov. 17, 1868.
	Coffin, Oliver C. (*See* Standish, Philander H., assignor.)	
	Same.....same.	
83,463	Coffin, T. S., Harrington, Maine. Hammer	Oct. 27, 1868.
80,143	Coffin, Zebulon E., assignor to the Boston Machine Company, Boston, Mass. Hydrant	July 21, 1868.
75,528	Coffman, John S., and Manassah Graybill, Greenville, Ind. Hay raker and loader	Mar. 17, 1868.
79,106	Coffman, William S., Coldwater, Mich. Horse hay fork	June 23, 1868.
83,464	Coffrin, Franklin, Claremont, N. H. Car coupling	Oct. 27, 1868.
	Coggshall, William W., and Peter C. Havely. (*See* Havely & Coggshall.)	
78,186	Cogswell, C. A., Maquoketa, Iowa. Cultivator. (Antedated May 12, 1868)	May 26, 1868.
	Cohembia, Dana L. (*See* Lyon, Baxter, assignor.)	
81,477	Cohen, Philip, Chicago, Ill. Trunk-lid supporter	Aug. 25, 1868.
	Cohn, L. H. (*See* Bongardt, Johann, assignor.)	
75,125	Colbert, George H., assignor to self, S. S. Hollenberger, and J. W. Daily, Downsville, Md. Steering apparatus	Mar. 3, 1868.
76,893	Colborn, Levi H., Chicago, Ill. Low-water indicator for steam generators	Apr. 21, 1868.
77,587	Same.....Bag fastener	May 5, 1868.
83,604	Colbourn, Mark J., Karthous, Pa. Water wheel	Nov. 3, 1868.
	Colburn, Ai, and John B. Perkins. (*See* Perkins & Colburn.)	
78,861	Colburn, Daniel W., Loraine, Ill. Wrench	June 16, 1868.
3,083	Colburn, Daniel W., assignor to Thomas Bakewell and John Lippincott, Pittsburg, Pa. Axes	Aug. 18, 1868. (Reissue)
74,308	Colburn, Elisha T., Boston, Mass. Child's toy	Feb. 11, 1868.
73,694	Colburn, G. F. J., Newark, N. J. Composition of matter	Jan. 28, 1868.
73,953	Same.....Case for tooth paste	Feb. 4, 1868.
85,166	Colburn, G. F. J., assignor to John Davidson, Newark, N. J. Dentifrice paste	Dec. 22, 1868.
	Colburn, Julia M., administratrix of James Stimpson, deceased. (*See* Stimpson, James)	(Extension.)
	Same	(Reissue.)
76,304	Colburn, Justin L., West Burke, Vt. Butter worker	Apr. 7, 1868.
82,802	Colburn, Lyman S., Oberlin, Ohio. Slat machine	Oct. 6, 1868.
82,803	Same.....Machine for boring window blinds	Oct. 6, 1868.
79,900	Colburn, Richard, and George W. Gould, Norwich, Conn. Journal box	July 14, 1868.
	Colby, Brothers & Company. (*See* Murch, Harvey, assignor)	(Reissue.)
	Same.....same	(Reissue.)
	Same.....same	(Reissue.)
75,372	Colby, Charles, Madison, Wis. Lock for fruit boxes, &c. (Antedated Sept. 10, 1867)	Mar. 10, 1868.
	Same.....(*See* Stump, Andrew, assignor.)	
77,000	Colby, Charles H., Lynn, Mass. Tube well	Apr. 21, 1868.
75,358	Colby, Daniel C., assignor to Josiah Humphery, Washington, D. C. Dust pan	Apr. 28, 1868.
82,602	Colby, Daniel C., Washington, D. C. Chair	Sept. 29, 1868.
2,963	Colby, Daniel S., and Robert Scorer, assignors to Edwin J. Hicks and Gurdon G. Wolfe, Troy, N. Y. Stove door	(Design) Mar. 31, 1868.
2,964	Same.....Leg and door of a stove	(Design) Mar. 31, 1868.
2,965	Same.....Stove urn	(Design) Mar. 31, 1868.
3,050	Colby, Daniel S., and Robert Scorer, Troy, N. Y. Cook-stove plate	(Design) May 26, 1868.
3,051	Same.....Parlor-stove plate	(Design) May 26, 1868.
78,648	Colby, I. Fremont, assignor to self and Daniel C. Colby, Washington, D. C. Coffee mill	June 9, 1868.
76,053	Coldwell, John H., Poughkeepsie, N. Y. Baby jumper	Mar. 31, 1868.
3,229	Cole, Calvin, assignor to Charles Clapp, Ithaca, N. Y. Sash top	(Reissue) Dec. 15, 1868.
74,895	Cole, C. C., Phelps, N. Y. Combined manure fork and hook	Feb. 25, 1868.
84,261	Cole, Charles L., assignor to self and Thomas Johnson, Richmond, Mich. Spinning wheel	Nov. 24, 1868.
	Cole, C. O., and George W. Leighton. (*See* Leighton & Cole.)	
77,801	Cole, De Lance, Marshall, Ill. Extension for tables	May 12, 1868
74,797	Cole, D. M., Elgin, Ill. Cheese box	Feb. 25, 1868
72,978	Cole, E. Merritt, Southbridge, Mass. Eye glass	Jan. 7, 1868.
79,730	Cole, E. R. and H. S., Pawtucket, R. I. Steam fire engine	July 7, 1868.
76,162	Cole, George P., Hudson, Mich. Tug buckle	Mar. 31, 1868.
76,714	Cole, Gideon W., Canton, Ill. Plow	Apr. 14, 1868.
80,144	Cole, Henry S., Pawtucket, R. I. Steam generator	July 21, 1868.
78,649	Cole, Isaac, Brooklyn, N. Y. Fastening for gloves	June 9, 1868.
77,170	Cole, J. H., Milbury, Mass. Die for making thimbles and ferrules	Apr. 28, 1868.
77,257	Cole, James H., Adrian, Mich. Roofing machine	Apr. 28, 1868.
	Cole James H., and Edmond Richardson. (*See* Richardson & Cole.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Cole, Nathan N., *et al.* (*See* Monroe, Benjamin, assignor.)	
75, 529	Cole, Noah L., Norwich, Conn. Lamp-lighting device. (Antedated Feb. 28, 1868)	Mar. 17, 1868.
78, 578	Cole, Seth L., Brooklyn, N. Y. Gas burner	June 2, 1868.
78, 431	Cole, S. P., Janesville, Wis. Uterine supporter	June 2, 1868.
79, 447	Cole, William H., Quincy, Mich. Tucking device for sewing machines	June 30, 1868.
76, 605	Coleburn, A. O., and H. T. Stanard, Wayne, Mich. Sand cap for carriages	Apr. 14, 1868.
77, 258	Coleman, Andrew, Red Bank, N. J. Weeding hoe	Apr. 28, 1868.
3, 265	Coleman, Leonidas L., Nashville, Tenn. Trade mark (Design)	Dec. 1, 1868.
	Coleman, Stephen. (*See* Vande Sande, Peter, assignor.)	
85, 070	Coleman, W. J. and Alfred, England. Article of food. (Patented in England Nov. 19, 1867)	Dec. 22, 1868.
83, 132	Coles, George, James A. Jacques, and John A. Fanshawe, England. Hose, and machine for making. (Patented in England Aug. 17, 1864)	Oct. 20, 1868.
80, 145	Coles, J. L. and D. H., New York, N. Y. Pencil sharpener	July 21, 1868.
80, 456	Same.....Nutmeg grater	July 28, 1868.
3, 134	Same.....same (Reissue)	Sept. 22, 1868.
83, 133	Same.....Feeding mechanism for sewing machines	Oct. 20, 1868.
80, 603	Colflesh, J. C., Delaware, Ohio. Rack for feeding sheep	Aug. 4, 1868.
73, 578	Collamore, William L., Warren, R. I. Steam governor	Jan. 21, 1868.
79, 552	Collard, Lois A., Plainview, Minn. Quilting frame	July 7, 1868.
	Collender & Phelan. (*See* Aldrich, David, assignor.)	
77, 001	Collender, Hugh W., New York, N. Y. Billiard and dining table	Apr. 21, 1868.
78, 928	Collier, David C., Samuel Cushman, and Newell E. Farrell, Central City, Colorado Territory. Ore-roasting furnace	June 16, 1868.
83, 465	Collier, J., Morenci, Mich. Machine for twisting jack bands	Oct. 27, 1868.
83, 123	Collier, Orrin, assignor to self and Erva B. Stillman, Sacramento, Cal. Piston-rod packing	Oct. 13, 1868.
	Collier, V. F., and J. J. Thompson. (*See* Thompson & Collier.)	
76, 032	Collier, William F., and J. H. Bigelow, Worcester, Mass. Broiler and toaster	Mar. 24, 1868.
84, 344	Collignon, Adam, Closter, N. J. Folding chair	Nov. 24, 1868.
82, 493	Collignon, Adam, assignor to self, C. O. and Nicholas Collignon, Closter, N. J. Folding chair	Sept. 29, 1868.
75, 373	Collignon, Claudius O., assignor to self and Nicholas Collignon, Closter, N. J. Cottage chair	Mar. 10, 1868.
82, 494	Collignon, Claudius O. and Nicholas, Closter, N. J. Folding chair	Sept. 29, 1868.
80, 457	Colligon, Frank, Buffalo, N. Y. Lubricating device	July 28, 1868.
	Collins, A. B., and E. S. Robertson. (*See* Robertson & Collins.)	
	Collins, George W., and A. Harvey Calhoun. (*See* Calhoun & Collins.)	
	Collins, Henry H. and Benjamin F., and Homer Wright. (*See* Davis, Edward M., assignor.)	
	Collins, Henry H. and Benjamin F. (*See* Wright, Homer, assignor) (Reissue.)	
85, 367	Collins, J. A. M., Keokuk, Iowa. Bill holder	Dec. 29, 1868.
77, 588	Collins, James P., Troy, N. Y. Water wheel	May 5, 1868.
80, 274	Collins, John, Ecorse, Mich. Fishing seine. (Antedated July 18, 1868)	July 28, 1868.
74, 506	Collins, John, jr., Detroit, Mich. Machine for cutting rags	Feb. 18, 1868.
73, 299	Collins, John, jr., and N. R. Nixon, assignors to N. R. and Thomas Nixon, and Allan T. Bennett, Richmond, Ind. Seaming and rag-cutting machine	Jan. 14, 1868.
73, 695	Same.....Rag-cutting machine	Jan. 28, 1868.
79, 954	Collins, John A., Virginia City, Nevada. Ore crusher, grinder, and amalgamator	July 14, 1868.
73, 579	Collins, John F., New York, N. Y. Rectifier and condenser for alcoholic spirits. Same.....(*See* Lugo, Orazio, assignor.)	Jan. 21, 1868.
76, 400	Collins, Joseph, and John Knox, Conshohocken, Pa. Stove	Apr. 7, 1868.
75, 735	Collins, J. L., and H. C. Burgie, Chicago, Ill. Sheave	Mar. 24, 1868.
77, 870	Collins, M. G., Baltimore, Md. Device for boiling and stirring fruit. (Antedated May 8, 1868)	May 12, 1868.
74, 049	Collins, Michael Henry, Chelsea, Mass. Lamp	Feb. 4, 1868.
	Collins, Morris, and Patrick O'Connor. (*See* O'Connor & Collins.)	
	Collins, M. V., and Melville M. Morse. (*See* Morse & Collins.)	
85, 071	Collins, O. B., Carthage Landing, N. Y. Furniture tip	Dec. 22, 1868.
	Collins, Richard H. (*See* Dayton, Henry G., assignor.)	
74, 666	Collins, Stephen, Prescott, Wis. Device for turning down and burying stalks, weeds, &c	Feb. 18, 1868.
	Collins, William T., and N. P. Chipman. (*See* Chipman & Collins) (Design.)	
77, 458	Collinson, Henry, assignor through mesne assignments to James O. Boyle, Boston, Mass. Grate bar	May 5, 1868.
83, 932	Colman, A. E., New York, N. Y. Scrubbing brush	Nov. 10, 1868.
	Colony, Ormond E., and Oscar B. Blake. (*See* Blake & Colony.)	
84, 996	Colston, W. A., Great Bend, Pa. Liquid cooler	Dec. 15, 1868.
80, 915	Colt, Leander, Niagara Falls, N. Y. Auger	Aug. 11, 1868.
75, 863	Colton, Aaron, Sycamore, Ill. Damper for stove pipes	Mar. 24, 1868.
	Colton, Aruna C., and Lewis Dowe. (*See* Dowe & Colton.)	
	Colton, G., *et al.* (*See* Robbins, Henry R., assignor.)	
	Colton, Winslow M., and John M. May. (*See* May & Colton.)	
	Colt's Fire-arms Manufacturing Company. (*See* Thuer, F. Alexander, assignor.)	
74, 507	Colvin, L. O., New York, N. Y. Cow-milking machinery	Feb. 18, 1868.
79, 317	Same.....Cow-milking machine	June 30, 1868.
80, 335	Colvin, Paschal, Pecatonica, Ill. Cheese vat	July 28, 1868.
77, 359	Colwell, Lewis, New York, N. Y. Valve for sugar pans	Apr. 28, 1868.
	Colwell, Lewis and Joseph, *et al.* (*See* Shaw, W. Anthony, assignor) (Reissue.)	
80, 916	Colwell, Thomas, Troy, N. Y. Cooking stove	Aug. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,504	Colwell, William S., Pittsburg, Pa. Plow	Jan. 21, 1868.
74,309	Same.....Machine for dressing staves	Feb. 11, 1868.
83,466	Same.....Allegheny City, Pa. Stave machine	Oct. 27, 1868.
73,505	Colwell, W. S., assignor to James M. Hemphill, Pittsburg, Pa. Stave machine	Jan. 21, 1868.
79,955	Combs, Elizabeth A., Monroe, Wis. Bleaching apparatus	July 14, 1868.
76,715	Combs, George W., assignor to self and J. B. Murray & Sons, Canandaigua, N. Y. Car brake	Apr. 14, 1868.
74,310	Comery, Edward M., Hudson, Mass. Cast-off for sewing machines	Feb. 11, 1868.
74,798	Comey, Albert, Cuyahoga Falls, Ohio. Clothes-line holder	Feb. 25, 1868.
74,799	Commins, John, Charleston, S. C. Mode of treating mineral phosphates for the manufacture of fertilizers	Feb. 25, 1868.
78,061	Same.....same	May 19, 1868.
3,008	Same.....same.....(Reissue)	June 30, 1868.
81,879	Comp, Alfred H., Mt. Joy, Pa. Plane	Sept. 8, 1868.
74,667	Compton, Benjamin D., Dowagiac, Mich. Water wheel	Feb. 18, 1868.
73,234	Compton, George N., Canton, Ohio. Pole attachment	Jan. 14, 1868.
78,062	Compton, Peter, Sullivansville, N. Y. Beehive	May 19, 1868.
77,961	Comstock, Charles C., Grand Rapids, Mich. Raft dog	May 19, 1868.
83,467	Comstock, L. Richardson, and James N. Cherry, Keokuk, Iowa. Refrigerator and cooler	Oct. 27, 1868.
74,992	Comstock, Thomas C., Harrodsburg, Ky. Implement	Mar. 3, 1868.
3,131	Comstock, William C., Essex, Conn. Ivory tablet.....(Design)	July 28, 1868.
82,603	Conant, Abel, Lowell, Mass. Sash fastener	Sept. 29, 1868.
75,246	Conant, Charles W., Gardner, Mass. Rocking chair	Mar. 10, 1868.
2,937	Conant, H. P., Boston, Mass. Hat rack.....(Design)	Feb. 18, 1868.
3,214	Conant, Jotham S., assignor through mesne assignments to himself, Hackensack, N. J. Sewing machine.....(Reissue)	Nov. 24, 1868.
84,732	Conant, Leander T., New Lisbon, Ohio. Wash boiler	Dec. 8, 1868.
76,401	Conant, Samuel F., Skowhegan, Maine. Hair crimper	Apr. 7, 1868.
74,311	Conant, Samuel F., and Horace A. Manley, Skowhegan, Maine. Photographic-printing frame	Feb. 11, 1868.
	Conant, Washington Irving. (*See* Cummings, Daniel M., assignor.)	
82,208	Conday, Paul, assignor to self and Charles F. Leisen, Philadelphia, Pa. Apparatus for brewing malt liquor	Sept. 15, 1868.
78,063	Conde, Daniel T., Beloit, Wis. Sad-iron holder	May 19, 1868.
	Condie, James, and Benjamin J. Harrison. (*See* Harrison & Condie).....(Reissue.)	
74,800	Condon, Samuel E., Williamsburg, N. Y. Curling iron	Feb. 25, 1868.
74,801	Same.....Brooklyn, N. Y. Dust pan	Feb. 25, 1868.
76,163	Cone, E. G., East Hampton, Conn. Sleigh bell	Mar. 31, 1868.
3,160	Same.....same.....(Design)	Aug. 18, 1868.
83,468	Same.....Call bell	Oct. 20, 1868.
75,628	Conklin, Alexander, Hartford, Conn. Reaming tool	Mar. 17, 1868.
83,257	Conklin, A. V., Bennington, Ohio. Beehive	Oct. 20, 1868.
82,804	Conklin, Henry N., Indianapolis, Ind. Door and gate closer	Oct. 6, 1868.
80,394	Conklin, Isaiah B., Baltimore, Md. Stubble cutter	July 28, 1868.
80,146	Conklin, John C., Yorktown, N. Y. Pickaxe	July 21, 1868.
	Conklin, Oliver P. (*See* Raymond, George, assignor.)	
77,171	Conklin, Thomas B., Rockford, Ill. Drive well	Apr. 28, 1868.
78,929	Conlin, James S., New York, N. Y. Shooting gallery	June 16, 1868.
	Conlon, Wilson, and John W. Burnham. (*See* Burnham & Conlon.)	
	Connar, Thomas. (*See* Blake, George, assignor.)	
83,763	Connell, Andrew James, New York, N. Y. Method of manufacturing show-cards, labels, &c	Nov. 3, 1868.
82,385	Connelly, J. J., Chicago, Ill. Equalizer for vehicles	Sept. 22, 1868.
76,606	Conner, A. J., Louisville, Ky. Churn	Apr. 14, 1868.
74,668	Conner, James, Richmond, Ind. Wood-bending machine	Feb. 18, 1868.
	Conner, Jesse L. (*See* Elbertson, John, assignor.)	
78,263	Conner, Joseph, jr., Chicago, Ill. Stair-carpet fastener and protector	May 26, 1868.
	Conner, J. B., and T. W. M., Castle. (*See* Castle & Conner.)	
76,402	Conner, Williston, Rensselaerville, N. Y. Sap spile	Apr. 7, 1868.
78,787	Same.....Hop pole	June 9, 1868.
80,059	Connet, A. M., Madison, Ind. Boring machine	July 21, 1868.
75,736	Connett, Matthew F., assignor to self, T. G. Maiden, and Wm. C. Hendricks, Ladoga, Ind. Wood-turning lathe	Mar. 24, 1868.
2,942	Connolly, John P., Ravenswood, N. Y. Cuspador.....(Design)	Mar. 3, 1868.
84,797	Connolly, Michael, Newark, N. J. Spade	Dec. 8, 1868.
79,637	Conor, James E., Brooklyn, N. Y. Press	July 7, 1868.
76,578	Conrad, Simon, Petaluma, Cal. Cultivator and harrow	Apr. 7, 1868.
3,084	Conradt, Augustus, Philadelphia, Pa. Handle of spoons or forks.....(Design)	June 30, 1868.
3,085	Same.....Fork or spoon handle.....(Design)	June 30, 1868.
77,459	Conron, George, New York, N. Y. Water closet	May 5, 1868.
79,318	Same.....Water-closet automatic supply regulator	June 30, 1868.
	Conroy, B. W. (*See* Allen, George, assignor.)	
76,054	Contessa, Francis B., New York, N. Y. Cording attachment for sewing machines	Mar. 31, 1868.
82,805	Convers, Jules, France. Making crank shafts	Oct. 6, 1868.
77,460	Converse, A. L., Springfield, Ill. Churn	May 5, 1868.
85,214	Converse, Charles J., Boston, Mass. Bottle stopper. (Antedated Dec. 11, 1868)	Dec. 22, 1868.
78,264	Converse, Morton E., Rindge, N. H., and Abel T. Atherton, Lowell, Mass. Manufacture of pyroligneous acid. (Antedated May 13, 1868)	May 26, 1868.
3,098	Converse, Paschal, New Haven, Conn. Clock case.....(Design)	July 14, 1868.
3,238	Same.....same.....(Design)	Nov. 17, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,589	Converse, William F., Harrison, Ohio. Portable fence	May 5, 1868.
74,669	Conway, Hannah, Dayton, Ohio. Hospital bed	Feb. 18, 1868.
83,258	Conway, William, Rushville, N. Y. Seat lock for carriages	Oct. 20, 1868.
77,590	Conway, W. H., assignor to self and J. H. J. Rutter, Harrison, Md. Steering apparatus	May 5, 1868.
83,933	Coogan, Edward, and Howard Miller, Washington, D. C. Tip for chair legs	Nov. 10, 1868.
81,345	Cook, Alonzo P., assignor to self and Sylvanus B. Cook, Collins Center, N. Y. Milk can	Aug. 25, 1868.
78,788	Cook, A. W., and R. Dempster, assignors to selves and J. S. Semon, Buffalo, N. Y. Hydro-carbon burner	June 9, 1868.
80,917	Cook, Charles O., assignor to self and R. P. Blaisdell, Rockford, Ill. Coopers' croze	Aug. 11, 1868.
85,284	Cook, Elisha H., Clarendon, Mich. Seed and fertilizer sower	Dec. 29, 1868.
	Cook, E. R. (*See* Pine, George, assignor.)	
73,506	Cook, Frederick, New York, N. Y. Hydro-carbon burner	Jan. 21, 1868.
	Cook, George H. (*See* Clark, Nathan F., assignor.)	
79,956	Cook, George W., Macon, Ill. Cultivator	July 14, 1868.
74,993	Cook, Isaac, assignor through mesne assignments to self and George P. Herthel, jr., St. Louis, Mo. Adjustable seat	Mar. 3, 1868.
74,050	Cook, James, West Groton, Mass. Tobacco pipe	Feb. 4, 1868.
81,987	Cook, James M., Washington, D. C. Car coupling	Sept. 8, 1868.
	Cook, John, and James M. Milroy. (*See* Milroy & Cook.)	
77,360	Cook, John B., Lyons, Iowa. Wagon brake	Apr. 28, 1868.
76,894	Cook, J. C., assignor to self and John C. Clifford, Buffalo, N. Y. Bosom pad	Apr. 21, 1868.
84,937	Cook, John F., assignor to George F. Page, Joseph Roberts, and George L. McCahan, Baltimore, Md. Head block	Dec. 15, 1868.
79,731	Cook, J. M., Lake Village, N. H. Water wheel	July 7, 1868.
73,165	Cook, J. S., West Groton, Mass. Whip	Jan. 7, 1868.
	Cook, Ossian, and John S. Everitt. (*See* Everitt & Cook.)	
	Same.....same...	
81,143	Cook, Porter, Baltimore, Md. Sheet-metal can	Aug. 18, 1868.
73,580	Cook, Ransom, Saratoga Springs, N. Y. Scissors	Jan. 21, 1868.
81,069	Same.....Bit for boring wood	Aug. 18, 1868.
	Cook, R., & Sons. (*See* McCoy, E. B., assignor.)	
83,934	Cook, Warren, Arsenal, Pa. Rolling pin	Nov. 10, 1868.
74,802	Cook, W. C., Appleton, Wis. Running gear for wheeled vehicles	Feb. 25, 1868.
82,292	Cook, William H., Bridgehampton, N. Y. Horse rake	Sept. 22, 1868.
79,208	Cooke, Augusta, Orange, N. J. Toy head for canes	June 23, 1868.
75,126	Cooke, O. H., Morristown, Vt. Shoe lacer	Mar. 3, 1868.
77,461	Same.....Morrisville, Vt. Potato washer	May 5, 1868.
78,362	Cooke, Robert F., Newark, N. J. Cotton picker	May 26, 1868.
81,605	Cookson, John C., Lancaster, Pa. Distilling apparatus for spirits	Sept. 1, 1868.
	Cooley, A. B. (*See* Elliott, J. S., assignor.)	
81,754	Cooley, Pindar F., Pittsfield, Mass. Whip hanger	Sept. 1, 1868.
85,285	Coolidge, Charles S., and Joseph A. Rollins, Jersey Mills, Pa. Portable fence	Dec. 29, 1868.
73,079	Coombs, William H., Fort Wayne, Ind. Machine for pressing brick	Jan. 7, 1868.
80,147	Cooney, C. M., Washington, D. C. Perforated bake pan	July 21, 1868.
80,918	Coons, M. P., Brooklyn, N. Y. Carburetter	Aug. 11, 1868.
	Coons, Robert, and David Sarver. (*See* Sarver & Coons.)	
75,864	Cooper, Edward A., Lancaster, N. Y. Hames fastener	Mar. 24, 1868.
79,107	Same.....Buffalo, N. Y. Harness snap	June 23, 1868.
83,134	Same.....Snap hook	Oct. 20, 1868.
84,412	Cooper, E. W., assignor to self and Lukens Cooper, Williamstown, N. J. Glass mold	Nov. 24, 1868.
78,930	Cooper, George, assignor to Victor E. Manger, New York, N. Y. Lithographic press	June 16, 1868.
	Cooper, George, and Augustus Schuffert. (*See* Schuffert & Cooper.)	
80,604	Cooper, George W., Ogeechee, Ga. Rice cultivator. (Antedated July 30, 1868)	Aug. 4, 1868.
84,798	Same.....Plow share	Dec. 8, 1868.
75,629	Cooper, John, Dublin, Ind. Washing machine. (Antedated March 6, 1868)	Mar. 17, 1868.
80,275	Cooper, John, assignor to self and Bennett F. DeWitt, Dublin, Ind. Coal stove	July 28, 1868.
82,921	Cooper, John L., assignor to self and Joshua E. Fellows, Preston, Conn. Metallic counter brace	Oct. 13, 1868.
84,938	Cooper, Joseph Rock, England. Breech-loading fire-arm	Dec. 15, 1868.
73,080	Cooper, William, Deposit, N. Y. Melodeon	Jan. 7, 1868.
82,922	Cooper, William, Paris, Maine. Ox yoke	Oct. 13, 1868.
83,764	Cooper, William, Galesburg, Ill. Washing machine	Nov. 3, 1868.
79,638	Cooper, William, jr., and W. D. Rumsey, Howell, Mich. Snap hook	July 7, 1868.
73,438	Cooper, William H., and George Gregory, assignors to Lawrence, Bradley & Pardee, New Haven, Conn. Carriage perch	Jan. 21, 1868.
74,803	Cooper, William S., Philadelphia, Pa. Globe valve	Feb. 25, 1868.
74,896	Same.....Valve for water closets	Feb. 25, 1868.
75,374	Same.....Water closet valve	Mar. 10, 1868.
75,375	Same.....Water closet	Mar. 10, 1868.
75,376	Same.....Valve cock	Mar. 10, 1868.
76,164	Same.....Globe valve	Mar. 31, 1868.
	Cope, John E., *et al.* (*See* Joy, David, assignor.)	
73,300	Copeland, Ira, North Bridgewater, Mass. Fruit box	Jan. 14, 1868.
73,439	Copeland, Robert Avis, Baltimore, Md. Device for leaky boiler tubes	Jan. 21, 1868.
78,862	Copley, Josiah, jr., Allegheny, Pa. Forging machine. (Antedated June 4, 1868.)	June 16, 1868.
78,579	Copp, Monroe M., assignor to A. Carnes, Albion, N. Y. Thill coupling for carriages	June 2, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Copp, William H. (*See* Quiney, Edmund W., assignor.)	
80,458	Corbeil, Joseph, Lind, Wis. Potato bug cleaner	July 28, 1868.
83,833	Corbett, Virgil P., Alexandria, Va. Potato digger. (Antedated Oct. 31, 1868)	Nov. 10, 1868.
78,064	Corbin, Freeman N., Champlain, N. Y. Whiffletree evener	May 19, 1868.
	Corbin, P. and F. (*See* Blake, Henry D., assignor.)	
	Same ..... same.	
	Same ..... (*See* Arnold, S. D., assignor) ..... (Design.)	
	Same ..... (*See* Munger, W. T., assignor.)	
	Same ..... same.	
	Same ..... same.	
77,002	Corbin, S. W., assignor to self and J. B. Sands, Vallonia Springs, N. Y. Method of tightening tires	Apr. 21, 1868.
75,865	Corbit, Christopher, Christiana, Pa. Mill step	Mar. 24, 1868.
77,172	Corbit, George W., James M. Orput, and George M. Case, Malta, Ill. Churn	Apr. 28, 1868.
77,462	Corby, A. B., Binghamton, N. Y. Churn	May 5, 1868.
82,604	Cordier, V., assignor to John Gatliff and Clement Dietrich, France. Paint oil	Sept. 29, 1868.
76,165	Corduan, Joseph, assignor to self and R. W. Potter, Brooklyn, N. Y. Fluid indicator	Mar. 31, 1868.
76,166	Corduan, Joseph, Brooklyn, N. Y. Lubricating composition. (Antedated March 17, 1868)	Mar. 31, 1868.
	Corey, Thomas. (*See* Stearns, Caleb S., assignor.)	
	Same ..... same.	
	Same ..... same.	
85,286	Corfield, William, Philadelphia, Pa. Distilling apparatus	Dec. 29, 1868.
85,287	Same ..... same	Dec. 29, 1868.
79,209	Corliss, Charles, Haverhill, Mass. Instrument for adding figures	June 23, 1868.
	Corliss, Charles, and Nelson Spofford. (*See* Spofford & Corliss.)	
74,312	Cornell, John B., New York, N. Y. Metallic column	Feb. 11, 1868.
	Cornell, John S., and Robert L. Reaney. (*See* Reaney & Cornell.)	
84,050	Cornell, Wesley, and Thomas L. Blakley, Buchanan, Mich. Washing machine	Nov. 17, 1868.
81,144	Cornell, William F., Adrian, Mich. Surface gauge	Aug. 18, 1868.
81,145	Cornell, William F., assignor to self and Silas Hurlbut, Adrian, Mich. Ratchet brace	Aug. 18, 1868.
84,171	Same ..... Skate. (Antedated Nov. 7, 1868)	Nov. 17, 1868.
76,167	Cornell, W. S., New York, N. Y. Manufacture of cheese	Mar. 31, 1868.
	Cornely, Emile. (*See* Bonnaz, Antoine, assignor.)	
	Same ..... same.	
73,696	Cornely, Emil, Washington, D. C. Washing machine	Jan. 28, 1868
	Corning, Douglass, *et al.* (*See* Cawl, Corning & Wheeler.)	
	Corning, Edward. (*See* Hebbard, Alonzo, assignor) ..... (Design.)	
74,508	Corns, James M., Black Rock, N. Y. Curtain fixture	Feb. 18, 1868.
74,051	Cornwall, N. E., New York, N. Y. Heating furnace	Feb. 4, 1868.
74,200	Corr, T. J., Carlinville, Ill. Flour and meal chest	Feb. 11, 1868.
3,266	Corrigan, John, Charlestown, Mass. Axle box for railway carriages (Design)	Dec. 1, 1868.
84,799	Corrister, William D., New York, N. Y. Fluting machine	Dec. 8, 1868.
83,043	Corriston, Jackson, Sandusky City, Ohio. Air spring	Oct. 13, 1868.
	Corry Machine Company. (*See* Yost, G. W. N., assignor.)	
	Same ..... same.	
	Same ..... same.	
	Same ..... same.	
	Same ..... same.	
	Same ..... same.	
	Same ..... same.	
	Same ..... same.	
	Same ..... same.	
	Same ..... same.	
	Same ..... same.	
81,254	Corsett, Charles S., Middleville, Mich. Water wheel	Aug. 18, 1868.
74,313	Corson, Jacob, Clinton, N. J. Grain sieve	Feb. 11, 1868.
77,591	Corson, John, Washington, D. C. Collecting gold, silver, and other metals from their ores	May 5, 1868.
78,789	Corson, William, Camden, Ohio. Portable fence	June 9, 1868.
82,091	Cory, James, Wayne, Mich. Buckle	Sept. 15, 1868.
83,606	Cory, John F., New York, N. Y. Noiseless bell pull	Nov. 3, 1868.
73,301	Cosfeldt, C. F., jr., Philadelphia, Pa. Low-water detector for boilers	Jan. 14, 1868.
78,650	Cosler, Lewis, Yellow Springs, Ohio. Thresher for grain, clover, flax, &c	June 9, 1868.
82,293	Cothron, John, assignor to self and D. J. Mayes, Illiopolis, Ill. Post-hole borer	Sept. 22, 1868.
83,834	Cotter, Harry C., and George G. Green, Fort Wayne, Ind. Safety switch lock	Nov. 10, 1868.
83,694	Cotterill, Samuel T., assignor to Cotterill, Fenner & Company, Dayton, Ohio. Tobacco dryer	Nov. 3, 1868.
	Cotton, Arial C. (*See* Pardee, Isaac, assignor.)	
78,651	Couch, John O., Middlefield, Conn. Clothes pin	June 9, 1868
	Coulborn, John L. (*See* Perry, Samuel, assignor.)	
76,055	Coulon, Frederick, Rockford, Ill. Knife for cutting straw bands	Mar. 31, 1868.
84,997	Coulson, Jesse, Oskaloosa, Iowa. Fire alarm	Dec. 15, 1868.
77,592	Coult, Joseph H., San Francisco, Cal. Furnace and condenser for collecting quicksilver	May 5, 1868.
76,716	Coulter, Henry, Philadelphia, Pa. Lamp burner	Apr. 14, 1868.
73,954	Coulter, John, jr., Xenia, Ohio. Lifting jack. (Antedated January 31, 1868)	Feb. 4, 1868.
84,413	Coulter, William F., G. F. Trabue, and W. A. Lowrey, Hardinsburg, Ind. Cultivator	Nov. 24, 1868.
82,605	Courtleyow, Jacob, Chariton, Iowa. Machine for setting and cooling tire	Sept. 29, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,255	Courtney, John P., and Charles Redmayne, Brooklyn, N. Y. Device for applying cloth patches to paper collars	Aug. 18, 1868.
83,935	Courvoisier, Ph., France. Fastener for gloves	Nov. 10, 1868.
74,201	Covel, E. Hall, New York, N. Y. Clothes wringer	Feb. 11, 1868.
74,052	Covel, E. Hall, assignor to Home Manufacturing Company, New York, N. Y. Washing machine	Feb. 4, 1868.
84,460	Covel, E. Hall and William H., New York, N. Y. Gas machine	Nov. 24, 1868.
	Coveny, Thomas R., *et al.* (*See* Clifford, Wm., assignor.)	
72,979	Cover, William, Jenner's Cross Roads, Pa. Animal trap	Jan. 7, 1868.
73,581	Covert, E. and J. C., Farmer Village, N. Y. Neck yoke	Jan. 21, 1868.
74,897	Covert, J. C., Newark, N. J. Snap hook	Feb. 25, 1868.
77,463	Covert, Lewis B., New York, N. Y. Extension step-ladder	May 5, 1868.
75,247	Covey, L. S., and John Duffy, St. Croix County, Wis. Mop press	Mar. 10, 1868.
	Coville, L., and B. M. Pearne. (*See* Pearne & Covey.)	
77,593	Covington, Samuel F., Cincinnati, Ohio. Register for railroad fares	May 5, 1868.
82,806	Cowan, William J., Cortland, N. Y. Potato digger	Oct. 6, 1868.
	Coward, Robert, and James Bingham. (*See* Bingham & Coward.)	
79,957	Cowell, John, Ansonia, Conn. Toothed wheel	July 14, 1868.
82,807	Cowell, R. A., Cleveland, Ohio. Railway-car coupling	Oct. 6, 1868.
80,795	Cowing, Henry, New Orleans, La. Agricultural machine	Aug. 4, 1868.
	Cowles, C., & Company. (*See* Downs, James H., assignor.)	
	Same.....same.	
	Cowles, L., *et al.* (*See* Fowler, Herbert E., assignor.)	
80,605	Cowles, L. D., Romeo, Mich. Buckle	Aug. 4, 1868.
75,866	Cowles, Samuel H., Oakville, Conn. Car coupling	Mar. 24, 1868.
85,072	Cowley, William H., Cleveland, Ohio. Gate	Dec. 22, 1868.
84,733	Cowling, Eben L., assignor to James P. Bridge, Boston, Mass. Preserving wood	Dec. 8, 1868.
80,919	Cox, David, Cincinnati, Ohio. Rocking and reclining chair	Aug. 11, 1868.
79,108	Cox, David B., Troy, N. Y. Extension ring for base of heating stoves	June 23, 1868.
80,532	Same.....Coal stove	Aug. 4, 1868.
80,920	Same.....Damper	Aug. 11, 1868.
83,044	Cox, Gardner, Pierpont, N. Y. Water wheel	Oct. 13, 1868.
	Cox, J. H., and Amos Rank. (*See* Rank & Cox.)	
81,880	Cox, James L., Manchester, N. H. Bed lounge	Sept. 8, 1868.
77,259	Cox, Jerome B., San Francisco, Cal. Apparatus for disintegrating ores	Apr. 28, 1868.
80,606	Same.....Apparatus for disintegrating gravel containing gold, &c	Aug. 4, 1868.
75,377	Cox, John S., Delaware, Ohio. Refrigerator coffins	Mar. 10, 1868.
	Cox, John W., and Alexander D. Shaw. (*See* Oliver, John S., assignor.)	
84,734	Cox, Needham, assignor to self, Christopher M. Houts, and J. S. Moore, Salem, Ill. Tanning composition	Dec. 8, 1868.
73,166	Cox, S. H., and W. H. Pence, Mattoon, Ill. Corn plow	Jan. 7, 1868.
	Cox, Whiteman & Cox. (*See* Rose & Calely, assignors.).....(Design.)	
	Same.....same.....(Design.)	
78,432	Cox, William Henry, Portland, Maine. Sand-throwing machine	June 2, 1868.
	Cox, W. J., and J. H. Redfield. (*See* Redfield & Cox.)	
78,065	Coy, F. W., Boston, Mass. Carpenters' gauge	May 19, 1868.
83,607	Coyle, Patrick H., Newark, N. J. Boiler-flue brush	Nov. 3, 1868.
3,267	Crabtree, Benjamin, jr., Philadelphia, Pa. Carpet pattern.....(Design)	Dec. 1, 1868.
3,144	Crabtree, Benjamin, jr., assignor to John Bromley & Sons., Philadelphia, Pa. Carpet pattern.....(Design)	Aug. 4, 1868.
3,145	Same.....same.....(Design)	Aug. 4, 1868.
3,146	Same.....same.....(Design)	Aug. 4, 1868.
3,147	Same.....same.....(Design)	Aug. 4, 1868.
75,248	Crabtree, John F. and William N., Visalia, Cal. Gun lock	Mar. 10, 1868.
	Crabtree, John F., and Salmon Belden. (*See* Belden & Crabtree.)	
	Same.....same.	
84,092	Cracraft, Z. S., Lacon, Ill. Means for securing slats to springs of bed bottom	Nov. 17, 1868.
80,459	Crafts, James M., Boston, Mass. Ageing and purifying spirits	July 28, 1868.
77,173	Cragne, Francis and George G., assignors through mesne assignments to William N. Higgins, F. O. Sands, W. M. Emerson, and W. T. McNally, Lewiston, Maine. Roller for drawing machines	Apr. 28, 1868.
77,260	Craig, Andrew J., Ashmore, Ill. Double-shovel plow	Apr. 28, 1868.
82,923	Same.....Ashmore Station, Ill. Harrow	Oct. 13, 1868.
74,314	Craig, Isaac E., Camden, Ohio. Manufacture of sheet iron. (Antedated Jan. 30, 1868)	Feb. 11, 1868.
78,652	Craig, John W., Knoxville, Ill. Brace for bits	June 9, 1868.
84,860	Craig, Lee D., Nevada City, Cal. Hair-cutting shears	Dec. 15, 1868.
73,167	Craig, William, Uniontown, Pa. Flour bolt	Jan. 7, 1868.
84,172	Craige, E. H., Brooklyn, N. Y. Paper file	Nov. 17, 1868.
76,403	Craigie, Hugh H., New York, N. Y. Water closet. (Antedated April 1, 1868)	Apr. 7, 1868.
84,262	Same.....same	Nov. 24, 1868.
	Cram, A. (*See* Mets, E., assignor.)	
82,924	Cramer, Charles H., Rutland, N. Y. Washing machine	Oct. 13, 1868.
82,090	Cramer, E. D., Hackettstown, N. J. Seed coverer	Sept. 15, 1868.
83,835	Cramer, Gustav, and Julius Gross, St. Louis, Mo. Posing apparatus for photographers	Nov. 10, 1868.
	Cramer, Isaac S., and Benjamin J. Davis. (*See* Davis & Cramer.)	
	Cramer, Joel B., *et al.* (*See* Griswold, Cramer & Bly.)	
75,249	Cramer, John D., San Francisco, Cal. Device for raising and lowering window sash	Mar. 10, 1868.
80,336	Cramer, Philipp, Providence, R. I. Clothes wringer	July 28, 1868.
74,053	Cramton, Giles, Marshall, Mich. Three-horse equalizer	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,060	Cramton, Giles, and Pratt A. Spicer, Marshall, Mich. Three-horse equalizer	July 21, 1868.
84,615	Crampton, Joseph, New York, N. Y. Steam-engine valve gear	Dec. 1, 1868.
80,921	Crance, Henry A., Lewisburg, Pa. Churn dasher	Aug. 11, 1868.
79,553	Crandall, Benjamin P., New York, N. Y. Velocipede	July 7, 1868.
3,207	Same.....same.....(Reissue)	Nov. 24, 1868.
73,302	Crandall, F. H., Ontario, N. Y. Device for straining wire fences	Jan. 14, 1868.
83,469	Crandall, Horace I., New Bedford, Mass. Cog wheel for gearing	Oct. 27, 1868.
78,433	Crandall, William R., Deansville, N. Y. Hop box	June 2, 1868.
81,346	Crandell, John, assignor to Lamb Knitting Machine Manufacturing Company, Chicopee, Mass. Treadle attachment for sewing machines. (Antedated Aug. 17, 1868)	Aug. 25, 1868.
84,414	Same.....Gathering attachment for sewing machines	Nov. 24, 1868.
	Crandell, John, and Elihu Wilder. (*See* Wilder & Crandell.)	
80,061	Crandell, William, Philadelphia, Pa. Shaft coupling	July 21, 1868.
84,861	Crane, Albert O., Boston, Mass. Heel for boots and shoes	Dec. 15, 1868.
74,509	Crane, Charles S., Selma, Ala. Card safe	Feb. 18, 1868.
81,606	Crane, Cordial, Boston, Mass. Dryer	Sept. 1, 1868.
73,876	Crane, Elisha, Elkhart City, Ill. Device for scarifying the soil preparatory to plowing	Jan. 28, 1868.
76,404	Same.....same	Apr. 7, 1868.
81,755	Crane, Elliott H., Burr Oak, Mich. Compound for embalming dead bodies	Sept. 1, 1868.
	Crane, E. W., and John A. Lieb. (*See* Lieb & Crane.)	
82,470	Crane, F. A., Zanesville, Ohio. Hay elevator	Oct. 27, 1868.
84,263	Crane, James B., Dalton, Mass. Manufacture of paper belting	Nov. 24, 1868.
81,986	Crane, John H., Charlestown, Mass. Flexible abrader and polishing machine	Sept. 8, 1868.
74,315	Crane, John S., Lake Village, N. H. Button-hole cutter	Feb. 11, 1868.
80,922	Crane, Moses G., Newton, Mass. Electro-magnetic alarm	Aug. 11, 1868.
83,695	Crane, M. Z., New York, N. Y. Receptacle for watch keys and other articles	Nov. 3, 1868.
76,717	Crane, Richard T., Chicago, Ill. Ventilator	Apr. 14, 1868.
76,718	Same.....same	Apr. 14, 1868.
80,607	Same.....Core bar	Aug. 4, 1868.
73,697	Crane, Thomas, Fort Atkinson, Wis. Knitting machine	Jan. 28, 1868.
77,962	Same.....Coal stove	May 19, 1868.
78,187	Same.....Washing machine	May 26, 1868.
	Crane, W. E., and W. L. Rogers. (*See* Rogers & Crane.)	
77,261	Crane, Wellsly W., Auburn, N. Y. Self-lubricating box for shafting	Apr. 28, 1868.
75,378	Crane, William J., Carbondale, Pa. Creaser for cloth	Mar. 10, 1868.
82,294	Crane, William W., Philadelphia, Pa. Door for furnaces	Sept. 22, 1868.
74,994	Cranmer, T. J., Vallicita, Cal. Self-loading battery gun	Mar. 3, 1868.
82,495	Cranna, William R., San Francisco, Cal. Lamp burner	Oct. 29, 1868.
73,877	Cranston, James F., Springfield, Mass. Priming metallic cartridge	Jan. 28, 1868.
73,507	Cranston, James F., assignor to self and S. W. Porter, Springfield, Mass. Machine for making and dipping matches	Jan. 21, 1868.
81,478	Cranston, James F., assignor to the American Trading Company, Springfield, Mass. Construction of cartridge shells	Aug. 25, 1868.
81,256	Crapster, William W., Mechanicsburg, Pa. Hoisting apparatus	Aug. 18, 1868.
75,666	Crary, Archibald C., Utica, N. Y. Power attachment to sewing machines	Mar. 17, 1868.
75,667	Same.....Apparatus for operating sewing machines	Mar. 17, 1868.
77,871	Same.....Heating railroad cars	May 12, 1868.
	Crary, E. M., and E. V. Machette, jr. (*See* Machette & Crary.)	
73,508	Crary, Palmyra, Lowville, N. Y. Curd breaker	Jan. 21, 1868.
84,800	Craven, Thomas C., Albany, N. Y. Hay spreader	Dec. 8, 1868.
	Same.....(*See* Barnard, A. B., assignor.)	
75,250	Crawford, Benjamin, Allegheny City, Pa. Hames	Mar. 10, 1868.
76,607	Same.....Pittsburg, Pa. Steam generator	Apr. 14, 1868.
78,066	Crawford, E. F., Canaan, Ind. Combined seeder and cultivator	May 19, 1868.
78,067	Crawford, John C., St. Charles, Ill. Washing machine	May 19, 1868.
78,364	Crawford, Peter S., Rockford, Ill. Harness buckle	May 26, 1868.
74,995	Crawford, Robert, Mercer, Pa. Churn dasher	Mar. 3, 1868.
77,003	Crawford, W. O., North Star, Pa. Ventilator	Apr. 21, 1868.
	Crawley, Edwin, and Thomas L. Baylies. (*See* Baylies & Crawley.)	
	Creamer, A. L., *et al.* (*See* Worth, H. B., assignor.)	
78,265	Creamer, George N., assignor to self and John B. Lalor, Trenton, N. J. Safety hatch	May 26, 1868.
73,509	Creamer, William G., Brooklyn, N. Y. Car brake	Jan. 21, 1868.
73,510	Same.....Car seat	Jan. 21, 1868.
73,698	Same.....Signal-rope guide	Jan. 28, 1868.
2,910	Same.....Car basket.....(Design)	Feb. 4, 1868.
74,510	Same.....Seat-arm for railroad chairs	Feb. 18, 1868.
68,068	Creed, A. J., Hopkinton, Iowa. Liniment	May 19, 1868.
79,448	Cregier, D. C., Chicago, Ill. Dredging machine	June 30, 1868.
74,996	Crehore, Charles F., Newton Lower Falls, Mass. Process of treating paper for various purposes	Mar. 3, 1868.
83,135	Cressey, George G., Philadelphia, Pa. Venting core. (Antedated Oct. 8, 1868)	Oct. 20, 1868.
	Cressler, J. B., and Thaddeus Donely. (*See* Donely & Cressler.)	
	Cresson & Smith. (*See* Hubbard, George W., assignor.)	
	Same.....(*See* Hubbard & Smith, assignors.)	
	Same.....(*See* Smith, Scott A., assignor.)	
79,554	Cresson, Charles M., Philadelphia, Pa. Preserving wood	July 7, 1868.
	Cresswell, Henry. (*See* Paine, Clinton J., assignor.)	
79,811	Crew, Benjamin J., Philadelphia, Pa. Mustard plaster	July 14, 1868.
84,345	Crider, John J., Greenfield, Ind. Grain screen	Nov. 24, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,881	Cridge, Matthew, Allegheny, City, Pa. Hot-bed sash and frame	Sept. 8, 1868.
76,405	Crighton, William, and Henry Roesler, Fort Wayne, Ind. Brick machine	Apr. 7, 1868.
84,616	Crispin, Silas, New York, N. Y. Cartridge box	Dec. 1, 1868.
78,434	Crittenden, Lyman B., Pittsburg, Pa. Press for finishing brick	June 2, 1868.
79 319	Crocker, Richard, Marshalltown, Iowa. Horseshoe-calk sharpener	June 30, 1868.
	Crocker, Samuel E. (*See* Raymond, George, assignor.)	
75,737	Crocker, Walter, Meadville, Pa. Uterine and abdominal supporter	Mar. 24, 1868.
74,511	Crockett, E. T., Guilford, Maine. Three-wheeled farm wagon	Feb. 18, 1868.
	Crockett, Jacob G. (*See* Hayes, John W., assignor.)	
76,895	Crockett, Seldon L., and Benjamin T. Mills, assignors to Benjamin T. Mills, Lowell, Mass. Cam for card-stripping machine	Apr. 21, 1868.
74,316	Croffut, D. K., Birmingham, Conn. Horse yoke	Feb. 11, 1868.
73,783	Cromelien, Rowland, Washington, D. C. Paddle wheel	Jan. 28, 1868.
79,555	Same.....Car axle	July 7, 1868.
	Crommelin, T., *et al.* (*See* Stoner, John B., assignor.)	
	Same.....same.	
	Same.....same.....(Reissue.)	
	Same.....same.....(Reissue.)	
	Same.....(*See* Stoner, Mendelson & Crommelin.)	
75,530	Crompton, George, Worcester, Mass. Loom	Mar. 17, 1868.
76,406	Same.....Harness operating mechanism for looms	Apr. 7, 1868.
77,361	Same.....Loom	Apr. 28, 1868.
80,608	Same.....same	Aug. 4, 1868.
80,810	Same.....same	Aug. 11, 1868.
81,070	Same.....same	Aug. 18, 1868.
81,347	Same.....same	Aug. 25, 1868.
	Same.....Looms for weaving figured fabrics.....(Extension)	Nov. 12, 1868.
85,432	Same.....Loom	Dec. 29, 1868.
	Same.....(*See* Shinn, John, assignor).....(Reissue.)	
	Cron, P., and M. Leidecker. (*See* Leidecker & Cron.)	
78,863	Cronk, M. C., assignor to self and W. Boynton, Auburn, N. Y. Machine for grinding the knives of mowing machines	June 16, 1868.
	Crooke, John J., and W. H. Van Gieson. (*See* Van Gieson & Crooke.)	
78,188	Crooker, Martin M., assignor to self and Azro B. Allen, Rutland, Vt. Railroad car	May 26, 1868.
73,511	Crosby, A. C., Piqua, Ohio. Jeweling watches	Jan. 21, 1868.
74,898	Crosby, A. J., and O. W. Crow, Bluffton, Ind. Apparatus for bleaching with sulphur fumes	Feb. 25, 1868.
83,765	Crosby, C. O., New Haven, Conn. Tatting	Nov. 3, 1868.
72,980	Crosby, F. W., Toledo, Iowa. Method of roasting metallic ores	Jan. 7, 1868.
	Crosby, George, and F. Buxton. (*See* Buxton & Crosby.)	
	Crosby, Hiram B., *et al.* (*See* Bacon, Thomas K., assignor.)	
84,536	Crosby, John Q., Northboro, Mass. Lifting jack	Dec. 1, 1868.
83,936	Crosby, Mark, Boston, Mass. Parlor bedstead	Nov. 10, 1868.
79,958	Crosby, Robert R., Boston, Mass. Lamp chimney	July 14, 1868.
	Crosby, S. C. (*See* Bogert, Isaac J., assignor.)	
79,210	Cross, Abel J., Greenport, N. Y. Clasp for hoop skirts	June 23, 1868.
80,533	Cross, C. G., Chicago, Ill. Governor for steam engines	Aug. 4, 1868.
73,955	Cross, E., Southbridge, Mass. Shuttle for looms	Feb. 4, 1868.
78,790	Cross, Japheth, Adrian, Mich. Weather strip	June 9, 1868.
79,054	Cross, John G., Brattleboro, Vt. Railway	June 23, 1868.
80,923	Crossley, Henry, Brooklyn, N. Y. Lubricator	Aug. 11, 1868.
73,512	Crossley, Thomas, Bridgeport, Conn. Manufacture of carpets and other fabrics from jute, flax, &c. (Antedated July 22, 1867)	Jan. 21, 1868.
83,365	Crossley, William, Chicago, Ill. Machine for edging metals	Oct. 27, 1868.
72,981	Crossley, William G., Shellsburg, Wis. Combined sulky-plow and cultivator	Jan. 7, 1868.
75,531	Crossley, William George, England. Velocipede for land and water	Mar. 17, 1868.
82,496	Crouch, George, New York, N. Y. Trunk	Sept. 29, 1868.
82,606	Same.....Shawl strap	Sept. 29, 1868.
76,305	Crouse, Henry P., Hartland, Mich. Clothes dryer	Apr. 7, 1868.
79,959	Crouse, Rufus W., Westminster, Md. Pump	July 14, 1868.
77,362	Crow, L. J., and G. Sanderson, Fredericksburg, Ohio. Dryer	Apr. 28, 1868.
	Crow, O. W., and A. J. Crosby. (*See* Crosby & Crow.)	
82,925	Crow, S. E., England. Hydro-carbon burner. (Patented in England June 14. 1867)	Oct. 13, 1868.
	Crowder, A. M., and Zina Doolittle. (*See* Doolittle & Crowder.)	
	Same.....same.	
84,801	Crowell, Elisha, New York, N. Y. Article of prepared codfish	Dec. 8, 1868.
74,202	Crowley, Daniel, assignor to self and J. Stanley Bruner, Philadelphia, Pa. Cleaner for drawing rollers	Feb. 11, 1868.
75,127	Crowther, John, Oxford, Mich. Cultivator	Mar. 3, 1868.
75,379	Cruikshank, Robert, Lawrenceville, N. J. Desk and seat	Mar. 10, 1868.
75,867	Crum, Isaac, West Chester, Ohio. Harrow	Mar. 24, 1868.
85,368	Crumling, Tobias, Cross Roads, Pa. Separator for threshing machines	Dec. 29, 1868.
3,070	Crump, Samuel, and E. C. Hazard, New York, N. Y. Label.....(Design)	June 30, 1868.
83,045	Crumpton, John C., Philadelphia, Pa. Vise	Oct. 13, 1868.
78,435	Cubberley, G. B., Milwaukee, Wis. File. (Antedated May 20, 1868)	June 2, 1868.
75,868	Cullen, John B., assignor through mesne assignments to self, John P. Chester, and John A. Fulton, Philadelphia, Pa. Marine steam governor	Mar. 24, 1868.
83,366	Cullen, John M., and A. J. Baird, Pittsburg, Pa. Drill press	Oct. 27, 1868.
72,982	Cullen, Thomas, San Francisco, Cal. Cartridge for small-arms	Jan. 7, 1868.
82,386	Culler, Michael, Fredericksburg, Ohio. Washing machine	Sept. 22, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,004	Culley, Q. C., Ashtabula, Ohio. Cheese-turning cover	Apr. 21, 1868.
74,054	Culp, George W. D., East Enterprise, Ind. Hay press	Feb. 4, 1868.
80,609	Culp, Henry J., Goshen, Ind. Fence	Aug. 4, 1868.
74,512	Culver, A. M., Bedford, Ohio. Lifting jack	Feb. 18, 1868.
85,369	Culver, C. D., Mauch Chunk, Pa. Railway-car brake	Dec. 29, 1868.
85,215	Culver, Hiram, Dansville, N. Y. Upsetting machine	Dec. 22, 1868.
84,537	Culver, Stephen, Newark, N. Y. Base-burning stove	Dec. 1, 1868.
84,939	Culver, W. B., Scranton, Pa. Hoisting and dumping apparatus	Dec. 15, 1868.
78,864	Cumming, David, jr., New York, N. Y. Method of locking nuts	June 16, 1868.
76,407	Cumming, David, jr., assignor to self and J. C. Cameron, New York, N. Y. Baling press	Apr. 7, 1868.
	Cumming, William, and Daniel Fisher. (*See* Fisher & Cumming.)	
	Cummings, Charles. (*See* Buzzell, John G., assignor.)	
73,235	Cummings, Clara Z., Buffalo, N. Y. Corset. (Antedated Dec. 28, 1867)	Jan. 14, 1868.
85,216	Cummings, Daniel M., assignor to self and Washington Irving Conant, Enfield, N. H. Composition for water-proof paint, &c	Dec. 22, 1868.
84,264	Cummings, D. M., Wyman Pattee, and A. M. Shaw, Enfield, N. H. Divided axle for railways	Nov. 24, 1868.
85,217	Cummings, George L., New York, N. Y. Ice cutter. (Antedated Dec. 15, 1868)	Dec. 22, 1868.
2,908	Cummings, George N., assignor to Charles Parker, Providence, R. I. Eye glass (Reissue)	Mar. 31, 1868.
79,960	Cummings, James P., Newport, Ky. Fire plug	July 14, 1868.
77,719	Cummings, Marcellus V., Winthrop, Maine. Mowing machine	May 12, 1868.
83,471	Cummings, Royal, Newport, Vt. Printing press	Oct. 27, 1868.
79,320	Cummings, Stephen H., Norway, Maine. Sad-iron handle	June 30, 1868.
80,924	Cummings, William, Sacramento, Cal. Belt buckle	Aug. 11, 1868.
76,056	Cumnock, John, Salmon Falls, N. H. Mule for spinning	Mar. 31, 1868.
81,607	Cunningham, Peter, Eckley, Pa. Slotting auger	Sept. 1, 1868.
73,582	Cunningham, Washington, Oxford, N. Y. Butter worker	Jan. 21, 1868.
80,395	Cuplin, Samuel, Iowa Falls, Iowa. Beehive	July 28, 1868.
84,415	Same same	Nov. 24, 1868.
73,303	Cuppers, Gustavus, New York, N. Y. Mechanism for operating sewing machines	Jan. 14, 1868.
80,148	Curie, F. C., Lancaster, Pa. Manufacture of steel, and in converting iron articles into steel	July 21, 1868.
80,460	Same Manufacture of files and rasps	July 28, 1868.
82,607	Same Manufacture of hammers, axes, &c	Sept. 20, 1868.
75,869	Curley, Thomas, Troy, N. Y. Curtain fixture	Mar. 24, 1868.
73,236	Curll, Pearce H., Elk Ridge Landing, Md. Cart harness	Jan. 14, 1868.
83,766	Currie, Daniel, St. Charles, Mo. Rotary steam engine	Nov. 3, 1868.
	Currie, J., *et al.* (*See* Martino, Beesley & Currie) (Design.)	
	Same same (Design.)	
	Same same (Design.)	
	Same same (Design.)	
	Currier, J. H. (*See* Parmele, D. J., assignor.)	
82,497	Currier, John J., Gloucester, Mass. Chimney cowl	Sept. 29, 1868.
76,168	Currier, J. W., Newbury, Vt. Sap bucket	Mar. 31, 1868.
74,055	Curtice, Ezra N., Spring Water, N. Y. Hay loader	Feb. 4, 1868.
80,811	Curtis, Andrew J., Monroe, Maine. Meat chopper	Aug. 11, 1868.
82,387	Curtis, Charles, Galesburg, Ill. Seed sower and harrower combined	Sept. 22, 1868.
82,808	Curtis, Charles B., Jordan, N. Y. Machine for grinding cutters of mowing machines	Oct. 6, 1868.
76,306	Curtis, Charles G., Plano, Ill. Seed sower and cultivator	Apr. 7, 1868.
75,128	Curtis, Francis, Newton, Mass. Roofing felt	Mar. 3, 1868.
79,732	Curtis, Franklin A., East Saginaw, Mich. Water and fire-proof roofing compound	July 7, 1868.
	Curtis, Horace M., *et al.* (*See* Davenport, Joseph D., assignor.)	
75,630	Curtis, H. P., Washington, D. C. Lifting hook, guard, &c., for stoves	Mar. 17, 1868.
84,802	Curtis, John, Cincinnati, Ohio. Step cover and wheel fender for carriages	Dec. 8, 1868.
77,174	Curtis, John, Truro, Ill. Farm gate	Apr. 28, 1868.
	Curtis, Joseph, and S. K. Lighter. (*See* Lighter & Curtis.)	
76,608	Curtis, Lewis P., assignor to self and Justin D. Barker, Marlboro, Mass. Leather trimmer	Apr. 14, 1868.
76,057	Curtis, M. S., and W. D. Tewksbury, New York, N. Y. Hose and pipe coupling. (Antedated March 16, 1868)	Mar. 31, 1868.
77,175	Curtis, R. E., Great Bend, Pa. Cutlery	Apr. 28, 1868.
76,408	Curtis, Timothy A., Brookfield, Mass. Sole-cutting machine	Apr. 7, 1868.
81,608	Curtiss, Jonas P., New Britain, Conn. Machine for grinding metal articles	Sept. 1, 1868.
78,791	Curtiss, Samuel T., assignor to self and Lyman P. Thompkins, El Paso, Ill. Churn	June 9, 1868.
78,189	Curtiss, T. E., Titusville, Pa. Lubricating compound	May 26, 1868.
84,265	Curtiss, William H., Painesville, Ohio. Thill coupling	Nov. 24, 1868.
	Cushing, A., and G. B. (*See* Mayo, John K., assignor) (Reissue.)	
	Same same (Reissue.)	
	Same same (Reissue.)	
	Same same (Reissue.)	
	Same same (Reissue.)	
	Same same (Reissue.)	
	Same same (Reissue.)	
	Same same (Reissue.)	
	Cushing, G. W. (*See* Anderson, Horatio, assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,146	Cushing, L. W., and Stillman White, Waltham, Mass. Vane	Aug. 18, 1868.
81,257	Cushman, James A., Seneca Falls, N. Y. Hose-pipe nozzle	Aug. 18, 1868.
84,346	Cushman, Robert, Pawtucket, and John R. Dennis, Central Falls, R. I. Pounce holder	Nov. 24, 1868.
	Cushman, Samuel, *et al.* (*See* Collier, Cushman & Farrel.)	
79,211	Custer, Christian, assignor to self and Charles K. Bullock, Philadelphia, Pa. Flour packer	June 23, 1868.
75,129	Custer, George, assignor to self and William Moore, Norristown, Pa. Washing machine	Mar. 3, 1868.
83,472	Custer, John, Corsica, Ohio. Sub-soil plow	Oct. 27, 1868.
83,259	Custer, William, Shannondale, Ill. Cultivator	Oct. 20, 1868.
83,136	Cuthbert, Thomas L., assignor to self, Nathaniel Levine, and Edward J. Marks, Charleston County, S. C. Boat-detaching apparatus	Oct. 20, 1868.
76,058	Cutler, Benjamin P., Boston, Mass. Safety guard for fire-arms	Mar. 31, 1868.
	Cutler, Nathaniel E., *et al.* (*See* Hoar, John S., assignor.)	
75,668	Cutler, R., and G. C. Swallow, Elgin, Ill. Brick machine	Mar. 17, 1868.
81,987	Cutler, William D., Philadelphia, Pa. Method of preparing, desiccating, and preserving fish	Sept. 8, 1868.
83,836	Same.....Article of food prepared from fish and potatoes	Nov. 10, 1868.
74,752	Cutter, Amos, Chelsea, Mass. Paint brush	Feb. 25, 1868.
77,005	Same.....Shutter fastening	Apr. 21, 1868.
83,696	Cutter, C. N., Worcester, Mass. Velocipede	Nov. 3, 1868.
79,321	Cutter, C. N., assignor to Davis, Hill & Company, Worcester, Mass. Metallic reed for musical instruments	June 30, 1868.
79,322	Same.....same	June 30, 1868.
83,137	Same.....Lock for trunks, pianos, &c.	Oct. 20, 1868.
	Cutter, J. O., and William W. Goss. (*See* Ayers, Joseph D., assignor.)	
3,154	Cutter, Thomas, assignor to Frank Semple, H. C. Fry, and John D. Reynolds, Birmingham, Pa. Feet and stems for glassware.....(Design)	Aug. 11, 1868.
80,337	Cutter, William P., Chelsea, Mass. Level	July 28, 1868.
79,212	Cutting, D. W., Cambridge, Vt. Stove drum	June 23, 1868.
	Cutts, Alonzo K., *et al.* (*See* Harrison, Andrew J., assignor.)	
78,436	Cuykendall, James M., Metomen, Wis. Horseshoe	June 2, 1868.
	Cuyler, L. S., *et al.* (*See* Todd, Asahel, jr., assignor.)	
	Same.....same.	
80,276	Dable, John, Chicago, Ill. Machine for unloading railroad cars	July 28, 1868.
83,260	Dabney, G. A., San José, Cal. Washing machine	Oct. 20, 1868.
80,812	Daboll, Charles M., New London, Conn. Drill stock	Aug. 11, 1868.
75,870	Daboll, Charles M., assignor to Wilson Manufacturing Company, New London, Conn. Brace for bits	Mar. 24, 1868.
	Dafoe, V. R. (*See* Wilson, James P., assignor.)	
79,733	Daggett, Henry T., South Braintree, Mass. Siding boots and shoes	July 7, 1868.
75,380	Daggett, William, 4th, Cordova, Ill. Corn planter	Mar. 10, 1868.
75,871	Dahl, George J., Stockton, Cal. Gang plow	Mar. 24, 1868.
77,720	Dahl, J. D. F., Milwaukee, Wis. Bed bottom	May 12, 1868.
74,670	Dailey, E. E., William H. Johnson, and C. C. Du Bois, Brooklyn, E. D., N. Y. Lamp	Feb. 18, 1868.
	Dailey, John, *et al.* (*See* Lanagan, M. A., assignor.)	
	Daily, J. W., *et al.* (*See* Colbert, George H., assignor.)	
75,738	Daily, Rolan, Canal Township, Pa. Car coupling	Mar. 24, 1868.
80,149	Dake, J. P., Salem, Ohio. Apparatus for evaporating liquid	July 21, 1868.
73,513	Dale, John D., Rochester, N. Y. Apparatus for discovering the fissures in the sides of wells	Jan. 21, 1868.
	Daley, James. (*See* Sweetland, Anthony B., assignor.)	
79,323	Dallmeyer, John H., England. Compound lens for photographic use. (Patented in England Sept. 27, 1866)	June 30, 1868.
	Dalton, Helen J., *et al.* (*See* Young, Albert A., assignor.)	
77,363	Dalton, Joseph, Brooklyn, N. Y. Knitting machine	Apr. 28, 1868.
	Same.....same.....(Disclaimer)	Aug. 5, 1868.
77,963	Damerel, William, Brooklyn, N. Y. Umbrella	May 19, 1868.
79,556	Damon, A. M., and James Whitaker, assignors to Eaton & Ayer, Lowell, Mass. Shuttle	July 7, 1868.
79,557	Same.....Shuttle for looms	July 7, 1868.
85,218	Damon, A. M., and S. G. Lyford, Lowell, Mass. Combination of name plate and letter chute	Dec. 22, 1868.
	Damon, E., jr., *et al.* (*See* Lecompte, S. D., assignor).....(Reissue.)	
79,812	Dampman, James, Lebanon, Pa. Railroad switch	July 14, 1868.
73,081	Damron, William H., Robert H. Massey, and Lorenzo F. Whitman, Macomb, Ill. Cultivator and plow	Jan. 7, 1868.
82,694	Dana, G. W., Racine, Wis. Padlock	Oct. 6, 1868.
74,203	Dana, W. P. W., Newport, R. I. Line fastener	Feb. 11, 1868.
	Danforth, Charles, Paterson, N. J. Throstles for spinning cotton...(Extension)	Dec. 9, 1868.
80,397	Danforth, D. A., assignor to self and Isaac Ayers, Elkhart, Ind. Wash boiler	July 28, 1868.
	Danforth, J. C. (*See* Skelly, J. H., assignor.)	
78,190	Daniels, Albert H., Hartford, Conn. Eye glass	May 26, 1868.
	Daniels, A. M., and A. W. Buckland. (*See* Buckland & Daniels.)	
74,316	Daniels, David, Fitchburg, Mass. Compound for destroying insects in trees	Feb. 11, 1868.
78,191	Daniels, D. G., assignor to self and F. Mortimer Atkinson, Cincinnati, Ohio. Car spring	May 26, 1868.
81,479	Daniels, Elizabeth L., Boston, Mass. Supporter for stockings	Aug. 25, 1868.
	Daniels, Ephraim, *et al.* (*See* Barson, Daniels & Farrell.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,338	Daniels, Henry A., Thomaston, Conn. Sawing machine	July 28, 1868.
80,339	Daniels, Phylander, Jackson, Mich. Dumping car	July 28, 1868.
76,059	Daniels, S. S., Kendallsville, Ind. Machine for bending carriage circles	Mar. 31, 1868.
84,347	Danks, Samuel, Cincinnati, Ohio. Revolving puddling furnace for treating iron and steel	Nov. 24, 1868.
78,931	Danner, John, Canton, Ohio. Pencil sheath	June 16, 1868.
	Danner, J. B., and S. B. Hiles. (*See* Hiles & Danner.)	
84,862	Darden, Joseph, Washington, D. C. Boot jack	Dec. 15, 1868.
83,473	Dare, John, Liberty, Ind. Washing machine	Oct. 27, 1868.
80,925	Dare, Samuel G., New York, N. Y. Carpet stretcher	Aug. 11, 1868.
85,073	Same.....Chuck	Dec. 22, 1868.
74,513	D'Argy, E. A. Louis, France. System of flambeau-like lighting apparatus, &c.	Feb. 18, 1868.
83,261	Darling, Benjamin, Bridgewater, Mass. Bit stock	Oct. 20, 1868.
77,176	Darling, Martin, and Hala Gray, Marathon, N. Y. Cultivator and potato digger combined	Apr. 28, 1868.
73,082	Darling, Samuel, Bangor, Maine. Straight edges	Jan. 7, 1868.
73,956	Same.....Pen wiper	Feb. 4, 1868.
73,957	Same.....Gas heater	Feb. 4, 1868.
2,869	Same.....Manufacture of metallic squares (Reissue)	Feb. 18, 1868.
76,409	Same.....Inkstand	Apr. 7, 1868.
76,410	Same.....Vise	Apr. 7, 1868.
79,449	Same.....Railroad-car heating and ventilating apparatus	June 30, 1868.
76,717	Darling, Samuel, and John E. Hall, Bangor, Maine. Inkstand	Apr. 14, 1868.
77,006	Darraeh, S. A., Newburg, N. Y. Tender for heating and delivering metal bars	Apr. 21, 1868.
80,926	Darrah, W. E., Baltimore, Md. Vapor burner	Aug. 11, 1868.
77,594	Darrow, Frank F., assignor to Darrow Manufacturing Company, Bristol, Conn. Spittoon	May 5, 1868.
81,480	Darrow, George P., assignor to James L. Haven & Company, Cincinnati, Ohio. Cast nut	Aug. 25, 1868.
	Darrow Manufacturing Company. (*See* Way, John A., assignor.)	
	Dart, Calvin J., and Thomas H. Bowerman. (*See* Bowerman & Dart.)	
	Dart, Henry C., *et al.* (*See* Millward, Frank, assignor.)	
	Dart, Henry C., Edward, *et al.* (*See* Hardy, Dexter D., assignor.)	
	Dasenbrook, Mark H., and Justin E. Smith. (*See* Smith & Dasenbrook.)	
	Datton, George T. (*See* Young, Albert A., assignor.)	
	Same.....same.	
80,610	Daugherty, W. F., assignor to self and Hiram Elliott, Wellington, O. Feather renovator	Aug. 4, 1868.
73,168	Davenport, F. S., Jerseyville, Ill. Low-water alarm for boilers	Jan. 7, 1868.
82,388	Davenport, Joseph, Massillon, Ohio. Arched bridge	Sept. 22, 1868.
78,069	Davenport, Joseph D., assignor by John D. Thurston, his trustee, to self, Horace M. Curtis, and Henry Martin, North Providence, R. I. Clothes dryer	May 19, 1868.
79,450	Davey, John H., Rockford, Ill. Cultivator	June 30, 1868.
81,258	David, Jacob, New York, N. Y. Curtain fixture	Aug. 18, 1868.
	David, Jacob P. (*See* Riley, Christian F., assignor.)	
79,109	David, Jonathan, East Enterprise, Ind. Farm gate	June 23, 1868.
78,070	David, V. R., assignor to self and D. R. Pomeroy, Sandwich, Ill. Method of inserting artificial teeth	May 19, 1868.
74,514	Davidge, J. B. F., New York, N. Y. Blower holder	Feb. 18, 1868.
84,735	Davidsohn, Arnold, St. Louis, Mo. Railroad-car heater	Dec. 8, 1868.
81,882	Davidson, Hugh, New Salem, Ill. Wagon brake	Sept. 8, 1868.
77,802	Davidson, James W., Mt. Auburn, Ill. Wheat drill	May 12, 1868.
	Davidson, John. (*See* Colburn, G. F. J., assignor.)	
83,837	Davies, Charles B., Dayton, Ohio. Key-hole guard	Nov. 10, 1868.
82,093	Davies, David, England. Forging apparatus	Sept. 15, 1868.
76,169	Davis, A. B., Philadelphia, Pa. Box or base for scale beams	Mar. 31, 1868.
74,056	Davis, Abbot R., Cambridge, Mass. Wood for covering walls, &c.	Feb. 4, 1868.
75,130	Same.....East Cambridge, Mass. Card board for printing	Mar. 3, 1868.
83,697	Davis, Addison, Boston, Mass. Sash supporter	Nov. 3, 1868.
78,071	Davis, Andrew J., Hartford, Mich. Mop wringer	May 19, 1868.
75,381	Davis, Anthony G., Watertown, Conn. Umbrella runner	Mar. 10, 1868.
81,259	Same.....Umbrella	Aug. 18, 1868.
73,169	Davis, Anthony G., assignor to self and Augustus N. Woolson, Watertown, Conn. Broom or brush holder	Jan. 7, 1868.
	Davis, Anthony G., *et al.* (*See* Minor & Frost, assignor.)	
	Same ..... (*See* Blakeslee, Beecher & Davis.)	
	Same ..... (*See* Blakeslee, Davis & Beecher.)	
75,382	Davis, Benjamin J., and Isaac S. Cramer, Sergeantsville, N. J. Cribbing preventer.	Mar. 10, 1868.
75,532	Davis, B. W., Fort Madison, Iowa. Horse rake	Mar. 17, 1868.
	Davis, Charles, and Alvin B. Clark. (*See* Clark & Davis.)	
	Davis, C. A., and E. Worth. (*See* Worth & Davis.)	
84,266	Davis, Charles B., Dayton, Ohio. Device for hanging picture and other frames.	Nov. 24, 1868.
74,515	Davis, Charles F., Auburn, N. Y. Grain drill	Feb. 18, 1868.
	Davis, Charles F., *et al.* (*See* Stevens, Caleb S., assignor.)	
	Davis, Charles S., and Daniel E. Paris. (*See* Paris & Davis.)	
74,804	Davis, Edward M., assignor to self, J. B. Clark, and J. A. Hunter, Pittsburg, Pa. Mode of securing labels on glassware	Feb. 25, 1868.
83,367	Davis, Edward M., assignor to Henry H. and Benjamin F. Collins and Homer Wright, Pittsburg, Pa. Fruit jar	Oct. 27, 1868.
76,720	Davis, Edward P., North Attleboro, Mass. Hemmer	Apr. 14, 1868.
	Davis, George L., *et al.* (*See* Stone, Joseph M., assignor.)	
	Same ..... (*See* Ashworth, John, assignor.)	
	Same.....same.	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
3,152	Davis, Guy, Syracuse, N. Y. Oscillating valve ..... (Reissue)	Oct. 6, 1868.
84,538	Davis, Henry Thomas, Great Britain. Damping trough	Dec. 1, 1868.
	Davis, Hill & Company. (*See* Cutter, C. N., assignor.)	
	Same.....same.	
	Same.....same.	
	Davis, Irwin. (*See* Denio, Wm. L., assignor.)	
79,055	Davis, Isaac, Brooklyn, N. Y. Connection for soft-metal pipes	June 23, 1868.
72,983	Davis, James, Buffalo, N. Y. Saw	Jan. 7, 1868.
	Davis, James, *et al.* (*See* Stout & Richardson, assignors.)	
	Davis, James H., and Hiram F. Snow. (*See* Snow & Davis.)	
77,464	Davis, James P., Stiles, Wis. Mechanical movement	May 5, 1868.
82,498	Davis, Job A., Watertown, N. Y. Automatic boiler feeder	Sept. 29, 1868.
82,499	Same.....Shuttle for sewing machine	Sept. 29, 1868.
83,608	Same.....Steam generator	Nov. 3, 1868.
84,267	Same.....Clog	Nov. 24, 1868.
80,396	Davis, John, Wilkesbarre, Pa. Steam heater	July 28, 1868.
83,474	Davis, John, Allegheny City, Pa. Tellurium	Oct. 27, 1868.
	Davis, John, and William Benton. (*See* Benton & Davis.)	
75,383	Davis, John S., Tiffin, Ohio. Harvester	Mar. 10, 1868.
85,288	David, Joseph H., Allegheny City, Pa. Stop valve for steam and other engineery.	Dec. 29, 1868.
76,621	Davis, Josiah P. N., Point Arena, Cal. Shingle machine	Apr. 14, 1868.
79,813	Davis, Lewis H., assignor to Casho & Company, Newark, Del. Grain separator.	July 14, 1868.
75,533	Davis, L. L., Springfield, Mass. Spirit level	Mar. 17, 1868.
75,534	Same.....Adjustable spirit level	Mar. 17, 1868
3,195	Same.....Spirit level ..... (Design)	Sept. 22, 1868.
73,583	Davis, Morgan O., Warrensburg, N. Y. Churn dasher	Jan. 21, 1868.
81,348	Davis, Nathan R., Freetown, Mass. Attaching gun barrels to stocks	Aug. 25, 1868.
79,734	Davis, Owen, Newton, Iowa. Beehive	July 7, 1868.
80,461	Davis, Owen R., Lewistown, Pa. Steam safety valve	July 28, 1868.
79,324	Davis, P., Newport News, Va. Letter pouch	June 30, 1868.
79,325	Davis, Rees, Utica, N. Y. Car replacer	June 30, 1868.
	Davis, Samuel H. (*See* Troxell, John P., assignor.)	
	Davis, Samuel L., *et al.* (*See* Tingley, John, assignor.)	
83,046	Davis, Stephen S., Edgerton, Wis. Gate	Oct. 13, 1868.
81,260	Davis, S. W., Wilmington, Del. Bit stock	Aug. 18, 1868.
84,803	Davis, Thomas B., New York, N. Y. Scoop	Dec. 8, 1868.
85,289	Davis, Thomas S., Jersey City, N. J. Steam-engine exhaust valve	Dec. 29, 1868.
	Same.....(*See* Kneedler, John D., assignor.)	
	Davis, Wendell T., *et al.* (*See* Pike, Ozi M., assignor.)	
78,932	Davis, William, Detroit, Mich. Preserving meat, &c	June 16, 1868.
3,119	Davis, William, assignor to William, Samuel H., and David W. Davis, Detroit, Mich. Preserving meat, fruit, &c ..... (Reissue)	Sept. 15, 1868.
	Davis, W. C., & Company. (*See* Ripley, Ezra, assignor.)	
3,116	Davis, Wm. C., assignor to W. C. Davis & Company, Cincinnati, O. Cook stove. (Design)	July 21, 1868.
3,117	Davis, Wm. C., assignor to W. C. Davis & Company, Cincinnati, O. Cook stove. (Design)	July 21, 1868.
82,094	Davis, W. H., Brooklyn, N. Y. Molding bells	Sept. 15, 1868.
75,872	Davison, F., Richmond, Va. Lathe chuck	Mar. 24, 1868.
77,262	Same.....Nail machine	Apr. 28, 1868.
80,150	Same.....same	July 21, 1868.
79,639	Davison, Gustavus A., San Leandro, Cal. Gang plow	July 7, 1868.
80,611	Davison, James P., Rome, N. Y. Potato digger	Aug. 4, 1868.
83,698	Davison, Jasper N., and N. Spencer, jr., Buffalo, Ill. Gang plow	Nov. 3, 1868
81,261	Davison, John S., and Nicholas Lorton, Cranberry, N. J. Cover for chambers and other vessels	Aug. 18, 1868.
78,933	Davy, David, England. Piston valve for steam hammers	June 16, 1868.
81,883	Dawkins, Matt J., Brookston, Ind. Construction of wagon and carriage wheels.	Sept. 8, 1868.
82,295	Day, Augustus, Detroit, Mich. Windlass. (Antedated Sept. 16, 1868)	Sept. 22, 1868.
81,349	Day, B. F., East Freedom, Pa. Automatic fly brush	Aug. 25, 1868.
	Day, Charles W. H., and William E. Green. (*See* Goodrum, Thomas, assignor.)	
81,481	Day, Clark D., Chatham, Conn. Blacking brush	Aug. 25, 1868.
74,997	Day, David B., New York, N. Y. Floating thermometer	Mar. 3, 1868.
80,062	Day, Edwin, Chicago, Ill. Cutlery	July 21, 1868.
83,475	Day, Lester, assignor to self, Henry F. Briggs, and Edward Belding, Buffalo, N. Y. Apparatus for transporting, extending, and elevating pipes and hose	Oct. 27, 1868.
79,961	Day, Milton, Baltimore, Md. Corn sheller	July 14, 1868.
79,962	Same.....same	July 14, 1868.
83,838	Day, Samuel, Delavan, Ill. Cultivator	Nov. 10, 1868.
82,695	Day, Samuel F., Ballston Spa, N. Y. Telegraphic instrument	Oct. 6, 1868.
75,384	Day, William C., Mohawk, N. Y., and Pardon B., Shelby, Minn. Wind mill	Mar. 10, 1868.
79,454	Dayton, Charles L., North Buffalo, N. Y. Row-lock	June 30, 1868.
77,465	Dayton, Edwin, Meriden, Conn. Cement water pipe	May 5, 1868.
	Dayton, Henry G. (*See* Riley, John D., assignor.)	
77,803	Dayton, Henry G., assignor to Richard H. Collins, Maysville, Ky. Tobacco pipe.	May 12, 1868.
84,479	Dayton, Henry G., Maysville, Ky., and James Christie, Atlanta, Ill. Apparatus for condensing in distilling spirits and other liquids	Dec. 1, 1868
85,370	Deacon, Henry, England. Manufacture of chlorine	Dec. 29, 1868
	Deacon, John, and Carl Muller. (*See* Muller & Deacon) .....(Design.)	
	Same.....same.....(Design.)	
73,237	Deakin, John, assignor to self, D. and C. Kelly, Gloucester, N. J. Loom	Jan. 14, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
2,848	Deal, George, Wilmot, Ohio. Horse rake.....(Reissue)..	Feb. 4, 1868.
76,307	Same.....same.....	Apr. 7, 1868.
74,318	Deal, Isaac N., Brooklyn, N. Y. Clothes dryer.....	Feb. 11, 1868.
79,451	Dean, Daniel, Brighton, Mich. Cultivator tooth.....	June 30, 1868.
83,476	Dean, F. W., Fremont, Ill. Trace fastener.....	Oct. 27, 1868.
81,147	Dean, Isaac W., Franklin, Conn. Mode of preserving the roofs of buildings....	Aug. 18, 1868.
84,863	Dean, James C., Chicago, Ill. Brick machine.....	Dec. 15, 1868.
78,072	Dean, James E., Canaan, Conn. Milk can.....	May 19, 1868.
75,385	Dean, John, Baraboo, Wis. Hop-picking tool.....	Mar. 10, 1868.
74,671	Dean, Otis, assignor to Robert W. Young, Richmond, Va. Inkstand.....	Feb. 18, 1868.
	Dean, Seth, *et al.* (*See* Eddy, Rollin S., assignor.)	
	Same.....(*See* Smith & Eddy, assignors.)	
78,934	Dean, Gaius S., Grand Rapids, Mich. Gauge wheel for plows.....	June 16, 1868.
74,998	Dearborn, John M., Boston, Mass. Animal trap.....	Mar. 3, 1868.
77,007	Deas, George, New York, N. Y. Ventilator for hats.....	Apr. 21, 1868.
3,042	Deavs, Charles, New York, N. Y. Gas apparatus.....(Reissue)..	July 21, 1868.
83,262	DeBare, Reuben B., Philadelphia, Pa. Sawing machine.....	Oct. 20, 1868.
80,711	DeBarry, James J., Brooklyn, N. Y. Changeable stencil plate.....	Aug. 4, 1868.
	Same.....(*See* Ware, W. Powell, assignor.)	
75,386	DeBary, Julius, assignor to William Einstein, Germany. Grain dryer.....	Mar. 10, 1868.
75,873	DeBergue, Auguste, France. Brake for locomotives.....	Mar. 24, 1868.
83,138	DeBergue, Charles, Great Britain. Track lifter.....	Oct. 20, 1868.
	DeBow, Garrett, and Thomas B. Moore. (*See* Moore & DeBow.)	
81,756	DeBretton, Geert, assignor to self and Joshua E. Vose, New Orleans, La. Traveling trunk.....	Sept. 1, 1868.
74,319	DeBus, Henry, and George Johnson, Cincinnati, Ohio. Machine for crozing barrels.....	Feb. 11, 1868.
74,753	DeCamp, E. A., St. Louis, Mo. Coal stove. (Antedated Jan. 24, 1868).....	Feb. 25, 1868.
78,363	DeCamp, William, assignor to self and A. R. E. Falck, Newark, N. J. Paring-knife for boots and shoes.....	May 26, 1868.
76,172	Decker, Alexander C., Bushnell, Ill. Ditching machine.....	Mar. 31, 1868.
83,263	Decker, Charles, New Michigan, Ill. Bee house.....	Oct. 20, 1868.
73,170	Decker, Edward B., Bedford, Ill. Tire shrinker.....	Jan. 7, 1868.
81,609	Decker, Henry S., New York, N. Y. Chimney cowl.....	Sept. 1, 1868.
80,857	Decker, John, assignor to J. B. Boss and C. C. Clark, Sparta, N. J. Platform scale.....	Aug. 11, 1868.
	Dederick, Levi, Albany, N. Y. Hay-press.....(Extension)..	June 3, 1868.
75,874	Dederick, Zadoc P., and Isaac Grass, Newark, N. J. Steam carriage.....	Mar. 24, 1868.
	Deer, Henry and Solomon. (*See* Yeakel, Daniel S., assignor.)	
77,872	Deetz, Edward, Philadelphia, Pa. Adjustable sofa.....	May 12, 1868.
77,008	De Forest, David W., Brooklyn, N. Y. Mucilage bottle.....	Apr. 21, 1868.
75,131	De Forest, Thomas B., Birmingham, Conn. Machine for reducing and pointing wire.....	Mar. 3, 1868.
80,462	Same.....Corset.....	July 28, 1868.
82,209	Same.....Busk or stay for corsets.....	Sept. 15, 1868.
73,440	De Forest, Thomas B., and Thomas S. Gilbert, Birmingham, Conn. Corset spring.	Jan. 21, 1868.
74,672	Same.....Spring for hoop skirts.....	Feb. 18, 1868.
	De Fleron, Jean Etienne Armide, *et al.* (*See* Pertuiset, Mundel & De Fleron.)	
78,266	Defrees, William H., Andover, Mass. Forging machine.....	May 26, 1868.
78,580	Defries, Coleman, England. Foot light for theaters.....	June 2, 1868.
76,729	De Galleford, J., assignor to self and William E. Marston, Cohoes, N. Y. Tube cutter.....	Apr. 14, 1868.
81,071	De Gerbeth, Francois Louis, assignor to Thomas S. G. Kirkpatrick, England. Manufacture of compound oils. (Patented in England Nov. 11, 1867).....	Aug. 18, 1868.
	De Give, L., and L. Bemelmans. (*See* Bemelmans & De Give.)	
	Same.....same.	
84,093	De Grummond, W. J., Cincinnati, Ohio. Sash fastener.....	Nov. 17, 1868.
77,177	De Hass, Charles, Washington, D. C. Mode of roofing buildings.....	Apr. 28, 1868.
74,057	De Haven, Isaac, Allegheny City, Pa. Lid for tea kettles.....	Feb. 4, 1868.
84,268	Dehlinger, Paul, Buffalo, N. Y. Hod elevator.....	Nov. 24, 1868.
79,558	Delme, Albert Ludwig Georg, Prussia. Machine for filtering and refining sugar.	July 7, 1868.
	Deihl, Hugh M., and James Bramble. (*See* Bramble & Deihl.)	
83,139	Deily, William H., Sycamore, Ill. Stove-pipe damper.....	Oct. 20, 1868.
77,009	Deis, C., Canal Dover, Ohio. Seeding machine.....	Apr. 21, 1868.
81,350	Deitz, John M., assignor to self, C. T. Bush, and Sanford & Sisson, Berne, N. Y. Brick wall.....	Aug. 25, 1868.
	De Lacy, J. M., and P. M. Kafer. (*See* Kafer & De Lacy.)	
74,204	Delafield, Clarence, Factoryville, N. Y. Water gauge.....	Feb. 11, 1868.
	De la Granja, Edward, and Treffle Garceau. (*See* Garceau & De la Granja.)	
3,062	Delahenty, Joseph P., Cohoes, N. Y. Knitted fabric.....(Design)..	June 2, 1868.
	Delamater, C. H., *et al.* (*See* Rider, Alexander K., assignor.)	
82,926	Deland, Franklin A., and Luke Phillips, Memphis, Mich. Mortising machine...	Oct. 13, 1868.
	Delaney, Alexander, and Asa Snyder. (*See* Snyder & Delaney.)	
	De Laney, John C. (*See* Smith, George, assignor.)	
	Delaney, Patrick H., and Cyrus Peabody. (*See* Peabody & Delaney.)	
81,757	Delano, Sylvenus G., Grand Blanc, Mich. Automatic cradle.....	Sept. 1, 1868.
76,060	Delavigne, John C., New Orleans, La. Steam plow.....	Mar. 31, 1868.
	Delille, Lewis, and Samuel Avery. (*See* Avery & Delille.)	
77,010	Delinger, David C., Russellville, Ohio. Tobacco-hand tying machine.....	Apr. 21, 1868.
	Delize, Simon. (*See* Deru, Alexander J., assignor.)	
84,682	De Long, N. A., New Scotland, N. Y. Wagon-tongue support.....	Dec. 8, 1868.
	Del Vecchio, James B. (*See* Enright, John, assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Demarest, Henry. (*See* Anderson, James W. C., assignor.)	
81,884	De Milly, Louis Adolph, France. Manufacture of solid fatty acids	Sept. 8, 1868.
77,364	Deming, F., assignor to John B. Atherton and Henry A. Wheeler, Bridgeport, Conn. Horse-hitching device	Apr. 28, 1868.
	Deming, John. (*See* Silver, A. R., assignor.)	
	Same same.	
76,730	Demming, Bernard, Cleveland, Ohio. Scroll-saw mill	Apr. 14, 1868.
80,463	De Morat, Alexander John B., Philadelphia, Pa. Electro-magnetic engine	July 28, 1868.
	De Mott, Henry, and William Bellairs. (*See* Bellairs & De Mott.)	
	Dempster, R., and A. W. Cook. (*See* Cook & Dempster.)	
82,389	Demuth, William A., New York, N. Y. Glass light	Sept. 22, 1868.
78,865	De Navarro, J. F., assignor to the Emery Rotary Machine Company, New York, N. Y. Device for attaching pumps to barrels	June 16, 1868.
72,984	Dengler, Frederick, North Vernon, Ind. Car brake	Jan. 7, 1868.
78,267	Denham, R. C., Richmond, Maine. Reefing fore and aft sails	May 26, 1868.
	Denio, Aaron, and Franklin Hoyt. (*See* Hoyt & Denio.)	
80,277	Denio, Elon, Baldwinsville, and Elon C., New Hartford, Conn. Hop hook	July 28, 1868.
	Denio, Elon, and Heman Whipple. (*See* Whipple & Denio.)	
82,927	Denio, William L., assignor to self and Irwin Davis, Rochester, N. Y. Attaching rosettes to harness	Oct. 13, 1868.
82,809	Denise, S. T., Red Bank, N. J. Plow	Oct. 6, 1868.
79,460	Denison, C. H., assignor to self, G. W. Ray, and V. N. Taylor, Springfield, Mass. Machine for applying cloth patches to paper collars	June 30, 1868.
78,073	Denmead, Edward, Marietta, Ga., and Wendel Bollman, Baltimore, Md. Bridge	May 19, 1868.
79,056	Denn, Clayton, Frankford, Pa. Gridiron	June 23, 1868.
	Denn, Clayton, and John Garsed. (*See* Garsed & Denn.)	
82,696	Dennen, A. M., Folsom City, Cal. Liniment for rheumatism	Oct. 6, 1868.
80,151	Dennett, A. A., New Brunswick, N. J. Fishing tackle	July 21, 1868.
80,927	Denney, S. L., Christiana, Pa. Casing for railway-car stoves. (Antedated July 30, 1868)	Aug. 11, 1868.
83,937	Denney, Samuel L., Christiana, and John N. Chalfant, Chester County, Pa. Horse rake	Nov. 10, 1868.
76,411	Dennis, Elijah W., Peoria, Ill. Cultivator. (Antedated March 25, 1868)	Apr. 7, 1868.
	Dennis, John R., and Robert Cushman. (*See* Cushman & Dennis.)	
85,167	Dennis, Moses, Barton, N. Y. Horse hay fork	Dec. 22, 1868.
74,805	Dennis, Paul, assignor to self and George Leggette, Schuylerville, N. Y. Gate hinge	Feb. 25, 1868.
83,368	Dennison, B. L., Boston, Mass. Attaching springs to tags	Oct. 27, 1868.
2,954	Dennisson, John A., assignor through mesne assignments to the Gould Machine Company, Newark, N. J. Fire engine (Reissue)	May 26, 1868.
84,864	Densmore, Byron, New York, N. Y. Gasket packing for steam and other engineery	Dec. 15, 1868.
80,858	Densmore, J. A., assignor to self and Hiram Fuller, Boston, Mass. Car truck	Aug. 11, 1868.
	Denton, Albert A. (*See* Stevens, Charles L., assignor.)	
79,452	Denton, Charles, assignor to Ames Plow Company, Decatur, Ill. Harvester	June 30, 1868.
78,269	Denton, Drake W., Ithaca, N. Y. Roofing compound	May 26, 1868.
75,739	De Pindray, Alfred, France. Boiler furnace	Mar. 24, 1868.
83,477	Depp, Thomas, San Marcos, Texas. Stitching horse	Oct. 27, 1868.
76,061	De Pue, Jeremiah, California, Mich. Combined feed trough and rack	Mar. 31, 1868.
3,066	De Puy, Alexander T., assignor to R. Hoe & Company, New York, N. Y. Printers' galley (Reissue)	Aug. 4, 1868.
	Derby, Harlan P. (*See* Foster, C. A., assignor.)	
77,804	Derby, Lyman, New York, N. Y. Thill fastener	May 12, 1868.
80,152	Same Thill coupling	July 21, 1868.
	Derby, P. H. (*See* Moore, H. C., assignor.)	
	Derning, John. (*See* Silver, A. R., assignor.)	
74,058	Derozier, Louis, assignor to self and George Schaffer, New York, N. Y. Velocipede	Feb. 4, 1868.
74,516	Derr, George Lewis, Mifflintown, Pa. Mode of setting artificial teeth	Feb. 18, 1868.
	Derrick, Silas L., and Augustus B. Felgemaker. (*See* Felgemaker & Derrick.)	
84,269	Derrick, William E., Jordan, N. Y. Horse hay fork	Nov. 24, 1868.
	Derrick, William H. (*See* Walton, Elisha W., assignor.)	
77,011	Deru, Alexander J., assignor to Simon Delize, Belgium. Machine for preparing wool, cotton, &c.	Apr. 21, 1868.
	Deshart, Griffith. (*See* Batty, Wm. T., assignor.)	
82,296	Deshler, Jacob J., Allentown, Pa. Machine for converting reciprocating into rotary motion	Sept. 22, 1868.
76,173	Designoble, G., and John Casthelaz, France. Explosive powder	Mar. 31, 1868.
	Desnoyer, Isidore Aguan, and Auguste Leon Bezy. (*See* Bezy & Desnoyer.)	
75,132	Dessau, Andrew Ferdinant, Washington, D. C. Piano-forte frames	Mar. 3, 1868.
	Dessinger, J., and Robert Meginnity. (*See* Meginnity & Dessinger.)	
83,609	De St. Charles, Charles, Mexico. Coffee huller and polisher	Nov. 3, 1868.
84,245	Destouy, August, New York, N. Y. Manufacturing boots and shoes	Nov. 17, 1868.
73,514	De St. Victor, Abel Claude Felix Niepce, assignor to P. A. G. Niepce De St. Victor and M. L. J. Lavater, France. Process of multiplying copies from manuscripts	Jan. 21, 1868.
	De Susini, Joseph. (*See* Lauberau, Joseph, assignor.)	
79,057	Deterding, Henry F., Alton, Ill. Harvester rake	June 23, 1868.
73,441	De Tray, F. H., Odin, Ill. Ditching and grading machine	Jan. 21, 1868.
80,928	Detrick, J. S., San Francisco, Cal. Lathe chuck	Aug. 11, 1868.
80,612	Detrick, Jacob S., assignor to self and William R. Eckert, San Francisco, Cal. Counting register	Aug. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Detrick, William. (*See* Whiterow, Wm. H., assignor.)	
	Detroit Stove Works Company. (*See* Dwyer, Jeremiah, assignor)....(Design.)	Mar. 17, 1868.
75, 669	De Turk, J. D., Exeter, Pa. Cultivator teeth	June 9, 1868.
78, 722	Deturler, E., Milwaukee, Wis. Spittoon	July 14, 1868.
79, 963	Detwiller, Jacob J., Greenville, N. J. Rocket-signal device	Nov. 3, 1868.
83, 767	Deuel, William B., Ithaca, N. Y. Mower-and-reaper-knife sharpener	
	Deuell, Edgar, and John Yates. (*See* Yates & Deuell.)	
	De Vahn, W. H., and Philip Cadue. (*See* Caduc & De Vahn.)	Sept. 1, 1868.
81, 758	De Valin, W. H., Sacramento, Cal. Wheel for carriages	Dec. 1, 1868.
84, 617	Same.....Steam, gas, and water stop cock	
	Devendorff, Benjamin F., and Charles E. Chase. (*See* Chase & Devendorff.)	Aug. 11, 1868.
80, 813	De Veraux, James, Marshall, Mich. Rotary excavator	
77, 805	DeVillepoix, Gustave, and Joseph Francis Bonnaterre, France. Liquid extract from vegetables	May 12, 1868.
82, 928	Devine, Charles H., assignor to the Devine Brothers, Buffalo, N. Y. Piano-forte bridge	Oct. 13, 1868.
77, 012	Devlan, Patrick S., Hudson City, N. J. Material for journal boxes	Apr. 21, 1868.
	Devoe, B. G., and H. M. Hickman. (*See* Hickman & Devoe.)	
83, 140	Devoe, Frederick, New York, N. Y. Nozzle for cans	Oct. 20, 1868.
	Dewe, John W., *et al.* (*See* Lalor, Thomas, assignor.)	
76, 412	Deweese, G. W., Lima, Ohio. Cultivator	Apr. 7, 1868.
84, 683	Dewey, E. B., Pontiac, Mich. Lever grapnel	Dec. 8, 1868.
73, 515	Dewey, Herbert E., Aurora, Ill. Horse hay fork	Jan. 21, 1868.
77, 595	Dewey, Nathan, and George W. Fosdick, Dowagiac, Mich. Water wheel	May 5, 1868.
	DeWitt, Bennett F. (*See* Cooper, John, assignor.)	
79, 735	DeWitt, Frederick S., Rochester, N. Y. Swaging machine	July 7, 1868.
	DeWolfe, Austin, *et al.* (*See* Pike, Ozi M., assignor.)	
	Dexter, Christopher. (*See* White, Stillman, assignor.)	
85, 219	Dexter, Richard, and Hamor Gladhill, Worcester, Mass. Wool-oiling machine	Dec. 22, 1868.
	Dexter, W. W., *et al.* (*See* Harrison, Andrew J., assignor.)	
82, 500	Deyhle, Christian, Hartford, Conn. Saw set	Sept. 29, 1868.
76, 423	D'Heureuse, Rudolph, San Francisco, Cal. Process of extracting gold from its ores	Apr. 7, 1868.
78, 713	Same.....Traction railway brake	June 9, 1868.
3, 045	Same.....Fermenting and oxidizing mash, malt, &c .....(Reissue)	July 21, 1868.
82, 095	Dibble, F. J., Chicago, Ill. Vise	Sept. 15, 1868.
83, 047	Dicey, E. C., Montague, Mich. Feeding roller for circular saws	Oct. 13, 1868.
	Dick, Adolph. (*See* Jones, Frederick J., assignor.)	
	Dick, Charles James Adolphus, and Robert Breckenridge Baker. (*See* Baker & Dick.)	
77, 596	Dick, David, Corning, N. Y. Wood-turning lathe	May 5, 1868.
72, 985	Dick, David, and O. W. Preston, jr., Corning, N. Y. Car brake	Jan. 7, 1868.
74, 320	Same.....Plaster and seed sower. (Antedated Feb. 8, 1868)	Feb. 11, 1868.
84, 998	Same.....Bag tie. (Antedated Dec. 9, 1868)	Dec. 15, 1868.
73, 878	Dick, Joseph, jr., assignor to self and Eugene Glen, Canton, Ohio. Harvester rake	Jan. 28, 1868.
3, 127	Dick, Joseph, jr., assignor through mesne assignments to self and Eugene Glen, Oshawa County, Canada. Harvester rake .....(Reissue)	Sept. 22, 1868.
83, 610	Dick, Joseph, jr., assignor to self and Eugene Glen, Oshawa, Canada. Harvester rake. (Patented in Canada June 26, 1868)	Nov. 3, 1868.
76, 722	Dick, Robert, Buffalo, N. Y. Printers' chase	Apr. 14, 1868.
84, 804	Dickerman, Chauncey A., New Haven, Conn. Label holder. (Antedated Nov. 30, 1868)	Dec. 8, 1868.
80, 712	Dickerman, T. Parsons, New Haven, Conn. Base-burning stove	Aug. 4, 1868.
75, 387	Dickerson, Edward N., New York, N. Y. Valve gear for steam engines	Mar. 10, 1868.
79, 814	Dickerson, George, Harveysburg, Ohio, Corn planter	July 14, 1868.
84, 480	Dickerson, Henry James, Appleton, Wis. Method of working steel and iron	Dec. 1, 1868.
	Dickerson, T. J., and B. B. Snow. (*See* Snow & Dickerson.)	
80, 814	Dickey, Andrew, Albany, N. Y. Sad-iron support for stoves	Aug. 11, 1868.
74, 517	Dickey, Edmund L., Chicago, Ill. Bag clasp	Feb. 18, 1868.
79, 815	Dickie, Edward P., Morristown, N. J. Pick and pickaxe	July 14, 1868.
85, 433	Dickinson, Alfred S., Washington, D. C. Curtain fixture	Dec. 29, 1868.
78, 192	Dickinson, C. B., Brooklyn, N. Y. Combined arm rest and paper cutter. (Antedated May 18, 1868)	May 26, 1868.
78, 935	Dickinson, D. A., Baltimore, Md. Ventilating and drying corn and grain	June 16, 1868.
78, 936	Dickinson, Henry H., West Northfield, Mass. Tail clasp for milkers	June 16, 1868.
73, 958	Dickinson, J. L., Dubuque, Iowa. Safety harness hook	Feb. 4, 1868.
81, 072	Same.....Governor for steam engines	Aug. 18, 1868.
76, 414	Dickinson, Josiah S., Essex, Conn. Comb	Apr. 7, 1868.
	Dickinson, Lawrence, and Charles Gilpin. (*See* Gilpin & Dickinson.)	
	Same.....same.	
	Dickinson, S. F. (*See* Gridley, James H., assignor.)	
75, 388	Dickinson, Thomas A., Worcester, Mass. Card-setting machinery	Mar. 10, 1868.
	Dickinson, Thomas N., *et al.* (*See* Williams, John H., assignor.)	
80, 153	Dickson, Alexander, Meadville, Pa. Uterine supporter	July 21, 1868.
74, 673	Dickson, Daniel L., Durham, Ill. Harrow	Feb. 18, 1868.
78, 792	Same.....Grain drill	June 9, 1868.
81, 148	Dickson, J. H., Alford, Ind. Plow	Aug. 18, 1868.
	Dickson, W. E. (*See* Waring, J. B., assignor.)	
	Dickson, Young P., and W. E. Wyche. (*See* Wyche & Dickson.)	
78, 937	Diebold, Franz, Boston, Mass. Wash bench	June 16, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,784	Diedriehs, Charles, assignor to James S. Mason & Company, Philadelphia, Pa. Puneheing and raising disks from metal	Jan. 28, 1868.
	Diedriek, Theodore J., and John Pollock. (*See* Pollock & Diedriek.)	
75,535	Diehl, Jonas, East Freedom, Pa. Tanning and eoloring sheep skins	Mar. 17, 1868.
76,415	Dieterich, Lewis, Sandwieh, Ill. Brick maehine	Apr. 7, 1868.
	Dietrieh, Clement, and John Gatliff. (*See* Cordier, V., assignor.)	
79,736	Dietz, Andrew, New York, N. Y. Process of treating glue	July 7, 1868.
74,205	Dietz, Charles A. F., New York, N.Y. Medieal compound	Feb. 11, 1868.
	Dill, Henry B., *et al.* (*See* Reight, Charles A., assignor.)	
80,340	Dill, William, Houma, La. Apparatus for elarifying sugar juiees	July 28, 1868.
79,737	Dillaway, Hiram, Sandwich, Mass. Glassware mold	July 7, 1868.
79,738	Same.....Cooling glassware mold	July 7, 1868.
	Dille, H. H., and S. L. Stoekstill. (*See* Stoekstill & Dille.)	
77,721	Dilley, Martin A., Mendon, Mieh. Hay raker and loader	May 12, 1868.
75,740	Dilley, R. H., Regnier's Mills, Ohio. Watch case	Mar. 24, 1868.
81,988	Dillingham, John, Turner, Maine. Door and safe lock	Sept. 8, 1868.
76,416	Dillon, Count Arthur, France. Apparatus for raising sunken vessels	Apr. 7, 1868.
73,304	Dillon, Henry T., Big Lick, Va. Deviee for holding boots and shoes	Jan. 14, 1868.
84,094	Dillon, Thomas, Highland, Ohio. Corn plow	Nov. 17, 1868.
83,264	Dimock, Ira, Florence, Mass. Apparatus for boiling eggs	Oet. 20, 1868.
	Dimoek, Ira. (*See* Gresham, James, assignor.)	
	Same.....same.	
	Dimond, George H., *et al.* (*See* Doolittle, T. B., assignor.)	
	Dingwell, Robert, and William R. Andrews. (*See* Andrews & Dingwell.)	
	Dinsmore, David C., and David Bartholomew. (*See* Bartholomew & Dinsmore.)	
76,896	Dirkes, Henry A., New York, N. Y. Ballast keel for boats. (Antedated April 7, 1868)	Apr. 21, 1868.
	Same.....(*See* Hirst, John, assignor.)	
84,416	Dismukes, Paul, Gallatin, Tenn. Clover harvester	Nov. 24, 1868.
3,052	Disston, Charles, assignor to Henry Disston, Philadelphia, Pa. Saw..(Reissue)	July 28, 1868.
80,929	Same.....Saw	Aug. 11, 1868.
73,238	Disston, Henry, Philadelphia, Pa. Cireular saw	Jan. 14, 1868.
73,879	Same.....Device for setting saws	Jan. 28, 1868.
74,206	Same.....Machine for eutting rolls of rolling mills	Feb. 11, 1868.
79,213	Same.....Device for holding rotary eutters while being ground	June 23, 1868.
	Same.....(*See* Baker, John G., assignor.)	
	Same.....same.	
	Same.....same.	
84,095	Disston, Samuel, Philadelphia, Pa. Attaching handles to cross-eut saws	Nov. 17, 1868.
73,239	Disston, Thomas S., assignor to Henry Disston, Philadelphia, Pa. Saw-gumming maehine	Jan. 14, 1868.
73,516	Same.....Cross-eut saw	Jan. 21, 1868.
73,880	Same.....Saw-gumming machine	Jan. 28, 1868.
81,149	Ditmars, A. D., Lancaster, Pa. Mode of preparing coal dust for fuel	Aug. 18, 1868.
75,536	Ditmars, Oscar G., New York, N. Y. Medical compound	Mar. 17, 1868.
75,537	Same.....same	Mar. 17, 1868.
73,171	Dittenhaver, George, Napoleon, Ohio. Extension clothes post	Jan. 7, 1868.
78,516	Ditton, Francis, Auburn, N. Y. Halter buckle	June 2, 1868.
	Dittrick, R., and William Klemm. (*See* Klemm & Dittrick.)	
	Dixey, Charles, *et al.* (*See* Doering, Justus, assignor.)	
81,150	Dixon, Charles, Weedsport, N. Y. Fastener for vehicle seats	Aug. 18, 1868.
	Dixon, Israel. (*See* Mock, C. H., assignor.)	
	Doan, Stephen O., and Abram Westbrook. (*See* Westbrook & Doan.)	
76,170	Doane, Charles R., Williamsburg, N. Y. Window-shutter holder	Mar. 31, 1868.
79,058	Doane, Henry L., Green Oak, Mich. Horse hay fork	June 23, 1868.
83,048	Doane, Valentine, jr., Harwich Port, Mass. Fish-bait cutter	Oct. 13, 1868.
	Doane, William H., and G. V. Orton. (*See* Orton & Doane.)	
	Dobbins, D. P., *et al.* (*See* Sangster, Richards & Dobbins.)	
74,207	Dobbins, D. P., Erie, Pa., John S. Richards and James Sangster, Buffalo, N. Y. Brick machine	Feb. 11, 1868.
81,351	Dobbins, George R., Lowell, Mass. Boiler-flue eleaner	Aug. 25, 1868.
80,154	Dobbin, Jacob, Litchfield, Mich. Machine for eutting hoops for barrels	July 21, 1868.
80,613	Dobson, Robert F., Goderich, Canada. Broom	Aug. 4, 1868.
82,501	Dobson, William, assignor to self and John W. Mount, Medina, N. Y. Scroll saw	Sept. 29, 1868.
	Docherty, James, and Peter Rink. (*See* Rink & Docherty.)	
74,999	Doek, Gilliard, Wieonisco, Pa. Car wheel	Mar. 3, 1868.
78,866	Dodd, James, assignor to self and Joseph Brown, Providence, R. I. Composition for preparing sizing	June 16, 1868.
	Dodds, J. R., and Warren Portlock. (*See* Portlock & Dodds.)	
75,389	Dodds, William B., assignor to Dodds, Macneale & Urban, Cincinnati, Ohio. Door of fire-proof safes	Mar. 10, 1868.
78,193	Dodge, Charles F., Williamsport, Pa. Sash supporter	May 26, 1868.
79,214	Dodge, D. Frank, Lowville, N. Y. Mail bag	June 23, 1868.
2,904	Dodge, James, assignor to David Blake, Waterford, N. Y. Machine for rolling, shaping, and forging file blanks, flyers, and other metallic articles of small dimensions (Reissue)	Mar. 31, 1868.
2,905	Dodge, John A., Auburn, N. Y. Harvester (Division B, reissue)	Mar. 31, 1868.
85,168	Same.....same	Dec. 22, 1868.
78,724	Dodge, Josiah, Grass Valley, Cal. Hoe	June 9, 1868.
85,290	Dodge, LeGrand, Syracuse, N. Y. Shutter fastener	Dec. 29, 1868.
85,291	Dodge, Lewis, and Lewis J. Magnusson, Chicago, Ill. Concrete-block machine	Dec. 29, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,326	Dodge, Lucius A., Keeseville, N. Y. Lubrieator for nail machines	June 30, 1868.
78,725	Dodge, Luther H., Oshkosh, Wis. Shingle maehine	June 9, 1868.
84,270	Dodge, Ossian E., St. Paul, Minn. Refleetor for publie halls, &e	Nov. 24, 1868.
73,305	Doe, Bartlett, Boston, Mass. Sash stop	Jan. 14, 1868.
76,723	Same.....Shutter fastening	Apr. 14, 1868.
84,096	Doepp, August, Newark, N. J. Compound for treating leather	Nov. 17, 1868.
77,597	Doering, F. B., England. Roek-drilling maehine. (Patented in England Jan. 7, 1867)	May 5, 1868.
72,986	Doering, Justus, assignor to self, A. F. Shelly, and Charles Dixey, Philadelphia, Pa. Stop cock	Jan. 7, 1868.
3,291	Doersehuek, Franz, New Haven, Conn. Cabinet-organ ease.....(Design)	Dec. 15, 1868.
78,726	Dolan, Patrick W., Jersey City, N. J. Tailors' rule	June 9, 1868.
	Dolan, Peter, and E. E. Hendrieks. (*See* Engelhardt, Johan, assignor.)	
3,105	Dolan, Thomas, Philadelphia, Pa. Stocking fabric.....(Design)	July 14, 1868.
3,106	Same .....same .....(Design)	July 14, 1868.
3,107	Same .....same .....(Design)	July 14, 1868.
3,132	Same .....Knitted fabrie.....(Design)	July 28, 1868.
3,196	Same .....Lower portion of a gored skirt .....(Design)	Sept. 22, 1868.
3,197	Same..... Stoeking-fabric pattern.....(Design)	Sept. 22, 1868.
3,198	Same .....same.....(Design)	Sept. 22, 1868.
3,199	Same .....same.....(Design)	Sept. 22, 1868.
	Dole, Augustus L., and Joseph Veazie. (*See* Stone, Paschal, assignor.)	
	Dole, L. A., deceased, by R. H. Garrigues, administrator, Salem, Ohio. Arrauge-ment for lathe chuck.....(Extension)	Aug. 4, 1868.
76,308	Donaldson, Benjamin W., Dixfield, Maine. Medicine	Apr. 7, 1868.
	Donaldson, John. (*See* Jones, Joseph A., assignor.)	
78,938	Donaldson, William, Cincinnati, Ohio. Maehine for making bungs for easks. (Antedated Jan. 3, 1868)	June 16, 1868.
73,699	Donely, Thaddeus, and J. B. Cressler, Southampton, Pa. Adjustable shovel plow	Jan. 28, 1868.
75,000	Donham, George E., East Abington, Mass. Dentists' flask	Mar. 3, 1868.
76,417	Donisthorpe, George Edmund, England. Coal-mining maehine. (Patented in England Oet. 28, 1863)	Apr. 7, 1868.
76,418	Same .....same..... (Patented in England March 8, 1866)	Apr. 7, 1868.
76,419	Same .....same..... (Patented in England March 8, 1866)	Apr. 7, 1868.
81,759	Same .....Coal-mining apparatus. (Patented in England April 28, 1863)	Sept. 1, 1868.
81,760	Same .....same..... (Patented in England May 22, 1861)	Sept. 1, 1868.
82,390	Same .....Coal-mining machine.. (Patented in England Dec. 5, 1865)	Sept. 22, 1868.
82,391	Same .....Coal-cutting maehine.. (Patented in England April 21, 1866)	Sept. 22, 1868.
82,608	Same .....same..... (Patented in England Jan. 21, 1864)	Sept. 29, 1868.
77,178	Donnell, Lewis, Columbus, Ohio. Tuyere	Apr. 28, 1868.
84,051	Donnelly, Alexander G., Breesport, N. Y. Harvester	Nov. 17, 1868.
73,306	Donnelly, Henry, Virginia City, Nev. Ore coneentrator	Jan. 14, 1868.
3,158	Donning, James, Bridgeport, Conn. Lamp burner.....(Reissue)	Oct. 13, 1868.
77,466	Donohue, Thomas H., Washington, D. C. Chimney eleaner	May 5, 1868.
78,653	Donoughe, Patrick, Loretto, Pa. Mode of attaching handles to cross-cut saws. (Antedated May 19, 1868)	June 9, 1868.
76,171	Dool, Hugh, and P. B. White, Dowagiae, Mieh. Boring maehine	Mar. 31, 1868.
78,581	Dooley, Thomas, South Boston, Mass. Manufaeture of toe ealks, and blanks for the same	June 2, 1868.
83,265	Dooling, James, Boston, Mass. Iee-eream freezer	Oct. 20, 1868.
83,049	Doolitell, C. S., Mansfield, Ohio. Coal stove	Oet. 13, 1868.
73,172	Doolittle, Edwin, Pawnee, Ill. Cultivator	Jan. 7, 1868.
78,437	Doolittle, O. E., Boston, Mass. Fruit-preserving box	June 2, 1868.
75,390	Doolittle, T. B., assignor to self, Georgc Doolittle, and George H. Dimond, Bridge-port, Conn. Lamp shade	Mar. 10, 1868.
80,464	Doolittle, T. B., assignor to the Bridgeport Brass Company. Method of forming lamp tubes	July 28, 1868.
74,518	Doolittle, Zina, and A. M. Crowder, Houston Faetory, Ga. Cotton-seed planter	Feb. 18, 1868.
74,519	Same.....Cotton cultivator and chopper	Feb. 18, 1868.
73,700	Dooly, Martin Henry, Atlanta, Ga. Railway switeh	Jan. 28, 1868.
81,073	Doran, Edward, Philadelphia, Pa. Machine for making fringe	Aug. 18, 1868.
84,712	Dorchester, E. G., and Uri Scott, Geneva, N. Y. Hay fork	Dec. 8, 1868.
78,727	Dorman, John F. W., Baltimore, Md. Brush	June 9, 1868.
78,939	Dorman, J. P., Galesburg, Ill. Sleigh	June 16, 1868.
81,151	Dorn, George, Albany, N. Y. Egg carrier	Aug. 18, 1868.
76,420	Dorn, Julius, New York, N. Y. Eye-glass attachment	Apr. 7, 1868.
78,438	Dorn, R. H., assignor to self and I. G. Greene, Port Henry, N. Y. Boot-crimping machine	June 2, 1868.
75,133	Dorsey, Edward L., Winslow, Ind. Grain separator	Mar. 3, 1868.
2,982	Dorsey, Owen, Newark, Ohio. Harvester rake.....(Reissue)	June 9, 1868.
81,610	Doster, Henry E., Bethlehem, Pa. Cigar pipe	Sept. 1, 1868.
84,481	Dotch, Julius Edmund, Washington, D. C. Preserving meat	Dec. 1, 1868.
74,899	Dotterer, D. H., Philadelphia, Pa. Apparatus for heating and ventilating rail-way cars	Feb. 25, 1868.
	Same .....same.....(Diselaimer)	Mar. 28, 1868.
85,074	Same.....Car brake. (Antedated Dec. 5, 1868)	Dec. 22, 1868.
75,391	Doty, Charles, St. Louis, Mo. Apparatus for tanning in vaeuo, and for other purposes	Mar. 10, 1868.
73,701	Doty, Ezra Philo and Ellis, assignors to selves and William M. Doty, Janesville, Wis. Washing machine	Jan. 28, 1868.
3,084	Doty, J. W., Lockport, N. Y. Harvester pitman.....(Division C, reissue)	Aug. 18, 1868.
	Doty, Sidney, and David Hicks. (*See* Hicks & Doty.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
2,897	Doty, William M., New York, N. Y. Washing machine (Reissue)	Mar. 17, 1868.
77,598	Same. Clothes pin	May 5, 1868.
78,940	Doty, W. M., assignor to self, Ezra P. and Ellis Doty, New York, N. Y. Washing machine	June 16, 1868.
75,875	Doubleday, John M., Mont Clair, N. J. Tipping umbrella frames	Mar. 24, 1868.
	Doubleday, William E. & Co. (*See* Plummer, Hiram, assignor.)	
84,173	Doud, Elihu, Oshkosh, Wis. Corn sheller	Nov. 17, 1868.
73,173	Doud, John W., Forestville, Iowa. Cultivator	Jan. 7, 1868
	Dougherty, Richard C., *et al.* (*See* Warner, Daniel, assignor.)	
75,392	Dougherty, S. B., assignor to self and John Ashcroft, Bordentown, N. J. Safety valve	Mar. 10, 1868.
74,674	Doughty, John H., New York, N. Y. Blacking brush	Feb. 18, 1868.
82,609	Doughty, J. J., Lake City, Minn. Heater and filter for boilers	Sept. 29, 1868.
75,876	Douglas, Beriah, Appleton, Wis. Toy railroad and car	Mar. 24, 1868.
84,865	Douglas, Charles H., Hartford, Conn. Game of colors	Dec. 15, 1868.
75,670	Douglas, Frank, Norwich, Conn. Globe valve	Mar. 17, 1868.
77,013	Same. Wood-planing machine	Apr. 21, 1868.
78,728	Same. Planing machine for wood	June 9, 1868.
81,761	Same. Machine for turning rods	Sept. 1, 1868.
	Same. (*See* Boardman, Byron, assignor.)	
74,321	Douglas, Joseph W., assignor to W. and B. Douglas, Middletown, Conn. Pump	Feb. 11, 1868.
81,611	Same. Grindstone frame	Sept. 1, 1868.
79,327	Douglas, N. B., Cornwall, Vt. Hay loader	June 30, 1868.
73,584	Douglas, William S., Richmond, Vt. Clothes wringer	Jan. 21, 1868.
78,439	Douglass, George, Bridgeport, Conn. Carriage spring	June 2, 1868.
83,266	Douglass, John H., Meriden, Conn. Sash fastener	Oct. 20, 1868.
75,134	Douglass, Joseph, McConnellstown, Pa. Lifting jack and spike extractor	Mar. 3, 1868.
76,421	Same. Device for moving cars	Apr. 7, 1868.
84,052	Douthett, Benjamin, Pittsburg, Pa. Beehive	Nov. 17, 1868.
77,873	Douthett, William C., Rochelle, Ill. Churn	May 12, 1868.
83,050	Same. same	Oct. 13, 1868.
76,609	Dow, Albro S., and Elijah W. Wilcox, Cedarville, N. Y. Neck yoke	Apr. 14, 1868.
73,585	Dow, Andrew, Brooklyn, N. Y. Apparatus for manufacturing sheet lead and lead pipe	Jan. 21, 1868.
79,739	Dow, George H., Freeport, Ill. Churn	July 7, 1868.
84,271	Same. Horse hay fork	Nov. 24, 1868.
73,959	Dow, J. Hall, and Daniel J. Riker, Chicago, Ill. Railway frog	Feb. 4, 1868.
	Dowd, John and R. J. (*See* Webster, R. A., assignor.)	
	Dowd, Martin. (*See* Maley, John, assignor.)	
74,520	Dowe, Lewis, and Aruna C. Colton, Sycamore, Ill. Stove-pipe drum	Feb. 18, 1868.
75,671	Dowling, George, Fair Haven, Conn. Apparatus for lowering ships' masts	Mar. 17, 1868.
76,309	Same. Spritsail-boom sling	Apr. 7, 1868.
73,307	Downer, P. A., and A. P. Stewart, Monmouth Township, Iowa. Seeding machine	Jan. 14, 1868.
77,179	Downes, Nicholas, Syracuse, N. Y. Stove drum	Apr. 28, 1868.
84,482	Same. Filter and cooler	Dec. 1, 1868.
73,308	Downey, Stephen W., Piedmont, West Va. Freight car	Jan. 14, 1868.
73,881	Same. Address case for railroad cars	Jan. 28, 1868.
74,322	Same. Trunk label	Feb. 11, 1868.
	Downs & Company's Manufacturing Company. (*See* Pollard, William H., assignor.)	
3,239	Downs, James H., assignor to C. Cowles & Company, New Haven, Conn. Coach lamp glass (Design)	Nov. 17, 1868.
3,240	Same. Coach lamp (Design)	
82,392	Downs, John E., Lowell, Mass. Sash fastener	Sept. 22, 1868.
78,517	Doyle, William, Albany, N. Y. Cooking stove	June 2, 1868.
75,877	Drake, F. H., Kenosha, Wis. Bag fastener	Mar. 24, 1868.
75,001	Drake, Gardner, Farmington, Maine. Car-brake shoe	Mar. 3, 1868.
83,938	Drake, J. B., and William H. Hutson, assignors to selves and J. Sill, Montoursville, Pa. Derrick	Nov. 10, 1868.
	Drake, Thomas N. (*See* Maltby, Benj. K., assignor.)	
73,702	Drake, Timothy, Hartford, Conn. Adjustable hoe	Jan. 28, 1868.
83,611	Drapar, John B., Salem, Ill. Post auger	Nov. 3, 1868.
	Draper, Ellwood, and W. C. Garretson. (*See* Garretson & Draper.)	
73,309	Draper, E. D., Hopedale, and Edward W. Glover, Medford, Mass. Fire-proof safe	Jan. 14, 1868.
72,987	Draper, George, Milford, Mass. Let-off mechanism for looms	Jan. 7, 1868.
80,534	Same. Hopedale, Mass. Let-off for looms	Aug. 4, 1868.
	Draper, James. (*See* Besser, S., assignor.)	
80,535	Draper, Virgil, assignor to Edmund J. Richards, North Attleboro, Mass. Apparatus for swaging swivel eyes of watch chains	Aug. 4, 1868.
78,941	Draper, William F., Hopedale, Mass. Loom	June 16, 1868.
75,393	Draper, William O., Albert C. Sweetland, and George H. Draper, North Attleboro, Mass. Mode of imitating cluster jewelry	Mar. 10, 1868.
85,220	Drasch, Alois, Austria. Rotating-ball motor	Dec. 22, 1868.
84,539	Dreher, J. G., Pine Grove, Pa. Cheese cutter	Dec. 1, 1868.
79,453	Dresser, Thomas W., San José, Cal. Furnace and condenser for reducing quicksilver and other ores	June 30, 1868.
85,371	Same. San Francisco, Cal. Quicksilver furnace and condenser	Dec. 29, 1868.
	Drew, A. D. (*See* Beal, L. W., assignor.)	
78,194	Drew, James W., Stockbridge, Mich. Regulating cannon lumber wagons	May 26, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78,440	Drew, Noah, Howell, Mich. Washing machine	June 2, 1868.
85,434	Drew, Thomas, assignor to self and James P. Bridge, Newton, Mass. Compound for extinguishing fires	Dec. 29, 1868.
83,051	Dreyer, C. H., Nashville, Tenn. Pump	Oct. 13, 1868.
	Drinker, Samuel M. (*See* Chaffee, W. T., assignor.)	
79,328	Drinkwater, James, Adams, Ohio. Horse hay fork	June 30, 1868.
75,878	Dripps, Isaac, Fort Wayne, Ind. Railroad-car ventilator	Mar. 24, 1868.
78,074	Same.....Railway-car stove	May 19, 1868.
82,810	Same.....Railroad-car heater	Oct. 6, 1868.
82,811	Driscole, J. B., New York, N. Y. Hot-air furnace for heaters	Oct. 6, 1868.
	Driscoll, J. W., and William G. Schmidlin. (*See* Schmidlin & Driscoll.)	
80,155	Driskell, E. B., Paris, Ill. Road scraper	July 21, 1868.
80,536	Driver, Samuel, assignor to self and Robert H. Driver, Philadelphia, Pa. Automatic boiler feeder	Aug. 4, 1868.
74,806	Droll, Francis E., St. Charles, Mo. Channeling tool	Feb. 25, 1868.
84,618	Drouhard, Jean Charles, and A. L. Roye, New York, N. Y. Table	Dec. 1, 1868.
78,942	Drouyer, Jean Marie, Carondelet, Mo. Meat mincer	June 16, 1868.
75,879	Drowne, Simeon W., Norwich, Conn. Looking knob latch	Mar. 24, 1868.
83,939	Drummond, Thomas R., Hartford, Conn. Machine for cutting slate	Nov. 10, 1868.
80,614	Drury, Oliver P., Niles, Mich. Harvester pitman	Aug. 4, 1868.
79,640	Dryden, George, Worcester, Mass. Machine for boring wood	July 7, 1868.
85,292	Dryden, W. A., assignor to self and John M. Turnbull, Monmouth, Ill. Cultivator	Dec. 29, 1868.
84,272	Dubellé, Gustave, Boston, Mass. Composition for pavement	Nov. 24, 1868.
	Du Bois, C. C., *et al.* (*See* Dailey, Johnson & Du Bois.)	
75,251	Du Bois, Hudson, Marlborough, N. Y. Clothes dryer	Mar. 10, 1868.
81,074	Du Bois, John, Williamsport, Pa. Lumber dryer	Aug. 18, 1868.
81,075	Same.....Device for moving vessels to and from wharves or docks to water	Aug. 18, 1868.
81,076	Same.....Dredging machine	Aug. 18, 1868.
79,329	Du Bois, Stafford A., Chicago, Ill. Skate	June 30, 1868.
79,641	Du Bois, William M., Poughkeepsie, N. Y. Cathartic lozenge	July 7, 1868.
85,435	Du Bois, William V., assignor to self, William A. and I. G. Sangster, Covington, Ind. Water indicator for boilers	Dec. 29, 1868.
82,812	Du Boys, E. M., France. Liquid meter. (Patented in France May 9, 1867)	Oct. 6, 1868.
82,297	Duburn, Anthony M., Chicago, Ill. Lantern	Sept. 22. 1868.
83,267	Duce, William G., Baltic, Conn., and Albert C. Eddy, Providence, R. I. Filling fork for looms	Oct. 20, 1868.
82,999	Ducharne, David, Mechanicsville, N. Y. Apparatus for setting axles to wagons	Oct. 13, 1868.
78,582	Duchesne, John, Lacon, Ill. Side gear for threshing machines	June 2, 1868.
79,740	Duchesne, Joseph J., Lacon, Ill. Harvester	July 7, 1868.
84,097	Dueloss, V. C., Mt. Harmony, Ind. Plow	Nov. 17, 1868.
77,467	Duereux, Claude, New York, N. Y. Wagon brake	May 5, 1868.
	Dudley, W. C., and C. H. L. Roberts. (*See* Roberts & Dudley.)	
84,174	Duduit, Desso, New York, N. Y. Process for ageing and rectifying copal varnish	Nov. 17, 1868.
2,985	Dueberg, Helmuth, New York, N. Y. Brick machine.....(Reissue)	June 16, 1868.
	Dueberg, Helmuth, and Gustav A. Wedekind. (*See* Wedekind & Helmuth.)	
80,713	Duer, E. A., assignor to George W. Patterson, Decatur, Ill. Hominy and pearling mill	Aug. 4, 1868.
78,867	Duff, James, Peoria, Ill. Drop press	June 16, 1868.
78,195	Duffee, John L., Washington, D. C. Method of mounting photographs and engravings	May 26. 1868.
	Duffy, John, and L. S. Covey. (*See* Covey & Duffy.)	
74,323	Duffy, Mary A., New York, N. Y. Marking gauge for sewing machines	Feb. 11. 1868.
	Duflot, Cesaire Pierre, jr., and Adolphe Pierre Viol. (*See* Viol & Duflot.)	
77,806	Dufournet, Jean Maurice, and Louis Clemendot, France. Preserving the wood of coffins	May 12, 1868.
80,156	Dugdale, James K., Whitewater, Ind. Washing machine. (Antedated July 15, 1868)	July 21, 1868.
	Duhain, Louis, jr. (*See* Swan, William, assignor.)	
73,083	Duhme, John H., Cincinnati, Ohio. Steam generator	Jan. 7, 1868.
82,502	Dujardin, P. A. J., France. Electro-magnetic printing telegraphs	Sept. 29, 1868.
75,741	Dulaney, G. L., and J. A. Kaufman, Mechanicsburg, Pa. Railroad switch	Mar. 24, 1868.
76,422	Dumbolton, George, assignor to self and C. H. Slieer, Baltimore, Md. Double-acting hinge	Apr. 7, 1868.
80,465	Dummer, Samuel R., New York, N. Y. Packing for car axles and boxes	July 28, 1868.
75,538	Du Motay, C. M. T., France, and Edouard Karcher, Prussia. Manufacture of fluoride of silicium	Mar. 17, 1868.
75,880	Dunaway, Elijah F., Cincinnati, Ohio. Clamp for door and sash	Mar. 24, 1868.
78,075	Dunbar, Alexander, New York, N. Y. Horse collar and hames	May 19, 1868.
73,310	Dunbar, Alexander L., Sheldon, Ill. Carpet stretcher	Jan. 14, 1868.
84,999	Dunbar, A. T., Allen, Pa. Horse hay rake	Dec. 15, 1868.
84,175	Dunbar, O. P., Norwalk, Ohio, and H. D., Hartland, Vt. Steam valve	Nov. 17, 1868.
3,099	Dunbar, Robert, Buffalo, N. Y. Water wheel.....(Reissue)	Aug. 25, 1868.
81,262	Duncan, Robert B., West Roxbury, Mass. Bustle attachment for skirts	Aug. 18, 1868.
82,813	Duncan, William, Vinton, Iowa. Horseshoe-calk sharpener	Oct. 6, 1868.
76,310	Dunckele, Horace L., Boston, Mass. Culinary vessel	Apr. 7, 1868.
	Dundore, Isaac G. (*See* Wilson, Franklin M., assignor.)	
82,930	Dunham, Charles N., Philadelphia, Pa. Mounting spectacles and eye glasses	Oct. 13, 1868.
75,394	Dunk, A. A., Philadelphia, Pa. Printing press	Mar. 10, 1868.
	Dunks, Charles H., and Thomas J. Gaffney. (*See* Gaffney & Dunks.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Dunlap, D. R., *et al* (*See* Seborn, Dunlap & Geist.)	
85,075	Dunlap, John, Madison Township, Pa. Horse blinder	Dec. 22, 1868.
	Dunlap, William R., and Charles A. Wilson. (*See* Wilson & Dunlap.)	
83,699	Dunn, A. C. and Isaac L., assignors to Philip Dunn and James Yates, New York, N. Y. Spike with screw threads	Nov. 3, 1868.
81,612	Dunn, Dangerfield, assignor to self and Wm. B. Miller, Lewisport, Ky. Baling press	Sept. 1, 1868.
85,000	Dunn, Francis B., New York, N. Y. Steam generator	Dec. 15, 1868.
74,059	Dunn, Joseph Bragg, Petersburg, Va. Cotton-bale tie	Feb. 4, 1868.
75,395	Dunn, Valmore A., West Pern, Maine. Anvil cutter	Mar. 10, 1868.
75,002	Dunn, William, Argosville, N. Y. Strainer for liquids	Mar. 3, 1868.
79,215	Dunscomb, Edward, Boston, Mass. Steam generator. (Antedated May 7, 1868)	June 23, 1868.
83,940	Dunton, Frederick B., Center Lincolnville, Maine. Reefing and furling sails	Nov. 10, 1868.
	Duparquet, Louis, and Elie Moneuse. (*See* Moneuse & Duparquet.)	
	Same .....same.	
73,174	Dupré, Charles, Louisville, Ky. Door hinge	Jan. 7, 1868.
	Durand, Ezra. (*See* Vogel, W., assignor.)	
78,268	Durand, F., France. Brick machine	May 26, 1868.
83,700	Durand, John, assignor to Perkins, Livingston & Post, Cincinnati, Ohio. Railroad signal box	Nov. 3, 1868.
84,805	Durant, A. P., Athens, Ohio. Beehive	Dec. 8, 1868.
78,076	Durant, Charles, assignor to George F. Durant, Jersey City, N. J. Relay magnet	May 19, 1868.
79,330	Same.....same	June 30, 1868.
79,331	Same.....same	June 30, 1868.
84,806	Durant, Charles, Jersey City, N. J. Electro-magnetic relay instrument	Dec. 8, 1868.
79,559	Durant, William B., Cambridge, Mass. Water meter	July 7, 1868.
78,654	Durborow, John C., Ellicott City, Md. Harvester rake	June 9, 1868.
80,930	Durfee, W. F., New Bedford, Mass. Power crane	Aug. 11, 1868.
	Durgin, Joseph, and Rufus Ham. (*See* Ham & Durgin.)	
74,807	Durham, S. W., Ipava, Ill. Strap fastener	Feb. 25, 1868.
80,157	Du Rieux, Pierre, and Edward Roettger, France. Filtering press	July 21, 1868.
80,931	Duryea, Wright, Glen Cove, N. Y. Door spring	Aug. 11, 1868.
75,881	Duryea, W., Glen Cove, N. Y., and W. Ennis, Hudson, N. J. Furnace	Mar. 24, 1868.
80,932	Dusonchet, P. S., New Orleans, La. Switching apparatus for street railway cars	Aug. 11, 1868.
78,441	Dutcher, Warren W., Hopedale, Mass. Temple for looms	June 2, 1868.
82,697	Dutton, John S., Jaffrey, N. H. Screw plate	Oct. 6, 1868.
74,208	Dutton, Rufus, New York, N. Y. Harvester	Feb. 11, 1868.
74,209	Same.....same	Feb. 11, 1868.
74,210	Same.....same	Feb. 11, 1868.
74,211	Same.....Cutting apparatus for harvesters	Feb. 11, 1868.
74,212	Same.....same	Feb. 11, 1868.
74,213	Same.....same	Feb. 11, 1868.
78,196	Same.....Manufacture of finger bars for harvesters	May 26, 1868.
78,197	Same .....Method of constructing finger bars of harvesters	May 26, 1868.
81,989	Dutton, Thomas, assignor to self and Thomas Maguire, Port Jervis, N. Y. Low-water detector for boilers	Sept. 8, 1868.
83,268	Dutton, Thomas, and Thomas Maguire, Port Jervis, N. Y. Water charger for pumps	Oct. 20, 1868.
76,423	Dutton, William H., Philadelphia, Pa. Cabinet bedstead	Apr. 7, 1868.
75,003	Duvall, Alfred, Baltimore, Md. Method of excavating under water. (Antedated Feb. 28, 1868)	Mar. 3, 1868.
75,004	Same.....Mode of excavating under water. (Antedated Feb. 28, 1868)	Mar. 3, 1868.
83,941	Same.....Rotary steam engine	Nov. 10, 1868.
84,417	Same.....Universal joint	Nov. 24, 1868.
80,398	Duvall, William T., assignor to the Duvall Patent Pump Dredging and Gold Washing Company, Georgetown, D. C. Apparatus for collecting and separating mineral and metallic substances	Jan. 28, 1868.
	Duy, Charles A. (*See* Finn, James C., assignor.)	
	Same.....(*See* Howell, Finn & Duy.)	
3,217	Dwight, Elihu, New York, N. Y. Stair oil-cloth.....(Design)	Nov. 3, 1868.
85,001	Dwight, George M., Oregon, Ill. Cultivator	Dec. 15, 1868.
3,218	Dwight, Jeremiah, assignor to the Detroit Stove Works Company, Detroit, Mich. Ornament of a stove.....(Design)	Nov. 3, 1868.
83,478	Dyer, Charles, Coal Run, Ohio. Combined corn planter and cultivator	Oct. 27, 1868.
	Same.....(*See* Hatch, Nehemiah L., assignor.)	
75,396	Dyer, Daniel W., and James H. McVaugh, Philadelphia, Pa. Sash-bead fastener	Mar. 10, 1868.
	Dyer, Hugh, *et al.* (*See* Fellows, Harrison & Dyer.)	
76,311	Dyer, John, Chicago, Ill. Self-cancelling railway ticket	Apr. 7, 1868.
78,943	Dyer, Jonathan G., Chicago, Ill. Coffee pot	June 16, 1868.
	Dyer, M., and D. B. Nelson. (*See* Nelson & Dyer.)	
74,324	Dyett, A. R., New York, N. Y. Window-sash stop	Feb. 11, 1868
78,583	Dyson, Abraham, St. Louis, Mo. Street scraper	June 2, 1868.
81,263	Dyson, Job, New Britain, Conn. Frame for stretching drawers	Aug. 18, 1868.
83,141	Same.....Cloth drawers	Oct. 20, 1868.
78,793	Eads, James B., St. Louis, Mo. Sub-aqueous foundation	June 9, 1868.
83,942	Same.....Bridge	Nov. 10, 1868.
76,312	Eager, George R., East Boston, Mass. Neektie supporter. (Antedated March 21, 1868)	Apr. 7, 1868.
	Eagle, R. N., and F. Halfelfinger. (*See* Halfelfinger & Eagle.)	
	Eames, Charles J., and Charles A. Seely. (*See* Seely & Eames.)	
	Same.....same.	
83,612	Eardley, James W., Grand Rapids, Mich. Corn marker	Nov. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
83, 839	Earl, James F., San Francisco, Cal. Harvester	Nov. 10, 1868.
81, 352	Earl, Otis, Hermon, N. Y. Milking stool	Aug. 25, 1868.
	Earl, William, jr., and Joseph K. Priest. (*See* Priest & Earl.)	
79, 216	Earle, John E., New Haven, Conn. Cork screw	June 23, 1868.
	Earle, Nathaniel. (*See* Heaton, John C., assignor.)	
82, 096	Earley, J. Jacob, Fairfield, Ohio. Boring and mortising machine	Sept. 15, 1868.
82, 814	Early, Daniel S., Hummelstown, Pa. Cultivator	Oct. 6, 1868.
83, 269	Same.....Buggy-top fastening	Oct. 20, 1868.
84, 483	Earnshaw, John, East Greenwich, R. I. Machine for finishing cloth	Dec. 1, 1868.
82, 298	Eason, George, Lyons, N. Y. Beehive	Sept. 22, 1868.
74, 759	Easterday, Elias S., Nokomis, Ill. Sulky cultivator	Feb. 25, 1868.
3, 009	Easterly, James, Albany, N. Y. Base-burning stove.....(Division 1, reissue)	June 30, 1868.
3, 010	Same.....same.....(Division 2, reissue)	June 30, 1868.
	Easterly, James, and John S. Perry. (*See* Perry & Easterly.)	
79, 217	Eastlack, Charles F., Mantua, N. J. Pump	June 23, 1868.
80, 341	Eastman, George E., Washington Mills, N. Y. Pail ear	July 28, 1868.
78, 655	Eastman, H. G., Poughkeepsie, N. Y. Pen holder	June 9, 1868.
77, 263	Eastman, Henry W., Baltimore, Md. Toilet attachment for bureaus	Apr. 28, 1868.
76, 174	Eastman, I. S., Madison, Wis. Rotary fan	Mar. 31, 1868.
81, 077	Easton, Elias, Prairieville, Mich. Farm gate	Aug. 18, 1868.
	Eaton & Ayer. (*See* Damon & Whitaker, assignors.)	
	Same.....same.	
82, 815	Eaton, Albert G., Gouverneur, N. Y. Apparatus for tanning hides	Oct. 6, 1868.
81, 482	Eaton, Alice M., Boston, Mass. Shoulder-brace and suspender combined	Aug. 25, 1868.
	Eaton, B. G., *et al.* (*See* Hall, E. R., assignor.)	
	Eaton, B. G., and D. M. Golden. (*See* Hall, E. R., assignor.)	
	Same.....(*See* Babcock, Charles A., assignor.)	
	Eaton, Edwin A. (*See* Chesterman, Edwin, assignor.)	
3, 155	Eaton, Harrison, Amherst, N. H. Cooking stove.....(Design)	Aug. 11, 1868.
72, 988	Eaton, Jonathan Smith, Roxbury, Mass. Trunk	Jan. 7, 1868.
	Eaton, Robert B., and Daniel Ashworth. (*See* Ashworth & Eaton.)	
	Eaton, S. C., and B. W. Lacy. (*See* Willmarth, William C., assignor.)	
	Eau Claire Lumber Company. (*See* Pond, Levi W., assignor.)	
	Eaves, William T., and William. (*See* Brundage, E. F., assignor.)	
75, 672	Ebaugh, Henry H., Hereford, Md. Mucilage bottle	Mar. 17, 1868.
73, 785	Eberhard, William, assignor to self and A. P. Baldwin, Akron, Ohio. Washing machine	Jan. 28, 1868.
79, 059	Eberhardt, Jacob, Newark, N. J. Hat-blocking machine	June 23, 1868.
80, 615	Eberhart, Daniel, New Pittsburg, Ohio. Spark arrester	Aug. 4, 1868.
74, 900	Eberman, E. H., Lampeter Square, Pa. Railroad-rail joint splice	Feb. 25, 1868.
77, 964	Eccleston, C. H., Oxford, N. Y. Looped pin for securing artificial teeth	May 19, 1868.
81, 613	Ecker, Lewis B., Union Bridge, Md. Machine for jointing staves	Sept. 1, 1868.
83, 142	Eckert, John C., Dayton, Ohio. Railroad-car heater	Oct. 20, 1868.
	Eckert, William R. (*See* Detrick, Jacob S., assignor.)	
82, 503	Eckhardt, Albert Friedrich, Germany. System of seeding and manuring	Sept. 29, 1868.
78, 442	Eckler, Harmon P., Catskill, N. Y. Combined cultivator and hoe	June 2, 1868.
77, 468	Eckley, Milton, Olney, Ill. Machine for cleaning grain	May 5, 1868.
85, 436	Eddleman, George H., Atlanta, Ga. Sawing machine	Dec. 29, 1868.
73, 586	Eddowes, A. K., Philadelphia, Pa. Window sash	Jan. 21, 1868.
	Eddy, Albert C., and William G. Duee. (*See* Duee & Eddy.)	
77, 014	Eddy, Alfonzo J., New Britain, Conn. Meat cutter	Apr. 21, 1868.
74, 325	Eddy, George W., Waterford, N. Y. Railway car	Feb. 11, 1868.
76, 175	Same.....Warming cars on railways	Mar. 31, 1868.
	Eddy, Henry. (*See* Sprague, E. L., assignor.)	
80, 537	Eddy, John H., Taunton, Mass. Cupola furnace	Aug. 4, 1868.
77, 015	Eddy, Rollin S., assignor to self, W. H. Smith, Seth Deane and Henry Merrill, LaCrosse, Wis. Horse-power	Apr. 21, 1868.
	Eddy, Rollin S., and William H. Smith. (*See* Smith & Eddy.)	
75, 397	Eddy, Walter A., East Randolph, N. Y. Seat for vehicles	Mar. 10, 1868.
76, 176	Edey, Matthew C., New York, N. Y. Medical compound	Mar. 31, 1868.
83, 479	Edge, Duncan, St. Mary's, Ill. Beehive	Oct. 27, 1868.
84, 684	Edison, Fordice W., Port Huron, Mich. Horseshoe	Dec. 8, 1868.
80, 714	Edmands, A. B., Melrose, Mass. Water meter	Aug. 4, 1868.
79, 741	Edmands, B. F., Boston, and J. Hamblet, jr., Charlestown, Mass. Escapement for dial telegraph instruments	July 7, 1868.
83, 943	Edmister, Alfred, Westfield, Ohio. Corn planter and cultivator	Nov. 10, 1868.
84, 807	Edmonds, O. W., Bluffdale, Ill. Harrow	Dec. 8, 1868.
82, 393	Edmundson, J. E., Bartlett, Ohio. Coffee roaster	Sept. 22, 1868.
79, 816	Edson, Horace M., Mt. Vernon, Ohio. Closing vulcanizing flasks	July 14, 1868.
73, 587	Edson, Jacob, Boston, Mass. Nail extractor	Jan. 21, 1868.
76, 610	Same.....Scrubber	Apr. 14, 1868.
80, 278	Same.....Stop for fore and aft sails	July 28, 1868.
	Edson, Marmont B., and George P. Clarke. (*See* Clarke & Edson.)	
76, 313	Edson, Nathaniel T., New Orleans, La. Washing machine	Apr. 7, 1868.
84, 098	Edson, William, Boston, Mass. Sash fastener	Nov. 17, 1868.
75, 882	Edwards, A., New Haven, Conn. Machine for felling trees	Mar. 24, 1868.
3, 233	Edwards, Amory, assignor to the Union Metallic Cartridge Company, Elizabeth, N. J. Trade mark.....(Design)	Nov. 10, 1868.
76, 424	Edwards, David, New York, N. Y. Car replacer	Apr. 7, 1868.
77, 599	Edwards, George A., Centralia, Ill. Straw cutter	May 5, 1868.
	Edwards, James, *et al.* (*See* Williams, Forgie & Edwards.)	
75, 252	Edwards, Jesse S., Medford, N. J. Machine for distributing fertilizers	Mar. 10, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,698	Edwards, John A., Waterford, Pa. Milk vat	Oct. 6, 1868.
81,990	Edwards, Nathaniel, Newark, Ohio. Construction of latch and lock	Sept. 8, 1868.
75,883	Edwards, R. S., Savannah, Mo. Corn planter	Mar. 24, 1868.
	Edwards, Walter, *et al.* (*See* Luther, Lyon & Edwards.)	
83,944	Edwards, William H., Moline, Ill. Joint and coupling for cultivators	Nov. 10, 1868.
	Eells, Henry B., and Charles G. Ross. (*See* Ross, H. Schuyler, assignor.)	
80,063	Egbert, Robert S., Colfax, Cal. Manufacture of ice	July 21, 1868.
75,005	Eggleston, A. R., and C. F. Swain, Milwaukee, Wis. Seeding machine	Mar. 3, 1868.
81,991	Egleston, J. D., Camden, Conn. Means for securing springs for beds and seats	Sept. 8, 1868.
3,259	Egleston, Leonard, assignor to Rumsey & Company, Seneca Falls, N. Y. Steam boiler pump (Design)	Nov. 17, 1868.
78,445	Ehlers, Augustus R., Tannersville, Pa. Saw mill	June 2, 1868.
76,724	Ehrenberg, F. C. and Theodor, New York, N. Y. Thread-winding machine	Apr. 14, 1868.
81,078	Ehret, Michael, jr., Philadelphia, Pa. Roofing	Aug. 18, 1868.
73,786	Ehrhardt, L. H. G., assignor to George B. Upton, David D. Stackpole, and Samuel H. Gookin, England. Gunpowder	Jan. 28, 1868.
76,725	Ehrman, Samuel, Chicago, Ill. Table-leaf support	Apr. 14, 1868.
	Eichholtz, John M., and John Frey. (*See* Frey & Eichholtz.)	
	Eichinger, Michael, and Joseph Heckel. (*See* Heckel & Eichinger.)	
85,002	Eichler, F., New Lisbon, Wis. Portable pump	Dec. 15, 1868.
82,394	Eickemeyer, R., Yonkers, N. Y. Apparatus for preserving beer, ale, &c	Sept. 22, 1868.
3,217	Eickemeyer, R., assignor to the Eickemeyer Hat Blocking Company, Yonkers, N. Y. Machine for stretching hat bodies (Reissue)	Dec. 1, 1868.
74,326	Eidmann, Philip, Pekin, Ill. Corn planter	Feb. 11, 1868.
79,901	Einhorn, Jacob, assignor to self and Jacob Eugster, New York, N. Y. Embroidering machine	July 14, 1868.
	Einstein, William. (*See* DeBary, Julius, assignor.)	
73,311	Eiswald, Theodor G., Providence, R. I. Safety plug for boilers	Jan. 14, 1868.
80,399	Same.....Low-water indicator	July 28, 1868.
80,400	Same.....same	July 28, 1868.
81,483	Eiswald, T. G., and James Barbour, assignors to T. G. Eiswald, Providence, R. I. Low-water indicator	Aug. 25, 1868.
	Eiswald, T. G., and Jenkins Jones. (*See* Jones & Eiswald.)	
	Elberson, F., and H. M. Gilbert. (*See* Gilbert & Elberson.)	
83,945	Elbertson, John, assignor to self and Jesse L. Connor, Kirksville, Mo. Car coupling	Nov. 10, 1868.
77,016	Elbertson, John, Kirksville, Mo. Cartridge box	Apr. 21, 1868.
77,807	Same.....Corn planter	May 12, 1868.
83,052	Elder, Albert J., Kansas City, Mo. Automatic car coupling	Oct. 13, 1868.
84,808	Same.....Safety bridge for railway cars	Dec. 8, 1868.
	Elder, J. Lawrence, *et al.* (*See* Kronig, Carl, assignor.) (Reissue.)	
73,703	Elder, R. G., New York, N. Y. Baking pan	Jan. 28, 1868.
84,619	Elder, Samuel S., Springfield, Ill. Churn	Dec. 1, 1868.
84,099	Eldredge, John V. D., Detroit, Mich. Take-up for sewing machine	Nov. 17, 1868.
75,398	Eldridge, Henry, Lynn, Mass. Boot and shoe	Mar. 10, 1868.
	Eldridge, Jacob. (*See* Hall, Earl J., assignor.)	
75,006	Eliot, John, Vermillion, Ill. Horse rake	Mar. 3, 1868.
	Elkins, William G. and O. N. (*See* Manuel, Charles C., assignor.)	
	Elleard, Charles M. (*See* Whorf, Charles F., assignor.)	
84,100	Ellenberger, Joseph, Easton, Ohio. Post driver. (Antedated Nov. 13, 1868)	Nov. 17, 1868.
77,469	Ellershausen, Francis, Montreal, Canada. Process of converting cast iron into cast steel and malleable iron	May 5, 1868.
77,722	Same.....Furnace and process for the manufacture of iron and steel	May 12, 1868.
84,053	Ellershausen, Francis, Ellershause, Augustus E. Stayner, Halifax, Nova Scotia, and Adolph Guzman, New York, N. Y. Manufacture of iron and steel	Nov. 17, 1868.
81,885	Ellingen, Edward, Mineral Point, Wis. Coffin	Sept. 8, 1868.
74,060	Elliot, D., and E. Seely, New York, N. Y. Washer for lock nuts	Feb. 4, 1868.
	Elliot, George, and G. W. Harris. (*See* Harris & Elliot.)	
72,989	Elliot, William H., New York, N. Y. Brewing	Jan. 7, 1868.
76,177	Same.....Preserving beer and other malt liquors	Mar. 31, 1868.
76,611	Same.....Mortise and tenon for bedsteads	Apr. 14, 1868.
84,809	Same.....Feather renovator	Dec. 8, 1868.
76,178	Elliot, William H., New York, and Isaac Osgood, Utica, N. Y. Apparatus for dyeing and bleaching yarn and thread	Mar. 31, 1868.
77,431	Elliott, Charles H., York, Pa. Churn	Apr. 28, 1868.
	Elliott, Ephraim. (*See* Pattee, John W., assignor.)	
73,787	Elliott, Ephraim, and Charles E. Newton, Lowell, Mass. Artificial leg	Jan. 28, 1868.
	Elliott, Hiram. (*See* Daugherty, W. F., assignor.)	
85,372	Elliott, James, New York, N. Y. Pipe and faucet clamp	Dec. 29, 1868.
73,175	Elliott, James, Milford, Wis. Tire-shrinking machine	Jan. 7, 1868.
83,840	Elliott, John, and W. Lee, Chippewa, Ohio. Sheep rack	Nov. 10, 1868.
	Elliott, J. Boyd, and John E. Sweet. (*See* Sweet & Elliott.)	
77,723	Elliott, J. S., assignor to self and A. B. Cooley, Philadelphia, Pa. Hasp lock	May 12, 1868.
85,437	Elliott, John T., Grand Rapids, Mich. Horse hay fork	Dec. 29, 1868.
76,731	Elliott, Lewis, jr., assignor to L. Candee & Company, New Haven, Conn. Overshoe	Apr. 14, 1868.
73,588	Elliott, Marius M., New England Village, Mass. Shoe shave	Jan. 21, 1868.
77,180	Elliott, Robert, Chester, Pa. Railway-rail splice	Apr. 28, 1868.
75,884	Elliott, W. St. G., Morristown, N. J. Sewing machine	Mar. 24, 1868.
	Elliott, William W., and James C. Moorehead. (*See* Moorehead & Elliott.)	
76,612	Ellis, Charles, Canton, Mass. Screw-cutting lathe	Apr. 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,084	Ellis, Charles R., Brooklyn, N. Y. Boiler for heating apparatus	Jan. 7, 1868.
	Ellis, Ellis. (*See* Purdy, Stephen, assignor.)	
78,794	Ellis, Henry A., and C. F. Gladding, Norwich, Conn. Hawser clamp	June 9, 1868.
	Ellis, James. (*See* McClure, Henry, assignor) (Reissue.)	
74,061	Ellis, John, White Plains, N. Y. Boiler for heating water	Feb. 4, 1868.
77,470	Ellis, John, New York, N. Y. Material for purifying and decoloring petroleum	May 5, 1868.
75,399	Ellis, John J., Auburn, N. Y. Wrench	Mar. 10, 1868.
73,085	Ellis, John P., Flushing, N. Y. Water-proof safe	Jan. 7, 1868.
	Ellis, Thomas. (*See* Woodard, A. B., assignor) (Reissue.)	
	Ellis, William, *et al.* (*See* Carnell, Williams & Ellis.)	
75,135	Ellston, John, Cleveland, Ohio. Grinding mill	Mar. 3, 1868.
73,882	Ellsworth, E. A., assignor to self and Lysander Hill, Washington, D. C. Manufacture of mortar and cement and material therefor	Jan. 28, 1868.
83,143	Ellsworth, Spencer, Lacon, Ill. Paper-cutting machine	Oct. 20, 1868.
77,017	Elmenhorst, Walter, and F. O. Matthiessen, Jersey City, N. J. Centrifugal machine for draining sugar	Apr. 21, 1868.
78,868	Elmer, Charles R., Bridgeton, N. J. Singletree brace	June 16, 1868.
81,079	Elmire, John, Martie Township, Pa. Axle	Aug. 18, 1868.
76,062	Elms, Arcule, North Granville, N. Y. Railway chair	Mar. 31, 1868.
73,176	Elsberg, Louis, New York, N. Y. Buckle	Jan. 7, 1868.
	Elsdon, Robert, and John Somerville. (*See* Somerville & Elsdon.)	
82,097	Elson, Julius, assignor to Florentine A. Jones, Boston, Mass. Safety attachment to watches	Sept. 15, 1868.
77,965	Elting, Peter F., assignor to the Elting Bolt and Duster Company, Buffalo, N. Y. Bran duster	May 19, 1868.
79,454	Elvin, W. J., North Madison, Ind. Bechive	June 30, 1868.
83,768	Elward, J. H., Polo, Ill. Plow	Nov. 3, 1868.
77,181	Elward, John H., Chicago, Ill. Wrist-pin for reapers and mowers. (Antedated April 15, 1868)	Apr. 28, 1868.
77,264	Elwell, Henry H., South Norwalk, Conn. Reversible knob latch	Apr. 28, 1868.
74,901	Ely, Alfred B., Newton, Mass. Shoe tip	Feb. 25, 1868.
2,969	Same.....Heel stiffener (Reissue)	June 9, 1868.
	Same.....(*See* Smith, T. S., assignor.)	
	Ely, Alfred B., trustee. (*See* Streeter, L. R., assignor.)	
	Ely, A. B., and T. S. Smith. (*See* Smith & Ely.)	
	Ely, William N. (*See* Stevens, E. M., assignor.) (Reissue.)	
	Same.....(*See* Vittum, Francis J., assignor.)	
	Same.....(*See* Ames & Gowen, assignors) (Reissue.)	
	Same.....same (Reissue.)	
	Same.....same (Reissue.)	
	Same.....same (Reissue.)	
	Same.....same (Reissue.)	
	Same.....same (Reissue.)	
	Same.....same (Reissue.)	
	Same.....(*See* Ballou, F. D., assignor) (Reissue.)	
	Same.....(*See* Bailey & Thayer, assignors) (Reissue.)	
	Same.....(*See* Stevens, E. M., assignor.)	
	Same.....(*See* Fifield, Joseph C., assignor.)	
	Same.....(*See* Marden, Jeremiah A., assignor.)	
	Same.....(*See* Hall, Luther, assignor) (Reissue.)	
	Same.....same (Reissue.)	
	Same.....same (Reissue.)	
	Same.....same (Reissue.)	
	Same.....(*See* Vittum, F. J., assignor.)	
	Ely, W. N., *et al.*, trustees. (*See* Stevens, Edgar M., assignor.)	
73,704	Embree, Charles H., West Dresden, N. Y. Gate	Jan. 28, 1868.
74,675	Emens, William J., Louisville, Ky. Spring-bed bottom	Feb. 18, 1868.
75,400	Emerson, D. L., Rockford, Ill. Petroleum or gas stove	Mar. 10, 1868.
79,560	Emerson, George W., Chicago, Ill. Temporary binder	July 7, 1868.
	Same.....(*See* Shute, Henry M., assignor.)	
79,561	Emerson, James, Lowell, Mass. Dynamometer	July 7, 1868.
79,562	Same.....same	July 7, 1868.
74,521	Emerson, J. E., Trenton, N. J. Saw	Feb. 18, 1868.
82,299	Same.....Hand saw	Sept. 22, 1868.
74,522	Emerson, J. E., Trenton, N. J., and William S. Winsor, Jamestown, N. Y. Saw	Feb. 18, 1868.
74,523	Same.....Titusville, Pa. Saw	Feb. 18, 1868.
74,062	Emerson, J. W., Rochester, Minn. Machine for boring wagon hubs	Feb. 4, 1868.
82,395	Emerson, Primus, Carondelet, Mo. Paddle wheel	Sept. 22, 1868.
80,466	Emerson, S. F., Seville, Ohio. Fruit frame	Jan. 28, 1868.
83,480	Same.....Wringing machine	Oct. 27, 1868.
	Emerson, W. M., *et al.* (*See* Crague, Francis and George G., assignors.)	
85,373	Emery, A. H., New York, N. Y. Safety lamp	Dec. 29, 1868.
	Emery, Arthur P. (*See* Smith, James D., assignor.)	
84,176	Emery, Charles E., Brooklyn, N. Y. Pumping engine	Nov. 17, 1868.
75,136	Emery, James, Bucksport, Maine. Lamp shade	Mar. 3, 1868.
3,016	Same.....same (Reissue)	June 30, 1868.
	Emery, James, and Henry Smith. (*See* Smith & Emery.)	
	Emery Rotary Machine Company. (*See* De Navarro, J. F., assignor.)	
83,946	Emery, Stephen A., Boston, Mass. Arithmetical game	Nov. 10, 1868.
77,471	Emery, William B., Albany, N. Y. Machine for threshing and cleaning grain	May 5, 1868.
73,788	Emmert, E., Franklin Grove, Ill. Harvester	Jan. 28, 1868.
81,264	Emmett, William, assignor to self and E. S. Horton, Paterson, N. J. Lathe dog	Aug. 18, 1868.
73,705	Emmons, Lewis, Hamilton, Ohio. Grate for cooking stoves	Jan. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78,444	Emmons, Lucius H., Noblesville, Ind. Mop head	June 2, 1868.
76,726	Emmons, William, Sandwich, Ill. Concrete-brick machine	Apr. 14, 1868.
75,885	Emory, William H., Ashburnham, Mass. Toy pistol. (Antedated Mar. 16, 1868)	Mar. 24, 1868.
	Enderton, A. B. (*See* Whitman, L. M., assignor.)	
	Enerle, William. (*See* Clump, George, assignor.)	
85,053	Engel, Frederick, Romeo, Mich. Window shutter	Oct. 13, 1868.
76,897	Engelhardt, Johan, assignor to E. E. Hendrick and Peter Dolan, Carbondale, Pa. Composition for blacking leather	Apr. 21, 1868.
78,518	Enggren, G. L., Brooklyn, N. Y. Valve for steam engines. (Antedated May 27, 1868)	June 2, 1868.
76,179	England, Henry J., Delhi, N. Y. Dirt scraper	Mar. 31, 1868.
2,907	Engle, S. D., Hazleton, Pa. Watch. (Reissue)	Mar. 31, 1868.
75,137	Engledow, T. S., Cedar Falls, Iowa. Heel for boots and shoes	Mar. 3, 1868.
	English, B. C., *et al.* (*See* Schneider, P. F., assignor.)	
76,425	English, B. C., and Francis Fraps, Springfield, Mass. Spring-bed bottom	Apr. 7, 1868.
82,098	English, Henry, Wilmington, Del. Chimney top	Sept. 15, 1868.
84,101	English, James, Syracuse, N. Y. Shielding arch for evaporating kettles	Nov. 17, 1868.
	English, James G., *et al.* (*See* Bradley, F. A., assignor.)	
75,253	English, R. W., Buffalo, N. Y. Mop head	Mar. 10, 1868.
80,815	Enholm, A. H., St. Louis, Mo. Motive power for sewing machines	Aug. 11, 1868.
	Ennis, George H., and William Mont. Storm. (*See* Storm & Ennis.)	
	Ennis, W., and W. Duryea. (*See* Duryea & Ennis.)	
76,613	Enos, John M., assignor to self and Thomas Swartwout, St. Joseph, Mich. Brick press	Apr. 14, 1868.
74,902	Enos, Levi S., Almond, N. Y. Washing machine	Feb. 25, 1868.
79,817	Same.....Stove-pipe damper	July 14, 1868.
77,874	Enos, Levi S., assignor to Nathaniel Sweet, Almond, N. Y. Alloy for metallic roofing	May 12, 1868.
79,060	Enright, John, assignor to self and James R. Del Vecchio, Louisville, Ky. Passenger register	June 23, 1868.
82,931	Enright, John, assignor to self, William Wall and Thomas Enright, Louisville, Ky. Core bar for pipes	Oct. 13, 1868.
	Ensign, Charles H., *et al.* (*See* Barnum, Lafayette, assignor.)	
	Ensign, Henry W., and A. R. Stanley. (*See* Stanley & Ensign.)	
83,144	Ensign, William F., Troy, N. Y. Permutation lock	Oct. 20, 1868.
84,177	Same.....New York, N. Y.....same	Nov. 17, 1868.
74,063	Ensley, J. J., assignor to Thomas D. Ledyard, New York, N. Y. Illuminating gas. (Antedated Jan. 27, 1868)	Feb. 4, 1868.
84,810	Ensminger, George William, Richland, Iowa. Wire fence	Dec. 8, 1868.
75,742	Enszlin, Theodore, Newburg, N. Y. Salve	Mar. 24, 1868.
84,620	Epperson, W. L., Louisville, Ky. Mortising machine	Dec. 1, 1868.
77,966	Erbe, Barthel, Birmingham, Pa. Reversible knob latch. (Antedated May 12, 1868)	May 19, 1868.
81,614	Erdle, Jacob, South Bristol, N. Y. Cheese press	Sept. 1, 1868.
3,035	Erkson, Garrett, Brooklyn, N. Y. Medallion. (Design)	May 12, 1868.
81,762	Ernst, Frederick, San Francisco, Cal. Revolving furnace for roasting ores	Sept. 1, 1868.
	Erpelding, Lambert, *et al.* (*See* McCormick, Baker & Erpelding.)	
73,960	Erskine, Christopher A., Palermo Center, Maine. Egg-preserving frame	Feb. 4, 1868.
76,063	Ertel, George, Liberty, Ill. Compressing and beater press	Mar. 31, 1868.
83,701	Ervin, John, Princetown, Ind. Fireplace	Nov. 3, 1868.
76,426	Erving, Luther, Brooklyn, N. Y. Lamp burner	Apr. 7, 1868.
	Esale, J. H., and L. J. Adams. (*See* Adams & Esale.)	
77,724	Eschenlohr, Alois, Bavaria. Seamless leather strap and tube	May 12, 1868.
78,519	Escherich, Francis H., Baltimore, Md. Breech-loading fire-arm	June 2, 1868.
	Eskildson, Henry W., and James Tyzick. (*See* Tyzick & Eskildson.)	
	Espey, G. W., and H. M. Hall. (*See* Hall & Espey.)	
78,584	Espick, Charles F., Plymouth, Ind. Chimney clasp	June 2, 1868.
80,933	Same.....Tuyere iron	Aug. 11, 1868.
78,077	Esser, Phillip, and F. A. Steere, North Providence, R. I. Machine for setting button hooks	May 19, 1868.
75,254	Essig, Bartholome, Sacramento, Cal. Bedstead fastening	Mar. 10, 1868.
73,312	Essig, Lewis, Canton, Ohio. Gate	Jan. 14, 1868.
85,374	Estabrook, J. M., Milford, Mass. Screw peg for boots and shoes	Dec. 29, 1868.
79,964	Estell, Isaac, St. Louis, Mich. Saw set	July 14, 1868.
73,240	Estell, Samuel F., Richmond, Ind. Regulator for timepieces	Jan. 14, 1868.
81,265	Same.....Animal trap	Aug. 18, 1868.
76,727	Esten, D. S., Monson, Mass. Hinge for gates and doors. (Antedated Apr. 9, 1868)	Apr. 14, 1868.
74,676	Esterly, George, White Water, Wis. Harvester	Feb. 18, 1868.
79,332	Same.....Broadcast seeder and cultivator	June 30, 1868.
85,221	Same.....Seeding machine	Dec. 22, 1868.
	Esterly, George W., *et al.* (*See* Harrison, Job, assignor.)	
73,313	Estes, Dana, assignor to self and Carper W. Rooth, Newton, Mass. Portable shade and seat. (Antedated Jan. 3, 1868)	Jan. 14, 1868.
83,613	Estes, Dexter, Stockholm, N. Y. Washing machine	Nov. 3, 1868.
74,064	Estes, Henry A., assignor to self and George Smith, Jersey City, N. J. Horse hay fork. (Antedated Jan. 31, 1868)	Feb. 4, 1868.
82,504	Estes, James H., Boston, Mass. Miter machine. (Antedated Sept. 16, 1868)	Sept. 29, 1868.
	Estey, Jacob & Company. (*See* Wells, Franklin A., assignor.)	
	Same.....(*See* Fuller & White, assignors.)	
73,589	Ethridge, Martin R., Locke's Mills, Maine. Boot and shoe	Jan. 21, 1868.
76,732	Ettenger, W., and H. P. Edmond, Richmond, Va. Hydraulic press	Apr. 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Eugster, Jacob. (*See* Einhorn, Jacob, assignor.)	
	Eunson, Robert G., and John Myers. (*See* Myers & Eunson). ....(Extension.)	
	Evans, B. D., and O. Case. (*See* Case & Evans.)	
81,353	Evans, George F., assignor to self and George P. Riley, Chelsea, Mass. Fanning machine	Aug. 25, 1868.
84,866	Evans, James S., Irondale, Mo. Process of screening charcoal	Dec. 15, 1868.
82,300	Evans, James W., New York, N. Y. Car spring	Sept. 22, 1868.
77,018	Evans, John, assignor to self and Thomas H. Smith, Philadelphia, Pa. Dovetail marker	Apr. 21, 1868.
82,301	Evans, Owen V., assignor to self and James Reynolds, Ripley, Ohio. Concrete-block-making machine	Sept. 22, 1868.
79,455	Evans, Ralph, Brant, N. Y. Fruit picker	June 30, 1868.
	Evans, S. W., and A. Agnew. (*See* Smith, Orren M., assignor.)	
76,728	Evans, Thomas, Newark, N. J. Construction of ears for can and kettle bails	Apr. 14, 1868.
3,063	Same.....Metallic ear for attaching handles to pails and like vessels. (Reissue)	Aug. 4, 1868.
	Evans, Thomas, and W. R. Thomas. (*See* Thomas & Evans.)	
84,685	Evans, Warren R., Thomaston, Maine. Magazine gun	Dec. 8, 1868.
83,481	Evans, William B., Bracken County, Ky. Shovel plow	Oct. 27, 1868.
73,961	Evans, William H., and William H. Wainwright, Indianapolis, Ind. Straw cutter	Feb. 4, 1868.
76,314	Evard, Mary E. A. W., Leesburg, Va. Broiling apparatus	Apr. 7, 1868.
76,315	Same.....Cooking stove	Apr. 7, 1868.
76,316	Same.....Toaster	Apr. 7, 1868.
	Evarts, Henry H., Chicago, Ill. Shingle machine .....(Extension)	Oct. 29, 1868.
79,642	Evarts, James M., New Haven, Conn. Pipe tongs	July 7, 1868.
80,816	Evarts, Jefferson E., Madison, Conn. Coffin	Aug. 11, 1868.
73,706	Evarts, John A., assignor to Bradley & Hubbard, West Meriden, Conn. Match safe	Jan. 28, 1868.
76,317	Same.....Suspension spring for lamps	Apr. 7, 1868.
77,019	Same.....Extension fixture for chandeliers	Apr. 21, 1868.
78,365	Same.....Chandelier	May 26, 1868.
	Evarts, John A., and Nathaniel L. Bradley. (*See* Bradley & Evarts.)	
74,524	Evarts, Porter, Madison, Wis. Windlass	Feb. 18, 1868.
78,944	Eveland, Nelson B., Hartford, Conn. Shuttle for sewing machines	June 16, 1868.
74,327	Everdon, William P., Leavenworth, Ind. Plow	Feb. 11, 1868.
79,563	Everett, Harrie, New York, N. Y. Hydro-carbon burner. (Antedated Feb. 8, 1868).	July 7, 1868.
85,438	Everett, Horace, Philadelphia, Pa. Fastening for sheet-metal joints	Dec. 29, 1868.
	Everett, Horace. (*See* Lane, John D., assignor.)	
79,643	Everhart, James M., Pittston, Pa. Car coupling	July 7, 1868.
73,517	Everitt, Elisha E., assignor to self and H. F. Hover, Philadelphia, Pa. Rack for towels	Jan. 21, 1868.
78,445	Everitt, John S., Oshkosh, Wis. Adjustment of gearing for horse-powers	June 2, 1868.
84,054	Everitt, John S., and Ossian Cook, Oshkosh, Wis. Steam-engine slide valve	Nov. 17, 1868.
75,886	Everitt, Lancelot H., New Orleans, La. Acoustic telegraphing	Mar. 24, 1868.
77,967	Everson, O. J., Lake City, Minn. Fence	May 19, 1868.
80,342	Evinger, N., Terre Haute, Ind. Evaporator	July 28, 1868.
77,265	Evril, John M., Center, Pa. Mill bush	Apr. 28, 1868.
79,218	Ewan, John T., and J. R. Glenn, Hillsboro, Ill. Smut mill	June 23, 1868.
	Ewing, George A., *et al.* (*See* Fowler, David W., assignor.)	
	Eylar, Alfred A., and Eli Keith. (*See* Keith & Eylar.)	
84,621	Eyth, Max, New York, N. Y. Rope bearing attachment in machines for steam culture	Dec. 1, 1868.
	Ezekiel, Moseley. (*See* Mullee, Wm., assignor.)	
81,354	Faas, Charles, North Attleboro', Mass. Watch-chain hook	Aug. 25, 1868.
	Faber, Eberhard. (*See* Warth, Albin, assignor.)	
73,883	Faber, Eberhard, New York, N. Y. Lead pencil	Jan. 28, 1868.
3,219	Same.....Pencil trade mark .....(Design)	Nov. 3, 1868.
	Fabian, Robert L. (*See* Hartnett, John M., assignor.)	
	Fagan, E., and J. B. Newbrough. (*See* Newbrough & Fagan.)	
	Same.....same.	
	Same.....same.	
79,564	Fagan, Michel G., Troy, N. Y. Construction of sheet-metal coal hods	July 7, 1868.
78,198	Fagan, T. B., Meudon, Ohio. Ditching machine	May 26, 1868.
3,156	Fahnestock, B. L., Pittsburg, Pa. Trade mark .....(Design)	Aug. 11, 1868.
3,010	Fahnestock, John, assignor to B. E. Barker, Indianapolis, Ind. Trade mark. (Design)	May 5, 1868.
	Fahnestock, S. S. (*See* Thompson, Smith, assignor.)	
	Same.....(*See* Lang, J. P. Theodore, assignor.)	
77,968	Fahnestock, William B., Lancaster, Pa. Car axle....(Antedated May 16, 1868)	May 19, 1868.
81,484	Fahrney, John, Boonsboro, Md. Coal stove	Aug. 25, 1868.
84,736	Faint, John, Columbus, Canada. Stove-pipe joint	Dec. 8, 1868.
84,867	Fairbairn, William R., Ridotte Township, Ill. Compound for destroying insects.	Dec. 15, 1868.
	Fairbanks, Ferdinand. (*See* Ross, James, assignor.)	
85,293	Fairbanks, Henry S., Central Falls, R. I. Machine for drilling and boring flanges of pipes and cylinders	Dec. 29, 1868.
82,610	Fairbanks, Thaddeus, St. Johnsbury, Vt., and Henry, Hanover, N. H. Charging scales	Sept. 29, 1868.
75,138	Fairchild, E. C., Sunderland, Mass. Bag holder	Mar. 3, 1868.
78,729	Fairfield, George A., Hartford, Conn. Sewing machine	June 9, 1868.
85,076	Fairlie, Robert F., London, England. Locomotive steam engine. (Patented in England Nov. 14, 1867)	Dec. 22, 1868.
75,401	Fairman, E. W., Oxfordville, Wis. Harvester	Mar. 10, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Falc, A. R. E. (*See* DeCamp, Wm., assignor.)	
82,396	Falconer, John A., and Robert Graham, assignors through mesne assignments to James H. Reniek, Jersey City, N. J. Brick machine	Sept. 22, 1868.
	Fales, Jenks & Sons. (*See* Potter, Frederiek A., assignor.)	
74,328	Fales, Joel F., Walpole, Mass. Machine for sewing carpet lining	Feb. 11, 1868.
3,247	Same.....same.....(Reissue)	Dec. 29, 1868.
78,730	Fales, Levi S., New York, N. Y. Manufacture of fertilizers	June 9, 1868.
75,887	Falk, M., New York, N. Y. Packing tobacco	Mar. 24, 1868.
80,159	Faller, Adolph, New York, N. Y. Lounge, bureau, and table	July 21, 1868.
83,702	Fallows, James, assignor to self and John Pfeifer, Philadelphia, Pa. Beer cooler.	Nov. 3, 1868.
78,945	Faloon, Matthew, Bloomington, Ill. Truss	June 16, 1868.
78,946	Same.....Abdominal supporter	June 16, 1868.
79,742	Same.....Syringe	July 7, 1868.
77,020	Fandel, John, Boston, Mass. Milk-can cover	Apr. 21, 1868.
76,064	Fanning, David H., Worcester, Mass. Hoop skirt	Mar. 31, 1868.
	Fanning, John, *et al.* (*See* Burns, James, assignor.)	
82,397	Fanning, John, assignor to John S. Andrews, Brooklyn, N. Y. Take-up for thread in sewing machines	Sept. 22, 1868.
	Fanshawe, John A., *et al.* (*See* Coles, Jacques & Fanshawe.)	
85,439	Farcot, J. J. L., France. Device for controlling engines	Dec. 29, 1868.
79,219	Faries, Robert, Indianapolis, Ind. Supplemental jaw for wrenches	June 23, 1868.
78,270	Farley, G. W., assignor to self and W. H. Humphrey, Manchester, N. H. Ice calk.	May 26, 1868.
	Farley, Philip. (*See* Lavis, Charles H., assignor.)	
	Farley, Samuel, and Edward McManama. (*See* Wyatt, Lorenzo D., assignor.)	
	Farmer, Albert. (*See* Wainwright, Theophilus A., assignor.)	
3,052	Farmer, George P., Philadelphia, Pa. Trade mark.....(Design)	May 26, 1868.
73,086	Farmer, Henry, Pontiac, Mich. Potato planter	Jan. 7, 1868.
	Farmer, John S., and John Saxby. (*See* Saxby & Farmer.)	
81,485	Farmer, Moses G., Salem, Mass. Magnetic telegraph	Aug. 25, 1868.
82,699	Farmer, W. G., Burlington, Vt. Cutter head	Oct. 6, 1868.
77,021	Farnham, Samuel M., Tully, N. Y. Oil or polish for leather	Apr. 21, 1868.
78,947	Farnsworth, Luther H., Hudson, Mass. Awl haft	June 16, 1868.
85,077	Same.....Boot and shoe shave	Dec. 22, 1868.
83,769	Faron, Edward, New York, N. Y. Brick machine	Nov. 3, 1868.
	Farr, C. N., and William C. Wilmarth. (*See* Wilmarth & Farr.)	
	Farran, Alonzo, & Co. (*See* Loftus, R. G., assignor.)	
	Farrand, A. J., *et al.* (*See* Quick, Opie & Farrand.)	
84,811	Farrar, W. B., Greensboro, N. Y. Shutter and blind fastener	Dec. 8, 1868.
76,898	Farrel, John, New York, N. Y. Fire-proof safe	Apr. 21, 1868.
	Farrell, Joanna, *et al.* (*See* Barson, Daniels & Farrell.)	
74,755	Farrell, John, Pittsburg, Pa. Manufacture of tin-lined lead pipe	Feb. 25, 1868.
	Farrell, John L., and Samuel J. M. Clark. (*See* Clark & Farrell.)	
	Farrell, Newell E., *et al.* (*See* Collins, Cushman & Farrell.)	
79,818	Farrenburg, Samuel, Taylorsville, Ind. Tool sharpener	July 14, 1868.
75,139	Farrer, Solon, New York, N. Y. Spoon	Mar. 3, 1868.
	Farrington, Lafayette. (*See* Bishop, George W., assignor.)	
73,707	Farrow, A., Carrollton, Ill. Gang plow	Jan. 28, 1868.
82,099	Farson, Enoch S., Philadelphia, Pa. Chamber commode. (Antedated Sept. 1, 1868)	Sept. 15, 1868.
77,600	Farwell, Levi D., Lancaster, and Artemus W. Goddard, Clinton, Mass. Fruit parer. (Antedated April 25, 1868)	May 5, 1868.
82,210	Farwell, W. B., assignor to self and Charles R. Abbott, New York, N. Y. Railroad car heater	Sept. 15, 1868.
83,947	Fasig, Daniel, Rowsburg, Ohio. Lifting jack and cant hook	Nov. 10, 1868.
81,615	Fassauer, John, Wheeling, Iowa. Churn	Sept. 1, 1868.
83,614	Fassett, Amos, Sterling, Ill. Wagon stake. (Antedated Oct. 17, 1868)	Nov. 3, 1868.
	Fassett, Nelson B., *et al.* (*See* Wallace, Luther R., assignor.)	
81,763	Fassett, Nelson B., assignor to self and William Humphrey, Adrian, Mich. Rotary steam engine	Sept. 1, 1868.
	Fassler, Jerome, *et al.* (*See* Whiteley, Fassler & Kelly.)	
	Fassler, Jerome, and William N. Whiteley. (*See* Whiteley & Fassler.)	
	Same.....same.....(Disclaimer.)	
75,140	Fassmann, H., New Orleans, La. Cotton-bale tie	Mar. 3, 1868.
85,003	Fath, Valentine and Philip, and Julius Frielingsdorf, St. Louis, Mo. Soldering machine	Dec. 15, 1868.
78,271	Fatzinger, A. H., Washington, N. J. Paper clip	May 26, 1868.
74,065	Faulkner, William, Vevay, Ind. Apiary	Feb. 4, 1868.
82,100	Fauntleroy, William, New Harmony, Ind. Machine for stuffing horse collars	Sept. 15, 1868.
76,614	Faurot, Arthur, and William P. Harris, Brooklyn, N. Y. Curb for streets, roads, &c	Apr. 14, 1868.
74,066	Favre, Louis Augusto, Switzerland. Mode of soling shoes	Feb. 4, 1868.
82,211	Faweett, Samuel, Rochester, N. Y. Cutter head	Sept. 15, 1868.
3,157	Fay, George, assignor to self, J. Henry Simonds, and Henry Chase, Boston, Mass. Advertising panel.....(Design)	Aug. 11, 1868.
	Fay, J. A., & Co. (*See* Lemman, John, assignor.)	
74,525	Fearn, John, Tompkinsville, N. Y. Boot heel. (Antedated Feb. 12, 1868)	Feb. 18, 1868.
82,215	Fedder, Heinrich, Lancaster, N. Y. Liniment	Sept. 15, 1868.
76,065	Feely, John, New York, N. Y. Bookbinders' roll	Mar. 31, 1868.
	Fegers, Charles, *et al.* (*See* Wiegel, Lehmbeuter & Fegers.)	
81,152	Feibelman, Rachel, Columbus, Ind. Compound for curing felons and similar diseases	Aug. 18, 1868.
81,154	Feichert, Charles, New York, N. Y. Machine for covering molds for tassels	Aug. 18, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,899	Feightner, George, Wooster, Ohio. Machine for forming fifth wheels	Apr. 21, 1868.
82,816	Felber, Jacob, St. Louis, Mo. Machine for mortising, slotting, and dovetailing	Oct. 6, 1868.
77,703	Felgemaker, Augustus B., and Silas L. Derrick, Buffalo, N. Y. Portable pipe organ	May 5, 1868.
83,369	Felker, Leonard, Tewksbury, Mass. Combined hinge and fastener	Oct. 27, 1868.
80,343	Fellheimer, Louis, New York, N. Y. Clasp for hoop skirts	July 28, 1868.
85,294	Fellker, Amos, Bay City, Mich. Hanging saws	Dec. 29, 1868.
73,962	Fellows, Alfred, Thomas B. Harrison, and Hugh Dyer, Maquoketa, Iowa. Loom indicator	Feb. 4, 1868.
78,272	Fellows, A. J., Meriden, Conn. Tape box	May 26, 1868.
79,965	Fellows, Alvin J., New Haven, Conn. Tape measure	July 14, 1868.
	Fellows, Joshua E. (*See* Cooper, John L., assignor.)	
80,538	Fellows, Thomas S., Walnut Lake, Minn. Weather strip	Aug. 4, 1868.
76,615	Felt, Luther W., Keene, N. Y. Machine for cutting corks	Apr. 14, 1868.
72,990	Felt, Vanderlyn H., Rochester, N. Y. Harvester rake	Jan. 7, 1868.
76,066	Felter, P. S., Cincinnatus, N. Y. Door lock	Mar. 31, 1868.
76,733	Feltes, George W., Carbondale, Ill. Wood lathe	Apr. 14, 1868.
77,969	Felthoff, Henry, and Lucas D. Tingley, Prince William, Ind. Mold for making drain tiles	May 19, 1868.
	Fendrich, Xavier, and B. Oertly. (*See* Oertly & Fendrich.)	
	Same.....same.	
74,329	Fenimore, Wesley, Philadelphia, Pa. Dust cap for watches	Feb. 11, 1868.
79,644	Fenn, E. J., Medina, Ohio. Horse hay fork	July 7, 1868.
82,817	Fenn, George, Boston, Mass. Wash boiler	Oct. 6, 1868.
	Fenn, Silas T., and J. B. Sweetland. (*See* Sweetland & Fenn.)	
78,366	Fenn, William A., West Meriden, Conn. Covered dish	May 26, 1868.
84,868	Fenn, William A., Wolcott, N. Y. Attaching knobs to their spindles	Dec. 15, 1868.
81,886	Fenner, John S., assignor to the Inman Manufacturing Company, Warren, R. I. Machine for sizing and polishing braid	Sept. 8, 1868.
83,270	Same.....Reel	Oct. 20, 1868.
79,333	Fenner, Mandana D., Rochester, N. Y. Pump for oil wells	June 30, 1868.
83,370	Fenner, R. R., assignor to self and Eli Halberstadt, Urbana, Ill. Feed-water heater for steam generators	Oct. 27, 1868.
74,808	Fenton, Green, Streetsboro, Ohio. Sheep shearing and tagging table	Feb. 25, 1868.
75,255	Same.....Hay knife	Mar. 10, 1868.
75,141	Fenton, H. T., Philadelphia, Pa. Steam generator	Mar. 3, 1868.
76,616	Ferger, Charles, New York, N. Y. Oil cup	Apr. 14, 1868.
73,590	Ferguson, Albert I., Sharon, Pa. Process of recutting files	Jan. 21, 1868.
81,486	Same.....Composition for curing corns, bunions, &c	Aug. 25, 1868.
	Ferguson, Edwin. (*See* Foley, Richard, assignor.)	
74,067	Ferguson, E., Newbern, N. C., assignor to Isaac H. Ferguson and Mitchell, Allen & Co. Injector for steam generators	Feb. 4, 1868.
75,256	Ferguson, E. L., assignor to self and Charles B. Clark, Buffalo, N. Y. Lamp bracket	Mar. 10, 1868.
	Ferguson, E. L., and C. B. Clark. (*See* Clark & Ferguson.)	
	Ferguson, Joseph H. (*See* Perkins & Richards, assignors.)	
81,487	Ferguson, Levi, Lowell, Mass. Loom for weaving pile fabrics	Aug. 25, 1868.
79,645	Ferguson, Lorenzo D., Dansville, N. Y. Roofing compound	July 7, 1868.
	Ferguson, M. W. (*See* McCormick, John G., assignor.)	
83,145	Ferguson, Robert E., Chicago, Ill. Washing machine	Oct. 20, 1868.
80,401	Ferguson, T. M., Rainsboro, Ohio. Apparatus for sealing fruit cans	July 28, 1868.
	Ferguson, William H., and George W. Gish. (*See* Gish & Ferguson.)	
80,344	Fernald, Edwin, Turner, Maine. Device for holding tools against grindstones	July 28, 1868.
82,700	Ferreira, Joseph H., Newark, N. J. Floor clamp	Oct. 6, 1868.
	Ferrell, Ludlow & Rodgers. (*See* Woliston, Philip N., assignor.)	
82,213	Ferren, Horace B., Batavia, N. Y. Device for measuring the feet of horses	Sept. 15, 1868.
82,214	Same.....same	Sept. 15, 1868.
82,215	Same.....Device for attaching shoes to horses' feet	Sept. 15, 1868.
74,903	Ferris, F. R., Dora, Ind. Water wheel	Feb. 25, 1868.
82,932	Ferris, Rufus B., Holland, Mich. Stump extractor	Oct. 13, 1868.
83,841	Ferris, Samuel S., assignor to self and William O. Robbins, New York, N. Y. Machinery for making sheet glass	Nov. 10, 1868.
79,334	Ferry, E. R., New Haven, Conn. Bridle	June 30, 1868.
83,055	Same.....Safety bridle	Oct. 13, 1868.
80,934	Ferry, Louis Desire Jeandron, France. Shoe for bathing and other purposes	Aug. 11, 1868.
	Ferry, Willard, and Joel E. Giles. (*See* Giles & Ferry.)	
84,461	Fessenden, George F., Arlington, Mass. Toy target	Nov. 24, 1868.
77,266	Fessenden, O. G. and S. G., Stamford, Conn. Ticket holder for railroad cars, &c	Apr. 28, 1868.
78,446	Fessler, August, assignor to Joseph R. Von Wessely, Austria. Hand stamp	June 2, 1868.
80,859	Fetzer, John G., assignor to Fetzer & Woodson, Brunswick, Mo. Plow	Aug. 11, 1868.
73,591	Feuerstein, Martin, Williamsburg, N. Y. Sausage filler	Jan. 21, 1868.
	Feust, S., and S. Sichel. (*See* Sichel & Feust.)	
72,991	Fewkes, Jesse, assignor to the Silver Lake Manufacturing Company, Newton, Mass. Expansion pulley for braiding machines	Jan. 7, 1868.
75,402	Fiedler, Moritz, assignor to self and John Klein, Rochester, N. Y. Filing machine	Mar. 10, 1868.
2,862	Field, Ben, Albion, N. Y., and George M. Pullman, Chicago, Ill., said Field assignor to said Pullman. Sleeping car (Reissue)	Feb. 11, 1868.
	Field, Benton J., and John C. Guerrant. (*See* Guerrant & Field.)	
	Same.....same.	
	Field, Franklin, *et al.* (*See* Brown, Charles K., assignor) (Design.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,110	Field, George B., New York, N. Y. Steam generator	June 23, 1868.
85,078	Field, James D., Wataga, Ill. Paper file	Dec. 22, 1868.
77,725	Field, John Lyon, Great Britain. Candle	May 12, 1868.
81,887	Field, J. S., Brooklyn, N. Y. Culinary apparatus	Sept. 8, 1868.
82,101	Field, Orrin, Independence, Iowa. Beehive	Sept. 15, 1868.
77,267	Field, William D., Providence, R. I. Door lock	Apr. 28, 1868.
	Fields, E. F., and F. M. Abbott. (*See* Abbott & Fields.)	
	Fields, J. J., and A. H. King. (*See* Joslin, H. W., assignor) (Reissue.)	
	Fielk, F., and Charles A. Brown. (*See* Brown, Charles K., assignor.)	
84,812	Fife, James T., Tyner City, Ind. Beehive	Dec. 8, 1868.
75,888	Fifield, Joseph C., assignor to W. N. Ely, Lowell, Mass. Weft stop-motion for looms	Mar. 24, 1868.
78,657	Filkins, John, Sandwich, Ill. Mop wringer	June 9, 1868.
80,160	Filkins, R. A., North Adams, Mass. Steam-engine globe valve	July 21, 1868.
80,935	Filley, Giles F., St. Louis, Mo. Coal stove	Aug. 11, 1868.
77,875	Fillingham, Fred., Ithaca, N. Y. Rigging for jib sails	May 12, 1868.
84,178	Filson, Snyder, and William E. Kinert, Bluffton, Ind. Corn planter	Nov. 17, 1868.
	Finch, Dwight H., and Henry F. Bemenderfer. (*See* Bemenderfer & Finch.)	
75,142	Finch, James R., Dayton, Ohio. Grain drill	Mar. 3, 1868.
76,427	Finch, Lewis, Vienna, Va. Potato digger	Apr. 7, 1868.
	Finchure, James B., and A. T. Boon. (*See* Boon & Finchure.)	
78,367	Findley, M. Isadora, New York, N. Y. Waist belt or girdle. (Antedated May 15, 1868)	May 26, 1868.
85,295	Fininley, Henry, New York, N. Y. Curtain fixture	Dec. 29, 1868.
	Fink, Albert, Louisville, Ky. Bridge (Extension.)	May 5, 1868.
81,355	Fink, Reuben, and Jacob B. Hershock, Lancaster, Pa. Thill coupling	Aug. 25, 1868.
77,022	Finkle, Charles E., assignor to self and R. O. Glover, New York, N. Y. Metallic base and molding for heating purposes	Apr. 21, 1868.
84,813	Finlay, James, New York, N. Y. Knee boot for horses	Dec. 8, 1868.
77,601	Finley, John E., Memphis, Tenn. Churn	May 5, 1868.
74,677	Finley, Perry, Memphis, Tenn. Shaft and pole coupling	Feb. 18, 1868.
77,268	Same.....Clothes pin	Apr. 28, 1868.
	Finley, Samuel. (*See* West, J. Burns, assignor.)	
84,940	Finn, Edward, Berlin, Wis. Axle	Dec. 15, 1868.
74,330	Finn, Felix A., Salt Point, N. Y. Threshing machine	Feb. 11, 1868.
77,876	Finn, James C., assignor to self, William Howell, and Charles A. Duy, Philadelphia, Pa. Decorating walls	May 12, 1868.
	Finn, James C., *et al.* (*See* Howell, Finn & Duy.)	
77,726	Finn, John, Decorah, Iowa. Can former. (Antedated April 24, 1868)	May 12, 1868.
75,889	Finn, J. L., Elyria, Ohio. Telegraph insulator	Mar. 24, 1868.
	Finne, A. L., *et al.* (*See* Hermance, C. W., assignor.)	
81,266	Finnegan, John A., Charlestown, Mass. Self-adjusting curb for hydrants	Aug. 18, 1868.
84,686	Firman, H. S., New York, N. Y. Apparatus for deodorizing, desiccating, and mixing manures	Dec. 8, 1868.
75,743	Firman, Leroy B., Chicago, Ill. Electric commutator	Apr. 24, 1868.
	First National Refined Iron and Steel Manufacturing Company. (*See* Absterdam, John, assignor) (Reissue.)	
77,727	Firmenich, J., Buffalo, N. Y. Manufacture of vinegar	May 12, 1868.
	Fischer, C. F., and C. W. Maas. (*See* Maas & Fischer.)	
75,890	Fischer, Ferdinand, Cambridge, Mass. Machine for stuffing leather	Mar. 24, 1868.
84,869	Fischer, Herman, Chicago, Ill. Blank book	Dec. 15, 1868.
74,068	Fischer, Valentine, New York, N. Y. Machine for forming sheet-metal moldings	Feb. 4, 1868.
85,222	Fischer, William, New York, N. Y. Wind musical instrument	Dec. 22, 1868.
75,007	Fish, Benjamin, Mechanicsburg, Pa. Tuyere	Mar. 3, 1868.
2,870	Fish, James M., assignor to Harriet M. Fish, New York, N. Y. Machine for weighing and bagging grain (Reissue)	Feb. 18, 1868.
73,442	Fish, John C., Barnstable, Mass. Tree feeding tube	Jan. 21, 1868.
83,056	Same.....Carriage-curtain fastening	Oct. 13, 1868.
77,365	Fish, Rufus A., Worcester, Mass. Fish hook	Apr. 28, 1868.
84,179	Same.....Milking pail	Nov. 17, 1868.
77,808	Fish, William H., jr., Scarsdale, Pa. Corn planter	May 12, 1868.
	Fishburn, E. G. (*See* Keffer, Peter, assignor.)	
76,318	Fisher, Alfred, Nashua, N. H. Pump	Apr. 7, 1868.
73,177	Fisher, Charles A., Geneseo, Ill. Hay knife	Jan. 7, 1868.
82,505	Same.....same	Sept. 29, 1868.
82,539	Fisher, Charles R., Chelsea, Mass. Reversible latch	Aug. 4, 1868.
73,789	Fisher, Daniel, and William Cumming, Oil City, Pa. Car replacer	Jan. 28, 1868.
73,314	Fisher, D. S., Cedar Spring, Ind. Harvester	Jan. 14, 1868.
76,617	Fisher, George B., Chicago, Ill. Brick machine	Apr. 14, 1868.
85,169	Fisher, Henry, Aurora, Ind. Self-guarding hook	Dec. 22, 1868.
76,618	Fisher, Isaac, St. Louis, Mo. Rasp	Apr. 14, 1868.
77,472	Same.....Vise	May 5, 1868.
81,764	Same.....same	Sept. 1, 1868.
80,715	Fisher, John, Middletown, Pa. Plow	Aug. 4, 1868.
84,870	Fisher, John F., assignor to self and Daniel Breed, Green Castle, Pa. Machine for distributing fertilizers	Dec. 15, 1868.
	Fisher, J. H., *et al.* (*See* Olney, Logan & Fisher.)	
79,461	Fisher, Major H., Bridgeport, Conn. Machine for making rasps	June 30, 1868.
3,108	Fisher, R. H., Beaver Falls, Pa. Knife handle (Design)	July 14, 1868.
79,061	Fisher, R. H., assignor to the Beaver Falls Cutlery Company, West Meriden, Conn. Cutlery	June 23, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
85,296	Fisher, R. H., assignor to the Beaver Falls Cutlery Company, Beaver Falls, Pa. Knife	Dec. 29, 1868.
	Fisher, Smith, and William Sharp. (*See* Howell, Levi T., assignor.)	
74,069	Fisher, Theodore A. and Anson F., Beardstown, Ill. Tunnel excavator	Feb. 4, 1868.
	Fisher, William, and Edmund W. Quincy. (*See* Quincy & Fisher.)	
79,062	Fisher, W. T., Lenoirs, Tenn. Bevel square	June 23, 1868.
80,161	Fisher, William T., Roane County, Tenn. Shoemakers' tool	July 21, 1868.
	Fisk, Clark & Flagg. (*See* Heath, Henry, assignor.)	
	Same.....(*See* Pototsky, Augustus, assignor.)	
84,871	Fisk, David, and John M. Blodgett, Clyde, N. Y. Shoemakers' bench	Dec. 15, 1868.
	Fisk, George C., *et al.* (*See* Hitchcock, Robert, assignor.)	
73,790	Fisk, Henry G., and T. J. Flagg, New York, N. Y. Necktie	Jan. 28, 1868.
	Fisk, Henry G., *et al.* (*See* Heath, Henry, assignor.)	
76,900	Fisk, L. B., Lockport, N. Y. Wrench for carriage wheels	Apr. 21, 1868.
84,348	Fisk, Milton, Sparta, Tenn. Horse-power	Nov. 24, 1868.
75,257	Fisk, Milton A., assignor to Edward M. Wesson, Springfield, Mass. Harness trimming	Mar. 10, 1868.
	Fisk, Quincy A. (*See* Smith, Charles B., assignor.)	
80,616	Fiske, D. A., Delavan, Wis. Churn	Aug. 4, 1868.
	Fiske, Edward R. (*See* Smart, Hiram F., assignor.)	
74,331	Fiske, Isaac, Worcester, Mass. Cornet, &c	Feb. 11, 1868.
75,143	Fiske, Samuel L., Philadelphia, Pa. Tenter-bar for shaping articles of cloth	Mar. 3, 1868.
	Fitch, Elisha S., and James Averill. (*See* Averill & Fitch.)	
75,539	Fitch, George, Randolph, N. Y. Churn	Mar. 17, 1868.
	Fitch, L. R. (*See* Bolinger, J. B., assignor.)	
76,901	Fithian, Lemuel S., assignor to self, James M. Hopkins, and Jefferson W. Southmayd, East New York, N. Y. Device for multiplying revolutions around an axis	Apr. 21, 1868.
76,902	Same.....Device for multiplying motion on a single shaft	Apr. 21, 1868.
	Fitz, Edwin H. (*See* Switzer, John J., assignor.)	
85,079	Fitzgerald, C. C., Phœnix, N. Y. Paper pulp	Dec. 22, 1868.
80,936	Fitzgerald, Daniel, New York, N. Y. Fire and burglar proof safe	Aug. 11, 1868.
83,770	Fitzgibbons, Maurice, New York, N. Y. Wooden box	Nov. 3, 1868.
3,230	Same....Material for the manufacture of boxes and other articles. (Reissue)	Dec. 15, 1868.
76,619	Fitzhenry, Edward, Boston, Mass. Machine for dressing and scouring leather	Apr. 14, 1868.
79,646	Fitzhugh, B. G., Ellicott City, Md. Car platform bridge	July 7, 1868.
72,992	Fitzhugh, B. G., assignor to self and William G. Maxwell, Sykesville, Md. India-rubber door spring	Jan. 7, 1868.
73,518	Fitzpatrick, Luke, and Jacob Schinneller, Temperanceville, Pa. Chain machine	Jan. 21, 1868.
	Fitz Simmons, John H., *et al.* (*See* Camfield, Hampton R., assignor.)	
	Fitzsimmons, Thomas. (*See* Ofeldt & Almqvist, assignors.)	
78,795	Flad, Henry, St. Louis, Mo. Water meter	June 9, 1868.
74,809	Flagg, James H., Perkinsville, Vt. Frame for carriage tops	Feb. 25, 1868.
73,708	Flagg, J. Melledge, Providence, R. I. Stamp moistener	Jan. 28, 1868.
	Flagg, Lysander, and W. Uhl. (*See* Sutton, Sedgwick A., assignor.)	
79,063	Flagg, Thomas J., New York, N. Y. Necktie and watch guard combined	June 23, 1868.
	Flagg, T. J., and Henry G. Fisk. (*See* Fisk & Flagg.)	
	Flagg, Thomas J., *et al.* (*See* Heath, Henry, assignor.)	
	Flagler, T., and W. B. Hale. (*See* Hale & Flagler.)	
82,302	Flanders, Frederick, Franklin, N. H. Whip goad	Sept. 22, 1868.
	Flanders, Joseph F., deceased, by Sarah W. Flanders, administratrix, Newburyport, and Jeremiah A. Marden, Boston, Mass. Leather-splitting machine.....(Extension)	Aug. 28, 1868.
77,473	Flanders, W. A., Shelby, Ohio. Beehive	May 5, 1868.
77,366	Flannigain, Andrew, Trappe, Md. Ice breaker	Apr. 28, 1868.
3,183	Flansburgh, John D., assignor to Thomas, Roberts, Stevenson & Company, Philadelphia, Pa. Cook-stove plate. (Antedated Aug. 11, 1868).....(Design)	Sept. 1, 1868.
	Flansburgh, John D., and William Johnston. (*See* Johnston & Flansburgh.)	
73,315	Flather, Edward, Bridgeport, Conn. Baggage check	Jan. 14, 1868.
72,993	Fleckenstine, Leonard, Manor Township, Pa. Holder for gun scrubber	Jan. 7, 1868.
	Fleisch, J. H., and H. Bendix. (*See* Bendix & Fleisch).....(Reissue.)	
84,737	Fleischel, Charles, and William C. Bussey, San Francisco, Cal. Door lock	Dec. 8, 1868.
	Fleischer, Kund J. (*See* Kupfer, Carl, assignor.)	
	Fleming, Abel, and Edward Bevan. (*See* Bevan & Fleming.)	
84,102	Fleming, Caroline F., Belleville, Ill. Washing machine. (Antedated Oct. 28, 1868)	Nov. 17, 1868.
75,891	Fleming, Harvey, Vienna, N. J. Wood-boring machine	Mar. 24, 1868.
	Fleming, Ira W., *et al.* (*See* La Baw, Hutchinson & Fleming.)	
76,428	Fleming, James, assignor to Gardner & Fleming, Philadelphia, Pa. Adjustable seat for carriages	Apr. 7, 1868.
82,818	Fleming, Joseph B. and Daniel J., Xenia, Ohio. Construction of powder kegs	Oct. 6, 1868.
78,199	Fleming, J. H., Groton, Ohio. Churn	May 26, 1868.
77,367	Fleming, Ransom, Victory, N. Y. Double sliding or turning gate	Apr. 28, 1868.
78,447	Fleming, Richard C., Philadelphia, Pa. Vent for barrels	June 2, 1868.
2,861	Flesche, Charles A., and John Perpente, New Haven, Conn. Scarf pin.....(Design)	Jan. 28, 1868.
	Flesh, William, and J. J. Roeper. (*See* Smith & Brown, assignors).....(Design.)	
73,791	Fletcher, Addison C., New York, N. Y. Bale fastener. (Antedated Jan. 16, 1868)	Jan. 28, 1868.
74,070	Same.....Cotton-bale tie. (Antedated Jan. 23, 1868)	Feb. 4, 1868.
74,526	Same.....Grate bar	Feb. 18, 1868.
76,734	Same.....same	Apr. 14, 1868.
79,743	Same.....same	July 7, 1868.
81,155	Same.....same	Aug. 18, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,180	Fletcher, George, sr., Greensburg, Ind. Mode of making combined wood and wire fence	Nov. 17, 1868.
80,818	Fletcher, Joseph, Providence, R. I. Making braid	Aug. 11, 1868.
74,332	Fletcher, Moore R., Cambridgeport, Mass. Separating fibers from wood and other substances. (Antedated Feb. 5, 1868)	Feb. 11, 1868.
74,333	Same.....Cambridge, Mass. Planing machine	Feb. 11, 1868.
83,771	Fletcher, Mordecai H., Richmond, Ind. Combined adjustable garden hoe	Nov. 3, 1868.
	Fletcher, Walter, and R. L. McGown. (*See* McGown & Fletcher.)	
73,241	Fleury, A. L., New York, N. Y. Amalgamator	Jan. 14, 1868.
79,744	Same.....Apparatus for dissolving quartz and for extracting metals	July 7, 1868.
79,819	Same.....Electric machine	July 14, 1868.
	Fleury, Paul E. (*See* Schmeltz, E., assignor.)	
75,144	Flinchbaugh, H. K., Conestoga Center, Pa. Fence post	Mar. 3, 1868.
75,145	Same.....Iron post for wire fence	Mar. 3, 1868.
	Flinn, A. C., *et al.* (*See* Springer, Jacob, assignor.)	
76,735	Flinn, Matthew, St. Louis, Mo. Gang plow	Apr. 14, 1868.
77,809	Flinn, Thomas, Brooklyn, N. Y. Water-indicator and alarm	May 12, 1868.
75,744	Flinn, William H., assignor to self and Albert H. Saunders, Nashua, N. H. Medicine bottle	Mar. 24, 1868.
75,745	Same.....same	Mar. 24, 1868.
84,872	Flinn, William T., assignor to Barton H. Jenks, Bridesburg, Pa. Loom	Dec. 15, 1868.
78,948	Flint, A. C., Boston, Mass. Mosquito bar for windows	June 16, 1868.
82,611	Flint, Charles M., Hancock, N. H. Wagon brake	Sept. 29, 1868.
85,080	Flint, C. W., Washington, D. C. Ice cutter. (Antedated Dec. 19, 1868)	Dec. 22, 1868.
80,467	Flint, Harrison, and George P. Smith, Danbury, Conn. Machine for turning irregular forms	July 28, 1868.
85,081	Flint, Joseph, Rochester, N. Y. Grinding machine	Dec. 22, 1868.
76,736	Flisher, I. G., and E. M. Bates, Stark County, Ohio. Double-shovel plow	Apr. 14, 1868.
78,796	Flood, James, assignor to William Sanderson, New Haven, Conn. Attaching handles to cutlery	June 9, 1868.
82,612	Flora, Orlando V., Madison, Ind. Vise	Sept. 29, 1868.
79,565	Flora, Orlando V., assignor to self, George Shannon, and D. C. Robinson, Madison, Ind. Carpenter's vise	July 7, 1868.
79,566	Same.....Vise	July 7, 1868.
79,745	Flora, Orlando V., assignor to self, J. E. Witwer, and J. S. Boyle, Madison, Ind. Single harness. (Antedated June 27, 1868)	July 7, 1868.
	Florence, Charles H., and John H. Smith. (*See* Smith & Florence.)	
	Florence Sewing Machine Company. (*See* Jencks, George L., assignor.)	
78,200	Flory, John, Flicksville, Pa. Machine for rounding the corners of slate frames	May 26, 1868.
83,615	Flower, H. D., Chicago, Ill. Compound for killing insects on trees	Nov. 3, 1868.
85,082	Flowers, Benjamin, Jerusalem, Ohio. Shingling roofs	Dec. 22, 1868.
	Flowers, E. L. (*See* Arndt, Theophilus, assignor.)	
74,756	Flowers, George W., Jacob C. and Daniel W. Happersett, Urbana, Ohio. Burning fluid	Feb. 25, 1868.
	Floyd, Byron B., and John Hardy, 2d. (*See* Hardy & Floyd.)	
76,903	Floyd, F. G. and E. A., Macomb, Ill. Broadcast seed sower	Apr. 21, 1868.
3,075	Same.....Broadcast sower (Reissue)	Aug. 11, 1868.
81,156	Same.....Stirrer for seed sower	Aug. 18, 1868.
77,602	Floyd, George P., Quincy, Mass. Railroad-track cleaner	May 5, 1868.
76,904	Floyd, James R., and Joseph A. Sabbaton, assignors to James R. Floyd, New York, N. Y. Hydraulic main for gas works	Apr. 21, 1868.
83,948	Flurscheim, Michael, assignor to Henry Whittemore, New York, N. Y. Fabric for floor-covering, wainscoting, &c	Nov. 10, 1868.
79,966	Flynn, Richard, West Brookfield, Mass. Steak masher	July 14, 1868.
79,820	Foard, J. W., San Francisco, Cal. Ventilator	July 14, 1868.
	Fobes, Avery, and John C. Wilmarth. (*See* Wilmarth & Fobes.)	
	Fobes, Daniel. (*See* Hartshorn, Henry M., assignor.)	
3,260	Foerster, D., Zanesville, Ohio. Trade mark (Design)	Nov. 17, 1868.
3,261	Same.....same (Design.)	
74,810	Fogel, Mathias D., Alpha, Ohio. Beehive	Feb. 25, 1868.
82,819	Fogerty, Valentine, Roxbury, Mass. Magazine fire-arm	Oct. 6, 1868.
81,616	Fogg, H. T., Brazil. Handle for dental and surgical instruments	Sept. 1, 1868.
76,620	Fogg, J. J., Chicago, Ill. Hinge for sleeping-car berths	Apr. 14, 1868.
	Fogie, John, *et al.* (*See* Williams, Fogie & Edwards.)	
80,617	Foley, Patrick, Nineveh, N. Y. Double-acting pump	Aug. 4, 1868.
82,102	Foley, Richard, assignor to self and Edwin Ferguson, New York, N. Y. Pavement	Sept. 15, 1868.
80,819	Folger, A. L. and A. S., Sumner, and Henry Henshaw, Quakertown, Ind., assignors to A. L. Folger. Manufacture of sugar from sorghum juice	Aug. 11, 1868.
83,057	Folger, Nathan C., New Orleans, La. Churn	Oct. 13, 1868.
	Follett, Alonzo, and H. C. Hulbert. (*See* Hulbert & Follett.)	
74,071	Follett, Marvil M., Upton, Mass. Boot attachment to carriages	Feb. 4, 1868.
76,429	Same.....Westboro, Mass. Device for converting motion	Apr. 7, 1868.
76,430	Same.....Mop wringer	Apr. 7, 1868.
73,592	Follett, Oliver, Pittsfield, Mass. Bellows for musical instruments	Jan. 21, 1868.
81,267	Folmer, John F., assignor to self and A. J. Kelly, Philadelphia, Pa. Circular saw	Aug. 18, 1868.
78,949	Folsom, Charles, New York, N. Y. Ash sifter	June 16, 1868.
80,279	Folsom, Samuel H., Winchester, Mass. Furnace for treating ores	July 28, 1868.
76,067	Fontaine, Eugene, Fort Wayne, Ind. Cattle car	Mar. 31, 1868.
85,375	Fontayne, A., Cincinnati, Ohio. Treadle	Dec. 29, 1868.
79,335	Foote, Charles C., assignor to the Meriden Britannia Company, West Meriden, Conn. Enameled metallic ice pitcher	June 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,820	Foote, Charles G., Indianapolis, Ind. Rotary engine. (Antedated Sept. 21, 1868)	Oct. 6, 1868.
	Foote, E. N., *et al.* (*See* Foote, Monroe B., assignor.)	
76,068	Foote, James H., Pittsfield, Mass. Slate frame	Mar. 31, 1868.
76,905	Same.....Dinner pail	Apr. 21, 1868.
84,103	Same.....Candle cap	Nov. 17, 1868.
79,746	Foote, M. B., Northampton, Mass. Fastening for gloves	July 7, 1868.
84,484	Foote, Monroe B., assignor to self, William M. Gaylord and E. N. Foote, Northampton, Mass. Door lock	Dec. 1, 1868.
77,970	Footner, William, assignor to William J. Footner, Chicago, Ill. Consolidating coal dust for fuel	May 19, 1868.
	Forbes, David. (*See* Gerard, George L., assignor.)	
83,949	Forbes, Duncan, Chicago, Ill. Folding lounge	Nov. 10, 1868.
78,950	Forbes, Henry D., Cambridge, Mass. Mosquito killer	June 16, 1868.
77,623	Forbes, H. H., and H. C. Sears, New Bedford, Mass. Carriage seat	Apr. 21, 1868.
75,258	Forbes, Marshall L., assignor to the Meriden Britannia Company, West Meriden, Conn. Plating spoons and other articles	Mar. 10, 1868.
77,474	Forbes, Simeon B., New Cumberland, West Va. Double-shovel cultivator	May 5, 1868.
73,963	Forbush, Walter H., Buffalo, N. Y. Numbering machine	Feb. 4, 1868.
84,687	Force, James P. and John E., Constantine, Mich. Fastening for horse collars. (Antedated Nov. 21, 1868)	Dec. 8, 1868.
78,201	Ford, A. H., Williamsfield, Ohio. Device for upsetting tires	May 26, 1868.
75,403	Ford, Charles, Forest City, Ill. Corn husker	Mar. 10, 1868.
76,069	Ford, Charles S., Philadelphia, Pa. Gas burner	Mar. 31, 1868.
83,842	Ford, Edward, San Francisco, Cal. Quartz crusher	Nov. 10, 1868.
81,617	Ford, Elias T., Stillwater, N. Y. Friction clutch	Sept. 1, 1868.
81,765	Same.....Potato digger	Sept. 1, 1868.
83,616	Same.....Manufacture of paper	Nov. 3, 1868.
83,617	Same.....Machinery for the manufacture of paper	Nov. 3, 1868.
83,618	Same.....Wrench	Nov. 3, 1868.
83,619	Same.....Finger bar for harvesters	Nov. 3, 1868.
76,070	Ford, Mrs. John, Salem, Oregon. Back and abdominal supporter	Mar. 31, 1868.
	Ford, J. B. (*See* Babbs, J. S. L., assignor.)	
77,603	Ford, John F., Boston, Mass. Window safety guard. (Antedated April 28, 1868)	May 5, 1868.
	Ford, Johnson P., and Samuel Belden. (*See* Belden & Ford.)	
	Ford, P. C. (*See* Howell, Edward, assignor.)	
	Ford, Samuel, and Albert A. Freeman. (*See* Freeman & Ford.)	
80,860	Ford, William H., J. D. Bruno, and L. C. Clarke, New Orleans, La. Distilling spirits from grain	Aug. 11, 1868.
85,297	Ford, Wm. H., and Samuel Logan, assignors to Wheelock, Finlay & Company, New Orleans, La. Disinfectant, or ozone generator	Dec. 29, 1868.
77,810	Ford, William S., Clinton, Ill. Bridle bit	May 12, 1868.
76,737	Foreman, Daniel and Michael, Dalton, Ohio. Draught bars	Apr. 14, 1868.
77,024	Foreman, E. L., Rantoul, Ill. Ditching machine	Apr. 21, 1868.
78,797	Foreman, John, Pottstown, Pa. Truss framed bridge	June 9, 1868.
80,820	Forester, L. B., Clyde, Mich. Hose coupling	Aug. 11, 1868.
80,716	Forgy, S. P., Allensville, Ky. Beehive	Aug. 4, 1868.
77,475	Forker, William H., Meadville, Pa. Paint brush	May 5, 1868.
73,519	Formhals, Ferdinand, San Francisco, Cal. Machine for collecting and condensing metallic vapors	Jan. 21, 1868.
3,043	Same.....same.....(Reissue)	July 21, 1868.
80,468	Fornerook, Henry, Watertown, Wis. Hop-pole cleaner	July 28, 1868.
79,336	Fornerook, Henry, F. J. Shepperd, and Andrew Garton, Watertown, Wis. Hop picker	June 30, 1868
73,792	Forney, Emanuel, Fishersville, Pa. Harrow	Jan. 28, 1868.
73,178	Forrest, David, Eastport, Maine. Sewing machine	Jan. 7, 1868.
75,259	Forrest, John, assignor to self, John Archibald, and John Taylor, Lawrence, Mass. Machinery for printing yarn	Mar. 10, 1868.
80,937	Forshee, Walter, and Jesse L. Judd, Marathon, N. Y. Machine for tinners' use	Aug. 11, 1868.
79,220	Forsyth, James B., assignor to self and John H. Cheever, Boston, Mass. Lining flexible and other hose and tubes with India-rubber, &c	June 23, 1868.
82,613	Forsyth, James T., Wheeling, West Va. Machine for dressing barrel hoops	Sept. 29, 1868.
75,146	Forsyth, O., and J. H. Truex, Rochester, N. Y. Weighing scale. (Antedated Feb. 20, 1868)	Mar. 3, 1868.
	Fort, Cornelius V. (*See* Hergesheimer, George, assignor.)	
75,892	Fortenbach, John, Jacob, and Joseph, Carlstadt, N. J. Watch-case cutter	Mar. 24, 1868.
73,964	Fortier, John, Fairport, N. Y. Car coupling	Feb. 4, 1868.
82,303	Fory, M. R., New York, N. Y. Machine for felling trees	Sept. 22, 1868.
	Fosdick, Charles R. (*See* Maltby, Benj. K., assignor.)	
	Fosdick, George W., and Nathan Dewey. (*See* Dewey & Fosdick.)	
83,703	Fosdick, Levi, assignor to David Reigel, Tiskilwa, Ill. Plow	Nov. 3, 1868.
74,214	Fosket, William, assignor to the Meriden Cutlery Company, Meriden, Conn. Apparatus for grinding cutlery	Feb. 11, 1868.
77,182	Foss, George F., assignor to self and Samuel C. Hopkins, East Boston, Mass. Bean-pot lifter and carrier	Apr. 28, 1868.
83,146	Foss, Maria J., Charlestown, Mass. Combined skirt and hose supporter	Oct. 20, 1868.
76,280	Foster, Alfred S., Indianapolis, Ind. Steam generator	Mar. 31, 1868.
	Foster, Azariah, and Moses Leavitt. (*See* Leavitt & Foster.)	
75,893	Foster, Benjamin W., assignor to F. L. and C. L. Sheldon, Auburn, N. Y. Machine for making carriage axles	Mar. 24, 1868.
79,747	Foster, Caleb, Wappinger's Falls, N. Y. Enameled metal comb	July 7, 1868.
73,884	Foster, Caleb, assignor to Elias Brown, Wappinger's Falls, N. Y. Comb	Jan. 28, 1868.
78,585	Same.....Die for cutting the teeth of metallic combs	June 2, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,902	Foster, C. A., assignor to self and Harlan P. Derby, Fitchburg, Mass. Meat cutter	July 14, 1868.
77,269	Foster, C. C., Odessa, Del. Fertilizer attachment	Apr. 28, 1868.
84,873	Foster, Charles S. H., Deer Isle, Maine. Belaying cleat	Dec. 15, 1868.
85,298	Foster, Dan P., assignor to self and N. M. Lowe, Waltham, Mass. Suspending clamp	Dec. 29, 1868.
82,933	Foster, E. B., and John G. Witt, Elmira, N. Y. Adjustable square and bevel	Oct. 13, 1868.
84,273	Foster, F. G., Eagle Rock, S. C. Type-setting machine	Nov. 24, 1868.
3,200	Foster, Israel, Philadelphia, Pa. Carpet pattern (Design)	Sept. 22, 1868.
3,201	Same same (Design)	Sept. 22, 1868.
3,220	Same same (Design)	Nov. 3, 1868.
3,241	Same same (Design)	Nov. 17, 1868.
3,242	Same same (Design)	Nov. 17, 1868.
3,268	Same same (Design)	Dec. 1, 1868.
	Foster, J., *et al.* (*See* Wilson, Walker & Foster.)	
	Foster, James M. (*See* Patton, Wm. P., assignor.)	
78,273	Foster, John, Pawtucket, R. I. Machinery for printing yarn	May 26, 1868.
77,476	Foster, M. H., and H. C. Hart, Unionville, Conn. Nut-making machine	May 5, 1868.
3,223	Same Machine for making nuts (Reissue)	Dec. 8, 1868.
74,334	Foster, Newton, Palmyra, N. Y. Cotton-seed and corn planter	Feb. 11, 1868.
76,621	Same Guano distributor	Apr. 14, 1868
	Foster, Samuel, jr., and Lewis Smith. (*See* Smith & Foster.)	
83,371	Foster, Walter K., Cambridgeport, Mass. Screw tap	Oct. 27, 1868.
84,814	Foster, William, jr., and George P. Ganster, New York, N. Y. Apparatus for illuminating railroad cars, steamers, &c	Dec. 8, 1868.
84,941	Same Portable gas apparatus	Dec. 15, 1868.
75,404	Foubert, Andre, New York, N. Y. Manufacture of vinegar	Mar. 10, 1868.
78,078	Fougerat, J., New York, N. Y. Manufacture of iodine	May 19, 1868.
83,372	Fougerat, Jules, and Lucien A. Tartiere, assignors to the Alga Chemical Works, Quogue, N. Y. Process for the manufacture of iodine	Oct. 27, 1868.
	Foulds, Thomas H. (*See* Hardy, Dexter D., assignor.)	
79,462	Fountain, J. L., New Milford, Ill. Hoe	June 30, 1868.
81,157	Fountain, Norman, New York, N. Y. Means for stopping horses	Aug. 18, 1868.
77,183	Fountain, Stephen, Silver City, Nev. Amalgamator	Apr. 28, 1868.
	Foust, J. Wilson, and James L. Johnson. (*See* Johnson & Foust.)	
	Fout, Marcellus A. (*See* Hardenstein, A. O. H., assignor.)	
77,368	Fouts, Jacob J., Middletown, Ohio. Machine for slaughtering hogs	Apr. 28, 1868.
76,319	Fowle, Joseph W., assignor to William Carleton, Rufus S. Merrill, and Charles E. Abbott, Boston, Mass. Lamp extinguisher	Apr. 7, 1868.
78,520	Fowler, Charles H., Roxbury, Mass. Lathe-tool holder	June 2, 1868.
75,147	Fowler, David W., assignor to self, George A. Ewing, and George G. Kimball, Goshen, Ind. Illuminating oil	Mar. 3, 1868.
76,906	Fowler, Francis, West Haven, Conn. Convertible carriage pole	Apr. 21, 1868.
	Fowler, Frank, *et al.* (*See* Baker, Loring J., assignor.)	
3,113	Fowler, F. G., Springfield, Ill. Propeller (Reissue)	Sept. 8, 1868.
76,181	Fowler, Harvey C., Great Bend, Pa. Apparatus for cooling liquids	Mar. 31, 1868.
81,158	Fowler, Herbert E., assignor to self, J. W. Bishop, D. P. Calhoun, and L. Cowles, North Branford, Conn. Harvester	Aug. 18, 1868.
77,971	Fowler, H. E., and W. W. Holmes, Wallingford, Conn. Manufacture of plated spoons, forks, &c. (Antedated May 4, 1868)	May 19, 1868.
79,967	Fowler, James S., Davenport, Iowa. Discharging apparatus for harvesters	July 14, 1868.
82,701	Fowler, James S., Racine, Wis. Brake for sewing machine	Oct. 6, 1868.
79,463	Fowler, Joseph, Allegan, Mich. Three-horse clevis	June 30, 1868.
74,335	Fowler, Merwin, Wolcottville, Conn. Die for closing buckles	Feb. 11, 1868.
82,821	Same Buckle	Oct. 6, 1868.
81,268	Fowler, M. D., Vincennes, Ind. Rat trap	Aug. 18, 1868.
73,443	Fowler, Samuel W., Brooklyn, N. Y. Lamp	Jan. 21, 1868.
75,540	Fowler, Thaddeus, assignor to the United States Pin Company, Seymour, Conn. Machine for papering pins. (Antedated March 7, 1868)	Mar. 17, 1868.
82,103	Fox, A. W., Columbiaville, Mich. Device for pressing, packing, and weighing wool	Sept. 15, 1868.
81,992	Fox, C. E. and Mary E., Gilroy, Cal. Dye stuff	Sept. 8, 1868.
80,861	Fox, George H., and Joseph Hubbard, Boston, Mass. Sewing machine	Aug. 11, 1868.
	Fox, H. B., and John Blakey. (*See* Blakey & Fox.)	
77,025	Fox, L. B., Williamsport, Pa. Method of finishing leather. (Antedated April 7, 1868)	Apr. 21, 1868.
78,951	Fox, Oscar C., Georgetown, D. C. Gas heater	June 16, 1868.
	Fox, S. R., Manufacturing Company. (*See* Child, Pascal P., assignor.)	
81,618	Fox, Thomas H., Hanover, Va. Water wheel	Sept. 1, 1868.
79,647	Foy, Lavinia H., Newton Center, Mass. Corset	July 7, 1868.
	Fraggott, Edwin, and P. C. Johnson. (*See* Johnson & Fraggott.)	
80,618	Frailey, William C., assignor to self and D. T. Woodrow, Ironton, Ohio. Chimney cowl	Aug. 4, 1868.
84,540	Frame, Roland S., Washington, Ohio. Horse hay fork	Dec. 1, 1868.
76,738	Frampton, J. H., Hopewell, Ohio. Corn planter and plow	Apr. 14, 1868.
84,056	France, Hamilton, Hinmansville, N. Y. Potato digger	Nov. 17, 1868.
82,508	France, Isaac, Peru, Ind. Apparatus for jointing circular saws	Sept. 29, 1868.
84,738	France, J. M. D., Washington, D. C. Paper file	Dec. 8, 1868.
	Francillon, Ernst. (*See* Chatelain, Edward, assignor.)	
72,994	Francis, Lewis, assignor to self and Cyrus H. Loutrel, New York, N. Y. Composition of matter for the manufacture of emery cloth, polishing wheels, &c.	Jan. 7, 1868.
77,270	Francis, Samuel W., Newport, R. I. Railroad-car heating and ventilating apparatus	Apr. 28, 1868.
74,678	Frank, John, Webster City, Iowa. Cultivator	Feb. 18, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,337	Frank, N. A., Chicago, Ill. Composition for calcimining walls	June 30, 1868.
83,147	Frank, Theodore F., Buffalo, N. Y. Machine for carbureting air	Oct. 20, 1868.
74,336	Franke, Julius, Quincy, Ill. Apparatus for cutting and pasting photographs	Feb. 11, 1868.
	Frankfurth, William, and Lorenz Maschauer. (*See* Maschauer & Frankfurth.)	
81,766	Franklin, A. C. F., England. Reciprocating steam engines	Sept. 1, 1868.
83,271	Franklin, A. M., W. J. Hastings, and J. A. Holford, Rising Sun, Ind. Combined planter and shovel plow	Oct. 20, 1868.
74,072	Franklin, James D., assignor to Ira Richards & Company, Attleboro, Mass. Securing hooks and eyes to cards	Feb. 4, 1868.
75,746	Franklin, William, and T. M. Smith, East Randolph, N. Y. Dashboard for carriages	Mar. 24, 1868.
73,087	Frantz, William, Piqua, Ohio. Cultivator	Jan. 7, 1868.
	Fraps, Francis, and B. C. English. (*See* English & Fraps.)	
77,026	Frary, James D., New Britain, Conn. Manufacture of table forks	Apr. 21, 1868.
3,269	Fraser, Charles, New York, N. Y. Bridle front, &c. (Design)	Dec. 1, 1868.
3,299	Fraser, John H., New York, N. Y. Show case. (Design)	Dec. 29, 1868.
80,158	Fraser, Milton B., Steuben, N. Y. Cheese press	July 21, 1868.
81,488	Fravel, Theophilus, Westville, Ind. Vacuum apparatus	Aug. 25, 1868.
83,620	Frazee, John, St. Louis, Mo. Wind mill	Nov. 3, 1868.
79,111	Frazee, Lawrence F., Jersey City, N. J. Life boat	June 23, 1868.
	Frazer, Joseph. (*See* Whitney, E. R., assignor.)	
81,993	Frazer, Kasson, Syracuse, N. Y. Wedge buckle for harness	Sept. 8, 1868.
73,885	Frazeur, David C., Sidonsburg, Pa. Sleigh and sled	Jan. 28, 1868.
84,104	Frazier, Charles E., Baltimore, Md. Hydrant	Nov. 17, 1868.
	Frazier, Joseph. (*See* Tefft, Otis A., assignor.)	
	Frazier, L. B., *et al.* (*See* Palmer, Charles W., assignor.)	
73,793	Frazier, T. J., St. Paul, Minn. Heating stove	Jan. 28, 1868.
73,965	Frear, George A., Chicago, Ill. Manufacture of artificial stone, stucco, cement, &c	Feb. 4, 1868.
84,485	Frear, George A., assignor to Charles Holland, Chicago, Ill. Brick and concrete press	Nov. 24, 1868.
	Frederick, B. T., and E. W. Lockwood. (*See* Lockwood & Frederick.)	
	Frederick, Henry, and R. W. Brockway. (*See* Brockway & Frederick.)	
79,968	Frederick, Marshall N., assignor to self and Charles S. Moseley, Elgin, Ill. Watch	July 14, 1868.
76,431	Frederick, William, Pottsville, Pa. Boot and shoe stretcher	Apr. 7, 1868.
	Free, William, and Daniel Hayes. (*See* Hayes & Free.)	
75,405	Freeland, John, and Daniel Ward, New York, N. Y. Machine for coiling springs	Mar. 10, 1868.
	Freeland, L. (*See* Hunton, Jonathan, assignor.)	
74,811	Freeman, Albert A., and Samuel Ford, Philadelphia, Pa. Track cleaner	Feb. 25, 1868.
83,272	Freeman, J. P., Dalton, Ga. Car coupling	Oct. 20, 1868.
74,527	Freeman, Moses H., Somerville, Mass. Self-feeding pipe cutter	Feb. 18, 1868.
78,658	Freeman, W. G., Richmond, Va. Petticoat pipe for locomotives	June 9, 1868.
80,717	Freeman, William S., West Union, Ohio. Hand loom	Aug. 4, 1868.
85,223	Fremon, J. A., Montgomery, Ala. Mortar	Dec. 22, 1868.
3,243	French, Alonzo, Philadelphia, Pa. Fruit jar. (Design)	Nov. 17, 1868.
78,448	French, Andrew, Philadelphia, Pa. Machine for grinding the cutters of mowing machines	June 2, 1868.
85,224	French, A. J., Bridgeport, Conn. Feeding percussion caps	Dec. 22, 1868.
76,432	French, Carlos, Seymour, Conn. Bending mandrel	Apr. 7, 1868.
78,869	French, C. M., Rochester, Pa. Plow	June 16, 1868.
82,104	French, Cicero R. C., Berkley, Mass. Permutation lock	Sept. 15, 1868.
73,709	French, Edwin W., South Scituate, Mass. Sewing machine	Jan. 28, 1868.
	French, H. M. (*See* Baker, Haydn M., assignor.)	
85,376	French, John H., Albany, N. Y. Machine for ruling school slates	Dec. 29, 1868.
2,898	French, Joseph J., assignor to self and Reuben A. McCauley, Baltimore, Md. Globe valve. (Reissue)	Mar. 17, 1868.
	French, Samuel, *et al.* (*See* Baham, Wilson & French.)	
80,345	French, Stephen, Orange, Mass. Sewing machine	July 28, 1868.
	French, S. D., *et al.* (*See* Vandergrift, French & Stone.)	
	French, Wm. H., *et al.* (*See* Spencer, A. C., assignor.)	
80,718	Frese, Emil, San Francisco, Cal. Medicine	Aug. 4, 1868.
80,862	Frey, F. E., assignor to self, D. J. Sheckler, and James M. Kelley, Bucyrus, Ohio. Brick machine	Aug. 11, 1868.
	Frey, Fred. E., and John R. Widgeon. (*See* Widgeon & Frey.)	
81,356	Frey, John, and John M. Eichholtz, Canton, Ohio. Sawing machine	Aug. 25, 1868.
73,710	Frey, John A., Washington, D. C. Lamp	Jan. 28, 1868.
82,934	Friberg, Andrew, Moline, Ill. Plow	Oct. 13, 1868.
82,614	Frick, William, Middletown, Pa. Steering apparatus for sectional boats	Sept. 29, 1868.
77,271	Fricke, Charles, Mobile, Ala. Derrick	Apr. 28, 1868.
	Frielingsdorf, Julius, *et al.* (*See* Fath & Frielingsdorf.)	
	Friend, Lewis. (*See* Smith, A. F., assignor.)	
83,148	Friend, Samuel, and John McCollom, Decatur, Ill. Splint knife	Oct. 20, 1868.
	Friend, William, *et al.* (*See* Ginther, Jacob, assignor.)	
	Same. (*See* Beminger, Cornelius, assignor.)	
84,739	Friese, John and George D., assignors to John Friese, Baltimore, Md. Conductor's punch	Dec. 8, 1868.
	Frink, E. Otis and S. C., and H. A. Moore. (*See* Moore & Frink.)	
73,966	Frisbie, Russel, assignor to J. and E. Stevens & Co., Cromwell, Conn. Toy gun	Feb. 4, 1868.
74,904	Same. Toy pistol	Feb. 25, 1868.
78,586	Frisch, John, Albany, N. Y. Bread knife	June 2, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,615	Frisch, John, Albany, N. Y. Kitchen implement	Sept. 29, 1868.
74,905	Fritz, Herman, Cleveland, Ohio. Electro-medical battery	Feb. 25, 1868.
80,938	Frost, A., Seymour, Ind. Apple corer and cutter	Aug. 11, 1868.
	Frost, Henry S., and Charles M. Minor. (*See* Minor & Frost.)	
78,368	Frost, Isaac N., Peoria, Ill. Churn	May 26, 1868.
2,834	Frost, Pinckney, Springfield, Vt. Scythe fastening (Reissue)	Jan. 14, 1868.
76,739	Frost, Thomas W., assignor to self and J. B. Kendall, Dorchester, Mass. Shipper for shifting belts	Apr. 14, 1868.
3,221	Fry, Henry C., assignor to self, Frank Semple, and John D. Reynolds, Pittsburg, Pa. Ornamentation of glassware (Design)	Nov. 3, 1868.
	Fry, H. C., *et al.* (*See* Cutter, Thomas, assignor.)	
73,529	Fry, John, Brookfield, Ill. Sawing machine	Jan. 21, 1868.
84,912	Fry, John, Latrobe, Pa. Muzzle for shot guns	Dec. 15, 1868.
74,812	Fry, John C., Sidney, Ohio. Bed bottom	Feb. 25, 1868.
	Fry, J. H., and N. W. Hess. (*See* Hess & Fry.)	
74,073	Fry, Olney, jr., Albany, Oregon. Seeding machine	Feb. 4, 1868.
78,731	Fry, William T., New York, N. Y. Breast pump	June 9, 1868.
80,939	Same. Flask or bottle	Aug. 11, 1868.
73,967	Fry, William T., assignor to George H. Jones and Henry C. Berlin, New York, N. Y. Wetting or wiping instrument for slates, &c. (Antedated Jan. 23, 1868)	Feb. 4, 1868.
73,968	Same. same. (Antedated Jan. 24, 1868)	Feb. 4, 1868.
80,719	Frye, John F., Lowell, Mass. Ventilator	Aug. 4, 1868.
73,316	Fryer, Robert M., assignor to the Universal Pump and Manufacturing Company, New York, N. Y. Pump	Jan. 14, 1868.
73,521	Fryer, Robert M. and Andrew R., assignors to the National Gas Light Company, New York, N. Y. Manufacture of illuminating gas	Jan. 21, 1868.
74,906	Fryer, William I., assignor to self and John P. Witlock, West Troy, N. Y. Stove hearth	Feb. 25, 1868.
78,659	Fuehs, G., and J. Luigart, Logansport, Ind. Beer cooler	June 9, 1868.
	Fuel Saving Furnace Company. (*See* Babbitt, J. L., assignor.)	
80,469	Fuhrmann, Henry G., Brooklyn, E. D., N. Y. Adjustable filter for faucets	July 28, 1868.
	Fulford, John H., *et al.* (*See* McKnight, William, assignor.)	
3,135	Fuller, Albert, New York, N. Y. Faucets (Reissue)	Sept. 22, 1868.
	Same. (*See* Buckland & Daniels, assignors.)	
74,813	Fuller, Andrew, and Louis P. Reichert, Buffalo, N. Y. Refrigerator	Feb. 25, 1868.
77,027	Fuller, B. G., Baltimore, Md. Hydrant	Apr. 21, 1868.
75,587	Fuller, C. W., Earlville, Ill. Culinary vessel	June 2, 1868.
84,541	Fuller, Daniel, and Delos Swain, Oakwood, Mich. Land roller. (Antedated Nov. 28, 1868)	Dec. 1, 1868.
81,619	Fuller, Frank, New York, N. Y. Garden implement. (Antedated May 5, 1868)	Sept. 1, 1868.
79,969	Fuller, Frank H., South Boston, Mass. Lamp burner	July 14, 1868.
84,542	Fuller, Frank H., and O. S. Severance, South Boston, Mass. Lamp-wick tube	Dec. 1, 1868.
80,549	Fuller, George P., Philadelphia, Pa. Washing and wringing machine	Aug. 4, 1868.
75,260	Fuller, Guy P., Adrian, Mich. Knitting machine	Mar. 10, 1868.
	Fuller, Henry W. (*See* Rose, Israel M., assignor) (Reissue.)	
	Fuller, Hiram. (*See* Densmore, J. A., assignor.)	
77,972	Fuller, H. W., New York, N. Y. Creasing apparatus for sewing machines. (Antedated May 5, 1868)	May 19, 1868.
83,950	Fuller, H. W., Brooklyn, N. Y. Tuck creaser for sewing machines. (Antedated May 11, 1868)	Nov. 10, 1868.
81,357	Fuller, Jim B., Norwich, Conn. Machine for drawing and spinning cotton	Aug. 25, 1868.
81,489	Fuller, Jim B., assignor to self, James P. Upham, and Edwin T. Rice, Norwich, Conn. Drawing fibrous substances	Aug. 25, 1868.
76,071	Fuller, Leonard F., Providence, R. I. Steam-engine governor	Mar. 31, 1868.
81,486	Fuller, Levi K., and Henry K. White, assignors to J. Estey & Company, Brattleboro, Vt. Reed musical instrument	Dec. 1, 1868.
74,814	Fuller, Merritt B., Sanborn, N. Y. Hay raker and loader	Feb. 25, 1868.
	Fuller, Myron S., and Hiram Russell. (*See* Russell & Fuller.)	
79,648	Fuller, Peter J., Clarksville, N. Y. Hop-vine support	July 7, 1868.
	Fuller, Thomas Richard and Samuel S. (*See* McMurray, James S., assignor.)	
	Fuller, Warren & Company. (*See* Harwood, Luther W., assignor.) (Design.)	
81,767	Fuller, Willard M., Chicago, Ill. Apparatus for amalgamating gold and silver. (Antedated Aug. 28, 1868)	Sept. 1, 1868
83,273	Fullerton, Frank, Williamsport, Pa. Tonic bitters	Oct. 20, 1868.
85,377	Fullerton, George A., Lynn, Mass. Steam-pipe coupling for railroad cars	Dec. 29, 1868
	Fulmer, George W., and George W. Bell. (*See* Bell & Fulmer.)	
	Fulton, A., and T. S. Huntington. (*See* Huntington & Fulton.)	
	Fulton, John A., *et al.* (*See* Cullen, John B., assignor.)	
80,162	Fulton, Lorenzo, Edinburg, Ind. Low-water indicator for steam generator	July 21, 1868.
82,216	Funk, Elliot H., Newark, Ohio. Churn dasher	Sept. 15, 1868
	Funke, Herman. (*See* Morgenstern, Wm., assignor.)	
82,702	Funkhouser, Joseph, Rockingham County, Va. Abdominal supporter	Oct. 6, 1868.
74,815	Funston, A. C., Philadelphia, Pa. Toy	Feb. 25, 1868
84,943	Furber, Charles, England. Dressing-glass reflector	Dec. 15, 1868.
	Furbush & Gage. (*See* Quinn, W. J., assignor.)	
	Same. (*See* Knowlton, Charles H., assignor.)	
76,740	Furman, O. P., Addison, N. Y. Wood-planing machine	Apr. 14, 1868.
78,952	Furman, William H., Maspeth, N. Y. Pisciculture	June 16, 1868.
78,798	Furney, Elliott E., Chicopee, Mass. Caster for furniture	June 9, 1868.
73,074	Fuselier, Alfred A., Algiers, La. Ditching machine	Feb. 4, 1868.
	Fyler, O. R., and Charles Benedict. (*See* Benedict & Fyler.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,217	Gabriel, George, assignor to self and Philip Wisenberger, Pittsburg, Pa. Apparatus for detaching horses from carriages	Sept. 15, 1868.
	Gaffney, Milton, and Levi Black. (*See* Black & Gaffney.)	
83,373	Gaffney, Thomas J., and Charles H. Dunks, Detroit, Mich. Spring-bed bottom	Oct. 27, 1868.
	Gage & Furbush. (*See* Quinn, W. J., assignor.)	
	Same.....(*See* Knowlton, Charles H., assignor.)	
76,320	Gage, C. W., Homer, N. Y. Fruit gatherer	Apr. 7, 1868.
3,128	Gage, William, assignor to self and Andrew Whitcley, Buffalo, N. Y. Harvester.....(Division F, reissue)	Sept. 22, 1868.
3,289	Same.....Harvester.....(Division E, reissue)	Nov. 10, 1868.
73,794	Gail, G. W., Baltimore, Md. Bag for packing tobacco	Jan. 28, 1868.
	Gaillardon, Jacques. (*See* Rivot, Louis Edouard, assignor.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
84,349	Gaines, James W., Clarksville, Texas. Millstone dress	Nov. 24, 1868.
74,679	Gaines, Richard, and Melchi Scott, Fairfield, Iowa. Plow mold board	Feb. 18, 1868.
76,622	Gaines, Robert John, Portland, Conn. Hose coupling	Apr. 14, 1868.
85,299	Gaines, Samuel M., Glasgow, Ky. Method of teaching the rudiments of chemistry	Dec. 29, 1868.
76,433	Gaither, John C., Somerset, Pa. Machine for printing addresses on newspapers, &c	Apr. 7, 1868.
80,720	Galbraith, Edward A., Boston, Mass. Compound for extinguishing fire	Aug. 4, 1868.
79,221	Galbraith, Edward A., assignor to self and Paul P. Todd, Boston, Mass. Lamp burner	June 23, 1868.
81,159	Gale, D. A. T., Poughkeepsie, N. Y. Roaster for nuts	Aug. 18, 1868.
79,464	Gale, Horace P., Washington, Vt. Manufacture of sugar	June 30, 1868.
78,588	Gale, James M., and Irving M. Avery, New York, N. Y. Cooking apparatus	June 2, 1868.
83,274	Gale, Morgan, Mexico. Construction of pickaxes	Oct. 20, 1868.
	Gale, Warren, Peekskill, N. Y. Straw cutter.....(Extension)	Feb. 18, 1868.
	Same.....same.....(Extension)	July 8, 1868.
74,337	Gallagher, Eugene, Brooklyn, N. Y. Device for transmitting motion	Feb. 11, 1868.
77,272	Gallagher, William, Shullsbury, Wis. Plow	Apr. 28, 1868.
81,621	Galli, Joseph, San Francisco, Cal. Machine for manufacture of screwed boots.	Sep. 1, 1868.
65,894	Galligan, Charles E., Paw-Paw, Mich. Stump extractor	Mar. 24, 1868.
76,741	Galusha, W. M., assignor to self and N. H. Batcheller, Arlington, Vt. Adjustable scroll index for gear-cutting machines	Apr. 14, 1868.
84,874	Gamage, Theodore A., Boston, Mass. Menstrual receiver	Dec. 15, 1868.
74,680	Gamble, G. W. C., Millersburg, Iowa. Medical compound	Feb. 18, 1868.
	Gambrill, Horatio N., Baltimore, Md., and Singleton F. Burgee, deceased, by Thomas D. Bond, administrator, Washington, D. C. Carding machine.....(Disclaimer)	Aug. 7, 1868.
	Same.....same.....(Extension)	Aug. 18, 1868.
80,619	Ganiard, E. G., New York, N. Y. Ottoman and hassock filler	Aug. 4, 1868.
77,028	Ganney, Henry, Louisville, Ky. Watch key	Apr. 21, 1868.
	Gano, J. H. (*See* Snell, Daniel, assignor.)	
	Same.....same.	
75,008	Gano, L. H., Milwaukee, Wis. Bag tie. (Antedated Oct. 18, 1867)	Mar. 3, 1868.
83,704	Same.....New York, N. Y. Hand lamp	Nov. 3, 1868.
73,522	Gano, R. M., Allegheny City, Pa. Brick machine. (Antedated Jan. 17, 1868)	Jan. 21, 1868.
80,470	Gano, R. M., and R. S. Miller, Pittsburg, Pa. Brick machine	July 28, 1868.
	Ganster, George P., and William Foster, jr. (*See* Foster & Ganster.)	
	Same.....same.	
76,182	Ganster, George P., New York, N. Y. Apparatus for generating illuminating gas.	Mar. 31, 1868.
78,870	Same.....Manufacture of illuminating gas	June 16, 1868.
84,875	Garabedian, Hachadoor P., Philadelphia, Pa. Pipe coupling	Dec. 15, 1868.
79,649	Garber, Samuel, Beaver, Pa. Lock nut	July 7, 1868.
75,406	Gareeau, Treffle, and Edward de la Granja, Boston, Mass. Fabric for the manufacture of hats, caps, &c	Mar. 10, 1868.
82,822	Gardiner, C. O., assignor to J. H. Thomas and P. P. Mast, Springfield, Ohio. Grain drill	Oct. 6, 1868.
81,994	Gardiner, John, Philadelphia, Pa. Malt mill	Sept. 8, 1868.
74,075	Gardiner, J. B., Springfield, Mass. Steam pump	Feb. 4, 1868.
84,688	Gardiner, Perry G., New York, N. Y. Car spring	Dec. 8, 1868.
78,871	Gardiner, Samuel, jr., New York, N. Y. Gas burner	June 16, 1868.
	Gardner, A. B., *et al.*, executors of D. J. George. (*See* Millington & George.) (Extension.)	
	Gardner & Fleming. (*See* Fleming, James, assignor.)	
80,721	Gardner, Charles H., Rochester, N. Y. Tuck folder for sewing machines	Aug. 4, 1868.
76,183	Gardner, George H., Philadelphia, Pa. Thill coupling	Mar. 31, 1868.
76,072	Gardner, G. W., and Oliver Higgins, Napoleon, Ohio. Pump	Mar. 31, 1868.
80,821	Gardner, Jerome B., and Charles H. Swain, New York, N. Y. Steam-boiler furnace.	Aug. 11, 1868.
85,033	Gardner, John, Philadelphia, Pa. Machine for making confectionery	Dec. 22, 1868.
73,088	Gardner, John, assignor to Samuel Peck & Company, New Haven, Conn. Picture and curtain knobs	Jan. 7, 1868.
76,623	Same.....Manufacture of melodeon stops and other articles	Apr. 14, 1868.
	Gardner, John, *et al.* (*See* Barnes, Stephen, assignor.)	
74,907	Gardner, J. W., Shelburne Falls, Mass. Manufacture of solid steel knives	Feb. 25, 1868.
3,202	Same.....Table fork.....(Design)	Sept. 22, 1868.
77,369	Gardner, Martin, sr., Carlisle, Pa. Expanding mandrel	Apr. 28, 1868.
78,079	Gardner, M. H., New York, N. Y. Machine for enameling paper	May 19, 1868.
80,722	Gardner, O. H., Fulton, N. Y. Vise	Aug. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date
82,935	Garfield, Joel, Groton, Mass. Ratchet and pawl mechanism	Oct. 13, 1868
76,742	Garibaldi, G. G., Buffalo, N. Y. Mosaic floor	Apr. 14, 1868
	Garlinghouse, George B. (*See* Cluxton, T. M., assignor.)	
76,743	Garlinghouse, George B., and J. C. Moore, Madison, Ind. Hay raker and loader	Apr. 14, 1868.
79,112	Garlinghouse, George B. and Cyrus B., North Madison, Ind. Harvester pitman	June 23, 1868.
82,509	Garloch, William A., and William D. Richards, Belpre, Ohio. Ice-cream freezer	Sept. 29, 1868.
3,003	Garnhart, J. H., St. Louis, Mo. Trade mark (Design)	Apr. 21, 1868.
	Garrard, Jephtha. (*See* Sloop, Hardin, assignor.)	
	Same (*See* Bush, Franklin P., assignor.)	
79,567	Garratt, Alfred C., Boston, Mass. Galvanic battery	Jan. 7, 1868.
85,300	Same Voltaic pile for medical purposes	Dec. 29, 1868.
81,358	Garretson, Eli H., Ottawa, Ill. Expanding bottom for beds, seats, &c	Aug. 25, 1868.
83,621	Garretson, John G., Cincinnati, Ohio. Loom. (Antedated Oct. 22, 1868)	Nov. 3, 1868.
	Garretson, N. C. (*See* Boyd, James, assignor.)	
78,274	Garretson, O. S., Buffalo, N. Y. Window-sash fastening	May 26, 1868.
82,823	Garretson, W. C., and Ellwood Draper, assignors to W. C. Garretson, Oskaloosa, Iowa. Branding stamps	Oct. 6, 1868.
78,799	Garrett, George, Elkhart, Ind. Cultivator	June 9, 1868.
85,440	Garrett, George H., assignor to Richard P. Garrett, St. Louis, Mo. Molding pipe	Dec. 29, 1868.
74,076	Garrett, Henry, Richmond, Mo. Butter worker	Feb. 4, 1868.
	Garrett, T. Elwood, and Taylor Chamberlain. (*See* Chamberlain & Garrett.)	
	Garrigues, R. H., administrator of L. A. Dole, deceased. (*See* Dole, L. A.) (Extension.)	
73,711	Garrison, Wilson, and Charles H. Stevens, Syracuse, N. Y. Halter	Jan. 28, 1868.
	Same (*See* Stevens & Garrison.)	
83,951	Garsed, John, and Clayton Denn, assignors to John Garsed, Frankford, Pa. Machine for packing tea, coffee, &c	Nov. 10, 1868
76,907	Garsed, Joshua, Frankford, Pa. Hand truck	Apr. 21, 1868.
84,622	Same Steam-engine register. (Antedated Nov. 21, 1868)	Dec. 1, 1868
81,621	Garth, G. S., Mill Hall, Pa. Wagon axle	Sept. 1, 1868.
	Garton, Andrew, *et al.* (*See* Forncrook, Shepperd & Garton.)	
83,622	Garvey, James, and Matthew H. Kimball, San Francisco, Cal. Bell pull	Nov. 3, 1868.
83,623	Same same	Nov. 3, 1868.
75,407	Garvin, Benjamin, and R. J. Pettibone, Oshkosh, Wis. Joint for pipes	Mar. 10, 1868.
84,815	Garvin, Edward F., New York, N. Y. Instrument for treating fistula, &c	Dec. 8, 1868.
73,593	Garwood, J. G. S., Vermillion, Ill. Harrow, cultivator, and planter combined	Jan. 21, 1868.
	Gary, Joseph E., and Joseph H. Moore. (*See* Moore & Gary.)	
	Same same.	
74,908	Gaskill, Melvin J., Pleasant Plain, Ohio. Fence	Feb. 25, 1868.
83,149	Gaskin, Hannah C., Union Vale, N. Y. Plastic composition	Oct. 20, 1868.
78,080	Gaston, Henry A., Stockton, Cal. Cultivator	May 5, 1868.
83,624	Same Seeding machine	Nov. 3, 1868.
73,886	Gaston, J. C., Cincinnati, Ohio. Stove	Jan. 28, 1868.
83,952	Same Beehive	Nov. 10, 1868.
	Gaston, Robert, and W. C. Rhinehart. (*See* Rhinehart & Gaston.)	
83,625	Gatchell, Joseph, Rahway, N. J. Machine for bending elliptic springs	Nov. 3, 1868.
83,374	Gately, Dennis C., assignor to the New York Belting and Packing Company, Newtown, Conn. Vulcanized India-rubber belting. (Antedated Oct. 2, 1868)	Oct. 27, 1868.
	Gates, H. H., *et al.* (*See* Harris, Aaron B., assignor.)	
82,703	Gates, Joseph P., Lincoln, Ill. Shaft coupling	Oct. 6, 1868.
	Gates, Thomas. (*See* Howe, John C., assignor.)	
85,301	Gates, William, David J. Lloyd, Frankfort, and Samuel Miller, South Hammond, N. Y., assignors to William Gates. Machine for making paper boxes	Dec. 29, 1868.
80,402	Gates, William, assignor to self and George W. Homan, New Haven, Conn. Apparatus for electro-plating	July 28, 1868.
74,909	Gathright, J. B., Louisville, Ky. Tree for side saddles	Feb. 25, 1868.
	Gatliff, John, and Clement Dietrich. (*See* Cordier, V., assignor.)	
75,895	Gatlin, William S., and Benjamin R. Hubbard, Green Top, Mo. Gang plow	Mar. 24, 1868.
78,953	Gatling, Richard J., Indianapolis, Ind. Priming metallic cartridge	June 16, 1868.
80,940	Gattman, I. M., New York, N. Y. Manufacture of carbonate and other salts of soda	Aug. 11, 1868.
	Gattman, Leonard. (*See* Reckards, William, assignor.)	
79,903	Gaudin, Charles, Zoe Granier, and J. Granier, San Francisco, Cal. Fire kindling	July 7, 1868.
80,068	Gault, W. C., Ruggles, Ohio. Stock guard-gate	July 21, 1868.
74,338	Gause, William, Greensboro, Ind. Ditching machine	Feb. 11, 1868.
2,911	Gautier, C., Washington, D. C. Trade mark (Design)	Feb. 4, 1868.
74,339	Gauweiler, John F., and Jost Stengel, Croton, Mich. Fire alarm	Feb. 11, 1868.
	Gavett, J. W. (*See* Hatch, Nehemiah L., assignor.)	
	Gavit, Nelson, Philadelphia, Pa. Machinery for cutting paper (Extension)	May 5, 1868.
79,064	Gayhart, Martin, Young America, Wis. Trace buckle	June 23, 1868.
82,510	Gaylord, E. L., Terryville, Conn. Carriage spring	Sept. 29, 1868.
	Gaylord, William M., and E. N. Foote. (*See* Foote, Monroe B., assignor.)	
	Gaynor, Stiles & Co. (*See* Richmond, Charles, assignor.)	
78,521	Gear, Samuel W., Whitestone, N. Y. Door and window catch	June 2, 1868.
84,816	Geary, Evans, Harrisburg, Pa. Brick machine	Dec. 8, 1868.
74,528	Gebhard, August, Indianapolis, Ind. Spring mattress	Feb. 18, 1868.
73,523	Geishart, Lewis, Orangeville, Ohio. Cider mill	Jan. 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,624	Geemen, Joseph, Chicago, Ill. Apparatus for sprouting malt	Apr. 14, 1868.
83,953	Same.....Beer cooler	Nov. 10, 1868.
	Geddes, William, and Frederick H. Laforge. (*See* Laforge & Geddes.)	
77,273	Gedney, James E., Petaluma, Cal. Trestle	Apr. 28, 1868
	Gee, James, and James Hinds. (*See* Hinds & Gee.)	
73,594	Gee, William, New York, N. Y. Apparatus for filling syphon bottles	Jan. 21, 1868.
79,748	Geer, George, Galesburg, Ill. Cherry stoner	July 7, 1868.
82,616	Geiser, Peter, Waynesboro, Pa. Writing table and chair	Sept. 29, 1868.
82,617	Same.....Horse-power	Sept. 29, 1868.
84,105	Geiser, Peter and Daniel, Waynesboro, Pa. Threshing machine	Nov. 17, 1868.
82,305	Geisler, Frederick A., Bristol, R. I. Baby walker	Sept. 22, 1868.
85,378	Same.....Mowing machine	Dec. 29, 1868.
82,105	Geissenhainer, Charles A. and George W., Pittsburg, Pa. Liquid meter	Sept. 15, 1868.
	Geissler, J. L., *et al.* (*See* Hictel & Geissler.)	
	Geist, Joachim F. C., *et al.* (*See* Sebald, Dunlap & Geist.)	
	Genet, E. J., *et al.* (*See* Ruggles, Solomon W., assignor) (Reissue.)	
	Genitsen, Henry C. (*See* Brackett, E. C., assignor.)	
82,106	Gennert, Theodore, New York, N. Y. Manufacture of beet sugar	Sept. 15, 1868.
81,359	Gensch, Wilhelm August, New York, N. Y. Lamp wick	Aug. 25, 1868.
	Gent, Joseph F. (*See* Pedrick, Joseph B., assignor.)	
	Gentner, Frederick. (*See* Bauschtliker, F., assignor.)	
84,106	Genung, Charles V., Du Quoin, Ill. Rotary pump	Nov. 17, 1868.
	George, A. M., and Samuel Sheperd. (*See* Sheperd & George.)	
	Same.....same.	
	Same.....same.....(Reissue.)	
	George, Dennis J., and Norman Millington. (*See* Millington & George.) (Extension.)	
	George, John, *et al.* (*See* Porter, Benjamin, assignor.)	
80,065	George, Robert, Mineral Point, Wis. Furnace for roasting and treating ores	July 21, 1868.
79,338	George, William E., Wrentham, Mass. Machine for pressing hats	June 30, 1868.
82,824	Gerald, Amos S., assignor to B. B. Belcher, Kendall's Mills, Maine. Curtain fixture	Oct. 6, 1868.
77,973	Gerald, George L., Thorndike, Mass. Horseshoe-calking vise	May 19, 1868.
76,744	Gerard, Frank, Lincoln, Ill. Hopper attachment for wagons	Apr. 14, 1868.
82,218	Gerard, George L., New Haven, Conn. Bed bottom	Sept. 15, 1868.
73,242	Gerard, George L., assignor to self and David Forbes, New Haven, Conn. Buckle. (Antedated Dec. 28, 1868)	Jan. 14, 1868.
82,704	Gerdes, Albert, and Julius Reielie, New York, N. Y. Barbers' chair	Oct. 6, 1868.
73,089	Gerdom, E. J., and C. W. Schindler, Albany, N. Y. Lubricating compound	Jan. 7, 1868
73,795	Same.....Oil cup for lubricating shafts	Jan. 28, 1868
77,974	Same.....Lubricator	May 19, 1868.
80,471	Same.....Lubricating compound	July 28, 1868.
78,369	Gerfen, Frederick, West Hemphill Township, Pa. Hay cutter	May 26, 1868.
79,339	Gerhart, P. S., Philadelphia, Pa. Register for railroad cars	June 30, 1868.
76,321	Germann, Michael, Cincinnati, Ohio. Gas cooking apparatus	Apr. 7, 1868.
73,595	Gerner, Henry, New York, N. Y. Steam generator	Jan. 21, 1868.
84,107	Gerow, Joseph U., Brooklyn, N. Y. Sash lock	Nov. 17, 1868.
	Gerrish, George H., *et al.* (*See* Capron, E. P. H., assignor.)	
	Gerry, J. H., and O. P. Rice. (*See* Rice & Gerry.)	
	Gerth, L., and C. Brown. (*See* Brown & Gerth.)	
	Gerts, George E., *et al.* (*See* Lumbard, Henry, assignor.)	
78,660	Same.....same.	
3,161	Gessner, Ernst, Saxony. Fulling mill	June 9, 1868.
	Gest, Joseph J., Cincinnati, Ohio. Car spring.....(Reissue)	Oct. 20, 1868.
	Getty, Andrew C., *et al.* (*See* Ruggles, Solomon W., assignor) .....(Reissue.)	
3,099	Geyer, Louis A., *et al.* (*See* Milloehan, A., assignor.)	
	Geyser, John B., assignor to Mitchell, Stevenson & Company, Pittsburg, Pa.	
78,954	Parlor stove.....(Design)	July 14, 1868.
	Gibbons, John, West Troy, N. Y. Tool for turning cylinder rings for cotton gins	
82,219	Gibbons, T. P., Baltimore, Md. Lamp feeder	June 16, 1868.
	Gibbs, A. C., and A. E. Rogers. (*See* Rust, F. W., assignor.)	Sept. 15, 1868.
77,877	Gibbs, D. L., assignor to R. Ball & Company, Worcester, Mass. Mortising machine	May 12, 1868.
3,189	Gibbs, D. L., Worcester, Mass. Base of a mortising machine.....(Design)	Sept. 1, 1868.
84,817	Same.....Mortising machine	Dec. 8, 1868.
84,181	Gibbs, Edwin, Painesville, Ohio. Device for bending scrolls	Nov. 17, 1868.
78,732	Gibbs, E. and O. W., Richland Center, Wis. Bed bottom	June 9, 1868.
75,408	Gibbs, George and William, Canton, Ohio. Singletree	Mar. 10, 1868.
82,398	Gibbs, Gilbert, Fairview, Ind. Farm gate	Sept. 22, 1868.
	Gibbs, H. H. (*See* Herrick, George W., assignor.)	
78,449	Gibbs, James E. A., Steel's Tavern, Va. Door lock	June 2, 1868.
	Same.....(*See* Hanger, James E., assignor.)	
84,623	Gibbs, John, Brooklyn, E. D., N. Y. Lamp	Dec. 1, 1868.
2,963	Gibbs, Joshua, Canton, Ohio. Machine for grinding plow castings.....(Reissue)	June 2, 1868.
	Same.....Plow.....(Extension)	Aug. 14, 1868.
76,434	Gibbs, Lewis, Canton, Ohio. Bracket shelf and drawer	Apr. 7, 1868.
84,818	Gibbs, Mason, Homer, Mich. Harvester rake	Dec. 8, 1868.
	Gibbs, S. F., and George F. Perkins. (*See* Perkins & Gibbs.)	
79,650	Gibbs, S. W., Albany, N. Y. Base-burning stove	July 7, 1868.
84,740	Gibson, Abram J., assignor to self, Benjamin J. Thurston, and Thomas A. Harrow, Cincinnati, Ohio. Mode of constructing the heating and lighting apparatus on railway cars	Dec. 8, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75,673	Gibson, A. J., Cincinnati, Ohio. Broiler	Mar. 17, 1868.
85,225	Gibson, A. J., assignor to self and Thomas A. Harrow, Cincinnati, Ohio. Apparatus for purifying and ageing liquors	Dec. 22, 1868.
3,029	Gibson, John, jr., Albany, N. Y. Street-car heater (Reissue)	July 14, 1868.
81,490	Same. Fuel size indicator	Aug. 25, 1868.
	Same. (*See* Selkirk, Alexander, assignor.)	
80,066	Gibson, John B., Cincinnati, Ohio. Valve cock	July 21, 1868.
82,705	Gibson, Samuel, Safe Harbor, Pa. Scrubbing brush	Oct. 6, 1868.
80,472	Gibson, Thomas, Rochester, N. Y. Fruit jar	July 28, 1868.
80,472	Gibson, W. H., and P. H. Lawler. (*See* Lawler & Gibson.)	
79,970	Gibson, William Walker, North Britain. Apparatus for decorticating and cleaning cereals	July 14, 1868.
84,543	Gidly, Robert, Freedom Plains, N. Y. Rock-drilling machine	Dec. 1, 1868.
	Gifferd, Charles. (*See* Loomis & Johnson, assignors.)	
75,409	Gifford, Francis M., assignor to self and John C. Selden, Erie, Pa. Whip lock	Mar. 10, 1868.
	Gifford, Potter & Company. (*See* Benjamin, E. H., assignor.)	
82,395	Gilbert, Charles M., Philadelphia, Pa. Bedstead fastening	Sept. 22, 1868
81,888	Gilbert, Colgate, assignor to J. J. Gilbert, Buffalo, N. Y. Starch separator	Sept. 8, 1868
77,029	Gilbert, D. A., Morristown, Vt. Shoe lacer	Apr. 21, 1868.
77,030	Same. Butter tub	Apr. 21, 1868
78,955	Same. same	June 16, 1868
73,796	Gilbert, Edward F., Lyons, N. Y. Screen attachment for wash stand	Jan. 28, 1868.
76,435	Gilbert; Harlow, New York, N. Y. Register	Apr. 7, 1868.
80,473	Gilbert, H. M., and F. Elberson, Ada, Ohio. Hanging eaves troughs	July 28, 1868.
73,797	Gilbert, James, Wyalusing, Wis. Corn planter	Jan. 28, 1868.
75,896	Gilbert, J., and P. M. Sofield, Newark, N. J. Manufacture of wash bowls	Mar. 24, 1868.
79,821	Gilbert, J. C., Galesburg, Ill. Churn	July 14, 1868.
74,340	Gilbert, John M., Troy, N. Y. Stuffing for mattresses, sofas, and seats	Feb. 11, 1868.
72,995	Gilbert, Lucien M., Warren, Mass. Scissors sharpener	Jan. 7, 1868.
3,111	Gilbert, N. S., assignor to S. B. Rowley, Philadelphia, Pa. Fruit jar. (Reissue)	Sept. 1, 1868.
73,969	Gilbert, S. P., Racine, Wis. Pump piston	Feb. 4, 1868.
	Gilbert, Thomas S., and Thomas B. De Forest. (*See* De Forest & Gilbert.)	
	Same. same.	
74,341	Gilbert, William, Catskill, N. Y. Machine for cutting turf or sods	Feb. 11, 1868.
82,511	Gilbert, William, Detroit, Mich. Brick kiln	Sept. 29, 1868.
81,768	Gilbert, W. F., Derby, Conn. Carriage shackle	Sept. 1, 1868.
80,941	Gilbertson, Henry A., New York, N. Y. Hose tender	Aug. 11, 1868.
	Gilbut, Samuel H., and John D. Gruncberg. (*See* Gruncberg & Gilbut.)	
81,360	Gildersleeve, Isaac H., White Water, Wis. Base-burning stove	Aug. 25, 1868.
84,741	Giles, Joel E., and Willard Ferry, Mead's Mills, Mich. Potato digger	Dec. 8, 1868.
80,723	Gill, Elias, New York, N. Y. Extension-wardrobe frame	Aug. 4, 1868.
80,541	Gill, Henry, Mansfield, Ohio. Machine for threshing and cleaning grain	Aug. 4, 1868.
76,073	Gill, R. T., Poughkeepsie, N. Y. Combined hay spreader and cocker	Mar. 31, 1868.
84,742	Gill, Seth, San Pablo, and David C. Woods, San Francisco, Cal. Ship's davit	Dec. 8, 1868.
83,705	Gillan, William M., Mt. Parnell, Pa. Horse hay fork	Nov. 3, 1868.
80,403	Gillespie, J. E., assignor to self and George S. Lincoln & Company, Hartford, Conn. Governor	July 28, 1868.
76,074	Gillespie, Thomas, Paulding County, Ohio. Sorghum evaporator	Mar. 31, 1868.
79,822	Gillett, George D., Meridian, N. Y. Attaching pad hooks to pads	July 14, 1868.
85,441	Gillett, George W., Chicago, Ill. Combined tank and closet attachment to cooking stoves	Dec. 29, 1868.
82,107	Gillett, H. H., Warsaw, Mo. Mill pick	Sept. 15, 1868.
83,954	Gillett, J. C., Holly, Mich. Sawing machine	Nov. 10, 1868.
77,477	Gillett, James R., Westfield, Mass. Whip	May 5, 1868.
	Gillett, John H., and George W. Southwick. (*See* Southwick & Gillett.)	
	Gillett, Lorenzo D. (*See* Jones, T. J., assignor.)	
83,150	Gillett, Lorenzo D., Rochester, and Henry W. Inman, Detroit, Mich. Rein holder	Oct. 20, 1868.
	Gillett, Thomas W., deceased, by Rebecca R. Gillett, administratrix, Chicago, Ill. Apparatus for corking bottles (Extension)	July 10, 1868.
	Gillette, George W. (*See* Kistler, W. F., assignor.)	
78,589	Gillilan, A. E., Marion, Iowa. Churn	June 2, 1868.
75,747	Gilliland, Robert, and R. H. Armstrong, Hudson, Mich. Pump	Mar. 24, 1868.
82,706	Gillman, E. H., Montpelier, Vt. Sleigh	Oct. 6, 1868.
79,340	Gillman, Edmund W., Hunter's Point, N. Y. Mode of repairing barrels	June 30, 1868.
	Gillman, E. W., and Samuel Shea. (*See* Shea & Gillman.)	
83,955	Gilman, Edward L., and Theophilus S. Smith, Somerville, Mass. Pocket tobacco cutter	Nov. 10, 1868.
81,622	Gilman, Samuel H., Galveston, Texas. Cotton picker and cleaner	Sept. 1, 1868.
83,482	Gilmore, John, Phœnixville, Pa. Horse hay fork	Oct. 27, 1868.
84,350	Gilmore, William, Hudson City, N. J. Tenoning machine	Nov. 24, 1868.
79,465	Gilpatric, C. L., Boston, Mass. Meat chopper	June 30, 1868.
82,399	Gilpin, Charles, and Lawrence T. Dickinson, Cumberland, Md. Rossing machine	Sept. 22, 1868.
82,400	Same. same	Sept. 22, 1868.
3,174	Gilroy, Washington L., assignor to E. S. and J. Torrey, Philadelphia, Pa. Weather strip (Reissue)	Oct. 27, 1868.
74,077	Gilroy, Washington L., Philadelphia, Pa. Weather strip	Feb. 4, 1868.
82,306	Same. Knife for cutting green corn from the cob	Sept. 22, 1868.
85,084	Same. Blacking box	Dec. 22, 1868.
84,108	Gilson, Samuel D., Oswego Falls, N. Y. Propeller for canal boats	Nov. 17, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,065	Ginther, Jacob, Mier, Ill. Horse rake	June 23, 1868.
82,512	Ginther, Jacob, assignor to self, William Friend, and William Seibert, Mier, Ill. Combined roller and harrow	Sept. 29, 1868.
83,706	Giroud, Henry, France. Gas regulator	Nov. 3, 1868.
83,275	Girty, George, Rainier, Oregon. Lubricator for steam engines	Oct. 20, 1868.
	Girvin, Kelly, and John S. Thomson. (*See* Thomson & Girvin.)	
79,823	Gisborne, Frederick N., and Herbert Allman, England. Lamp-chimney attachment	July 14, 1868.
72,996	Gish, George W., and William H. Ferguson, Daviess County, Ky. Medicine for the cure of hog cholera	Jan. 7, 1868.
75,148	Gish, John J., Milton, Ohio. Hog-snout slitter	Mar. 3, 1868.
83,151	Gitchell, John M., assignor to J. F. Morse, Haverhill, N. H. Seed planter	Oct. 20, 1868.
73,444	Gitt, Daniel D., Arendtsville, Pa. Running gear for vehicles	Jan. 21, 1868.
	Given, John, *et al.* (*See* Sloan, John, assignor.)	
	Gladding, A. L., and George A. Blair. (*See* Blair & Gladding.)	
73,179	Gladding, C. E., Troy, Pa. Horse hay fork	Jan. 7, 1868.
	Gladding, C. F., and Henry A. Ellis. (*See* Ellis & Gladding.)	
77,274	Gladding, James W., Normal, Ill. Clothes-line holder	Apr. 28, 1868.
	Glander, Deterick, *et al.* (*See* Schlingman, Glander & Campbell.)	
77,275	Glanding, James, assignor to self, David H. Wilson, and Edward S. Lowry, Philadelphia, Pa. Manufacture of packing for steam engines	Apr. 28, 1868.
82,707	Glasgow, H. C., Cleveland, Ohio. Car coupling	Oct. 6, 1868.
82,708	Same.....same	Oct. 6, 1868.
83,152	Glasgow, William, jr., and John G. Wood, St. Louis, Mo. Manufacture of shot	Oct. 20, 1868.
81,769	Glasser, Frank, Mystic Bridge, Conn. Drill	Sept. 1, 1868.
82,618	Glasson, Samuel, New York, N. Y. Reamer and tap	Sept. 29, 1868.
75,674	Gleason, Asa E., Newton, Mich. Grain platform for harvesters. (Antedated March 9, 1868)	Mar. 17, 1868.
77,276	Gleason, Christopher C., assignor to self and L. M. Kimball, Wauconda, Ill. Spring and body brace for vehicles	Apr. 28, 1868.
84,689	Gleason, E. P., New York, N. Y. Gas-lighting device	Dec. 8, 1868.
73,798	Gleason, Joel, Whitestone, N. Y. Construction of soldering irons	Jan. 28, 1868.
77,478	Gleason, O. T., Farmington, Maine. Velocipede	May 5, 1868.
84,743	Gleason, William B., Connecautville, Pa. Boot crimper	Dec. 8, 1868.
75,149	Gleason, William B., Boston, Mass. Manufacture of molded articles	Mar. 3, 1868.
	Gledhill, Hamor, and Richard Dexter. (*See* Dexter & Gledhill.)	
83,276	Gleim, J. H., St. Louis, Mo. Binding mercantile books	Oct. 20, 1868.
	Glen, Eugene. (*See* Dick, Joseph, jr., assignor.)	
	Same.....same.....(Reissue.)	
	Same.....same.	
	Glen, Francis W. (*See* Smith, James P., assignor.)	
84,544	Glenn, J. A., West Middlesex, Pa. Horse hay fork	Dec. 1, 1868.
	Glenn, J. R., and John T. Ewan. (*See* Ewan & Glenn.)	
	Glidden, Carlos, *et al.* (*See* Sholes, Glidden & Soule.)	
	Same.....same.	
	Glimsetal, M. T., and George H. Pierce. (*See* Pierce & Glimsetal.)	
75,675	Glover, A. B., Birmingham, Conn. Machine for heading bolts	Mar. 17, 1868.
79,749	Same.....Nut machine	July 7, 1868.
3,055	Glover, Carlos W., assignor through mesne assignments to John G. Perry, Kingston, R. I. Harvester.....(Reissue)	July 28, 1868.
3,163	Same.....Roxbury, Conn. Harvester cutter.....(Reissue)	Oct. 20, 1868.
	Glover, Edward W., and C. D. Draper. (*See* Draper & Glover.)	
80,346	Glover, J. W., William B. and B. E. Orner, Martinsville, Ind. Scaffolding	July 28, 1868.
	Glover, R. O. (*See* Finkle, Charles E., assignor.)	
76,184	Glydon, John, New York, N. Y. Truss	Mar. 31, 1868.
	Gobar, J. J., and J. C. Leonard. (*See* Leonard & Gobar.)	
83,483	Goben, Levi F., Spring Hill, Mo. Rotary steam engine	Oct. 27, 1868.
76,075	Goble, T. L., Orange, N. Y. Wagon jack	Mar. 31, 1868.
	Goddard, Artemus W., and Levi D. Farwell. (*See* Farwell & Goddard.)	
2,912	Goddard, E., assignor to E. S. Renwick, Brooklyn, N. Y. Pistol barrel..(Design)	Feb. 4, 1868.
74,816	Goddard, Kingston, Richmond, N. Y. Thill coupling	Feb. 25, 1868.
74,817	Same.....same	Feb. 25, 1868.
77,184	Godfrey, Joseph S., Leslie, Mich. Revolving mold board	Apr. 28, 1868.
79,066	Godwin, J. H., Scotland Neck, N. C. Hammer	June 23, 1868.
80,620	Goessling, Carolina, Jersey City, N. J. Water and damp proof paper for covering walls	Aug. 4, 1868.
82,108	Goewey, P. D. F., Albany, N. Y. Cupboard catch	Sept. 15, 1868.
80,724	Goff, Darius, Pawtucket, R. I. Machinery for picking and separating cotton waste	Aug. 4, 1868.
79,824	Goff, Hubbard S. and Franklin M., Middletown, Conn. Dish cover	July 14, 1868.
78,733	Goff, Theodore A., San Francisco, Cal. Apparatus for turning wrist pins, crank pins, &c	June 9, 1868.
73,317	Goff, W. W., Avoca, N. Y. Thill coupling	Jan. 14, 1868.
79,750	Goff, William W., East Harlow, Mich. Channel buoy	July 7, 1868.
75,410	Going, A. J., Clinton, La. Cotton-seed planter	Mar. 10, 1868.
77,811	Same.....Corn planter	May 12, 1868.
85,379	Same.....Cotton-seed planter	Dec. 29, 1868.
75,897	Going, F. R., assignor to self and D. Wilcox, Boston, Mass Block for cutting and shaping brims of hats	Mar. 24, 1868.
73,524	Golay, Samuel, Switzerland. Dressing mill stones	Jan. 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Golay, Samuel, assignor to Henry B. Sears, Switzerland. Dressing mill stones ..... (Disclaimer)	Oct. 20, 1868.
	Gold & Stock Telegraph Company. (*See* Calahan, Edward A., assignor.)	
	Gold, Stephen J., Cornwall, Conn. Warming houses by steam ..... (Extension)	Oct. 2, 1868.
	Golden, D. M., and B. G. Eaton. (*See* Babcock, Charles A., assignor.)	
	Same ..... (*See* Hall, E. R., assignor.)	
	Golden, D. M., *et al.* ..... same.	
	Golden, Niram, *et al.* (*See* Ackerman, Campbell & Golden.)	
85,226	Golder, Jackson, Fort Recovery, Ohio. Poultry coop	Dec. 22, 1868.
85,085	Golding, James H., assignor to self and Patrick Martin, England. Cylindrical cutter for leather and other materials	Dec. 22, 1868.
	Goldsborough, John. (*See* Sill, C. B., assignor.)	
78,734	Goldsmith, George H., Waverly, Ill. Sheet-metal-folding machine	June 9, 1868.
	Goldthwaite, Aaron, jr. (*See* Morse, Edward S., assignor.)	
74,910	Golightly, H. S., and C. S. Twitchell, New Haven, Conn. Folding chair	Feb. 25, 1868.
80,280	Gommenginger, Bartholomew, and Charles W. Trotter, Rochester, N. Y. Stove and furnace grate	July 28, 1868.
74,215	Gonner, Nicolas, and Herman Bader, Cape Girardeau, Mo. Cistern filterer	Feb. 11, 1868.
73,596	Gooch, Charles, Cincinnati, Ohio. Ice-cream freezer	Jan. 21, 1868.
81,269	Same ..... Skate. (Antedated Aug. 8, 1868)	Aug. 18, 1868.
	Same ..... (*See* Lane, C. M., assignor.)	
77,277	Gooch, J. H., Cheraw, S. C. Cotton-bale tie	Apr. 28, 1868.
80,474	Good, Adam, and Simon Strouse, Titusville, Pa. Valve	July 28, 1868.
81,270	Good, Adam, jr., and Simon Strouse, Titusville, Pa. Connection for wooden rods	Aug. 18, 1868.
81,995	Good, Christian, Arcanum, Ohio. Smoke house	Sept. 8, 1868.
	Good, D. G., and Noah H. Tilman. (*See* Tilman & Good.)	
82,307	Goodale, Benjamin H., Newburyport, Mass. Wind wheel	Sept. 22, 1868.
81,153	Goodale, W. G., Centralia, Ill. Fruit crate	Aug. 18, 1868.
	Goode, James S., and John W. Bookwalter, executors of the estate of James Leffel, deceased. (*See* Leffell, James) ..... (Reissue.)	
	Same ..... same ..... (Reissue.)	
	Same ..... same ..... (Reissue.)	
	Same ..... same ..... (Reissue.)	
79,825	Goodell, A. D., Florence, Mass. Bit stock. (Antedated July 3, 1868)	July 14, 1868.
80,621	Goodenough, John, Jerseyville, Ill. Blacking-brush scraper	Aug. 4, 1868.
77,278	Goodenough, M. A., New York, N. Y. Feather duster	Apr. 28, 1868.
82,825	Goodenough, William E., Newark, N. J. Saw set	Oct. 6, 1868.
75,541	Goodes, E. A., assignor to self, E. L. Miller, and W. H. Morford, Philadelphia, Pa. Funnel and grater	Mar. 17, 1868.
80,347	Same ..... Nutmeg grater	July 28, 1868.
81,770	Same ..... Flour dredge	Sept. 1, 1868.
78,275	Goodhart, Alexander, Newville, Pa. Link	May 26, 1868.
77,479	Goodhue, L. B., St. Louis, Mo. Furnace for melting glass	May 5, 1868.
80,475	Goodin, John, Centralia, Ill. Boring and drilling machine	July 28, 1868.
82,513	Same ..... Wrench	Sept. 29, 1868.
80,067	Goodling, Henry T., York, Pa. Hoisting machine	July 21, 1868.
78,450	Goodrich, Alfred, Burnt Prairie, Ill. Stump extractor	June 2, 1868.
	Goodrich, E. D. (*See* Spaulding, E. D., assignor.)	
	Same ..... (*See* Sanderson, George O., assignor.)	
72,997	Goodrich, George D., Joliet, Ill. Manufacture of clay pipes	Jan. 7, 1868.
74,078	Goodrich, H. A., and Joseph Amos, Joliet, Ill. Manufacture of glass pipes	Feb. 4, 1868.
81,080	Goodrich, Harry C., Chicago, Ill. Tension device for sewing machines	Aug. 18, 1868.
81,160	Same ..... Tuck creaser for sewing machines	Aug. 18, 1868.
	Goodrich, W. R., and A. P. Seymour. (*See* Seymour & Goodrich.)	
82,514	Goodrum, Thomas, Providence, R. I. Calipers. (Antedated Sept. 16, 1868)	Sept. 29, 1868.
73,970	Goodrum, Thomas, assignor to William E. Green and Charles W. H. Day, Providence, R. I. Apparatus for turning the leaves of music	Feb. 4, 1868.
3,141	Goodrum, Thomas, assignor to Albert J. Manchester. Portable book clamp. (Reissue)	Sept. 29, 1868.
83,626	Goodspeed, H. C., New York, N. Y. Sash supporter	Nov. 3, 1868.
84,182	Goodwin, Charles, Beardstown, Ill. Wind mill	Nov. 17, 1868.
74,529	Goodwin, C. E., Portland, Mich. Farm gate	Feb. 18, 1868.
85,086	Goodwin, George B. and Samuel McCord, Milwaukee, Wis. Dumping car	Dec. 22, 1868.
	Goodwin, Lizzie C., and Ira H. Stockwell. (*See* Stockwell & Goodwin.)	
75,150	Goodwin, Richard J. P., Manchester, N. H. Sad iron	Mar. 3, 1868.
83,277	Goodwin, S. A., Buffalo, N. Y. Wash boiler	Oct. 20, 1868.
83,278	Same ..... same	Oct. 20, 1868.
84,819	Goodwin, William, Boston, Mass. Steam engine	Dec. 8, 1868.
80,515	Goodwin, William B., Effingham, Ill. Corn planter	Sept. 29, 1868.
75,676	Goodwin, William F., East New York, N. Y. Mechanical movement	Mar. 17, 1868.
81,271	Same ..... same	Aug. 18, 1868.
81,491	Same ..... Automatic toy	Aug. 25, 1868.
73,424	Goodwin, William F., assignor to Samuel Johnston, East New York, N. Y. Harvester	Jan. 14, 1868.
78,888	Goodwin, William F., assignor to self and Charles R. Squire, East New York, N. Y. Harvester	June 9, 1868.
75,677	Goodwin, William F., East New York, and A. M. Smith, Washington, D. C., assignors to William F. Goodwin. Harvester	Mar. 17, 1868.
	Goodwin, W. F., and A. W. Browne. (*See* Browne & Goodwin.)	
76,908	Goodwin, William Wallace, Camden, N. J. Dry gas meter. (Antedated Nov. 5, 1867)	Apr. 21, 1868.
83,484	Goodwyn, George W., Petersburg, Va. Rotary steam engine	Oct. 27, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78,081	Goodwyn, George W., Petersburg, Va. Churn	May 19, 1868.
	Same (*See* Robinett, James, assignor.)	
73,243	Goodyear, Andrew, Albion, Mich. Machine for scolloping leather	Jan. 14, 1868.
	Goodyear, Ellsworth D. S., North Haven, Conn. Process of treating India-rubber (Extension)	Mar. 27, 1868
73,244	Goodyear, Robert A., New Haven, Conn. Neck-tie fastening. (Antedated Dec. 28, 1868)	Jan. 14, 1868.
75,748	Googins, W. C., Portland, Maine. Heating stove and furnace. (Antedated Mar. 18, 1868)	Mar. 24, 1868.
	Gookin, Samuel H., *et al.* (*See* Ehrhardt, L. H. G., assignor.)	
	Gookin, W. D. (*See* Chipman, W. W., assignor.)	
80,542	Gordon, Edwin, Boston, Mass. Chemical fire engine	Aug. 4, 1868.
77,878	Gordon, James F., Kalamazoo, Mich. Grain binder	May 12, 1868
76,909	Gordon, Matthew, Washington, Iowa. Combined corn-stalk cutter, cultivator, &c	Apr. 21, 1868
83,843	Gordon, Norman N., assignor to self and Robert Boyd, Rochester, N. Y. Thill coupling	Nov. 10, 1868
73,525	Gordon, R. H., sr., Brooklyn, Ohio. Combined hoe and garden rake	Jan. 21, 1868.
	Gordon, Solomon J., and O. B. Potter. (*See* Sweet & Elliott, assignors.)	
82,709	Gordon, William W., and D. Pettengill, Delhi, N. Y. Trace buckle	Oct. 6, 1868
79,222	Gorely, Charles P., Boston, Mass. Letter box	June 23, 1868
80,163	Gorgas, C. R., Brooklyn, N. Y. Pessary	July 21, 1868
	Gorham Manufacturing Company. (*See* Wilkinson, George, assignor) (Design.)	
	Same same (Design.)	
	Same same (Design.)	
	Same same (Design.)	
	Same same (Design.)	
	Same same (Design.)	
	Same same (Design.)	
	Same same (Design.)	
	Same same (Design.)	
	Same same (Design.)	
80,068	Gormley, Matthew, Wilna, N. Y. Machine for cutting off nails. (Antedated July 7, 1868)	July 21, 1868.
73,090	Gormly, I. A., Bucyrus, Ohio. Field fence	Jan. 7, 1868.
76,745	Same same	Apr. 14, 1868.
82,936	Gornall, Richard, Baltimore, Md. Steam-engine piston valve	Oct. 13, 1868.
	Gorr, George, and Moses Wieand. (*See* Boyer, John G., assignor.)	
	Gorr, George, and Moses Wieand. (*See* Wieand & Gorr.)	
80,281	Gorsline, Richard, Rochester, N. Y. Lamp burner	July 28, 1868.
84,876	Gorton, J. Irving, Sing Sing, N. Y. Corn husker. (Antedated Dec. 11, 1868)	Dec. 15, 1868.
	Goshert, Joseph W., *et al.* (*See* Weise, David S., assignor.)	
78,801	Goss, C. N., Claremont, N. H. Horse rake	June 9, 1868.
73,526	Goss, C. P., and Adrian Rais, Waterbury, Conn. Steel trap	Jan. 21, 1868.
80,622	Goss, W. S., Baltimore, Md. Screw driver	Aug. 4, 1868.
	Goss, William W., and J. O. Cutter. (*See* Ayers, Joseph D., assignor.)	
73,318	Gossin, L. A., Parish Lafourche, La. Method of stopping crevices	Jan. 14, 1868.
	Gott, George L., and Gustav Lautenschlager. (*See* Lautenschlager & Gott.) (Reissue.)	
83,844	Goucher, H. B., Pecatonica, Ill. Wine or cider mill	Nov. 10, 1868.
82,826	Gould, D. W., Fostoria, Ohio. Sled	Oct. 6, 1868.
	Gould, Ebenezer, jr., *et al.* (*See* Maranville, Galusha, assignor.)	
79,971	Gould, Ezra, Newark, N. J. Screw-threading machine	July 14, 1868.
76,746	Gould, Francis H., Newark, N. J. Detachable covering for buttons	Apr. 14, 1868.
	Gould, George W., and Richard Colburn. (*See* Colburn & Gould.)	
	Gould, John A. (*See* Bond, C. W., assignor.)	
81,889	Gould, Lucius D., Newark, N. J. Sash fastener	Sept. 8, 1868.
	Gould Machine Company. (*See* Dennisson, John A., assignor.)	
84,820	Gould, Marien, Chicago, Ill. Roofing composition	Dec. 8, 1868.
75,151	Gould, R. J., New York, N. Y. Packing for hose couplings	Mar. 3, 1868.
80,942	Gould, Roscoe J., Newark, N. J. Dovetailing machine	Aug. 11, 1868.
3,011	Gould, Thomas R., Boston, Mass. Statuette of W. E. Channing (Design.)	May 5, 1868.
81,890	Gould, W. B., Boston, and W. H. Harris, Taunton, Mass. Anti-slipping plate	Sept. 8, 1868.
83,375	Goulding, John, Worcester, Mass. Spinning machine	Oct. 27, 1868.
77,480	Gourlay, John, Escanaba, Mich. Portable bath house	May 5, 1868.
83,845	Gove, Andrew J., San Francisco, Cal. Dredging machine	Nov. 10, 1868.
75,152	Govers, John C., Washington, D. C. Window shade	Mar. 3, 1868.
	Gowen, J. E., and N. Ames. (*See* Ames & Gowen) (Reissue.)	
	Same same (Reissue.)	
	Same same (Reissue.)	
	Same same (Reissue.)	
	Same same (Reissue.)	
	Same same (Reissue.)	
81,623	Grace, John R., Brooklyn, N. Y. Life boat	Sept. 1, 1868.
83,376	Graecy, Robert, Pittsburg, Pa. Bolt-heading machine	Oct. 27, 1868.
83,377	Same Die for bolt making	Oct. 27, 1868.
77,481	Graeie, John, and Robert H. Boyd, Pittsburg, Pa. Lamp burner	May 5, 1868.
80,282	Graeie, John, Pittsburg, and Robert H. Boyd, Hulton Station, Pa. Lamp chimney	July 28, 1868.
	Gracie, John, and Charles Lockhart. (*See* Lockhart & Gracie.)	
	Same same (Reissue.)	
	Same same (Reissue.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
83,279	Graef, H. A., Brooklyn, N. Y. Method of destroying insects in trees and plants	Oct. 20, 1868.
84,821	Graetz, Gustav, Alexandria, Va. Match for lighting cigars and for other purposes	Dec. 8, 1868.
85,170	Same.....Combined match and cigar box	Dec. 22, 1868.
	Graff, Joseph. (*See* Shannon, William, assignor.)	
	Same.....same.	
83,485	Graff, William, Philadelphia, Pa. Bottle stopper	Oct. 27, 1868.
74,342	Graham, Alvaro B., Waukegan, Ill. Harvester	Feb. 11, 1868.
76,436	Same.....same	Apr. 7, 1868.
80,404	Graham, David M., Evansville, Ind. Gas machine	July 28, 1868.
	Graham, James, and Leonard S. Scott. (*See* Scott & Graham.)	
85,004	Graham, John, Grafton, West Va. Signal lantern	Dec. 15, 1868.
78,590	Graham, Lewis, Plymouth, Ill. Wagon seat	June 2, 1868.
	Graham, Robert, and John A. Falconer. (*See* Falconer & Graham.)	
80,405	Graham, Smith, Fennimore, Wis. Gang plow	July 28, 1868.
75,542	Graham, W. A., assignor to self and Charles Carr, Carlisle, Pa. Brick machine	Mar. 17, 1868.
76,437	Graham, W. H., La Crosse, Wis. Cooking range	Apr. 7, 1868.
82,109	Gram, Ernst W., assignor to self, Peter Berg, and A. P. Swineford, Negaunee, Mich. Rock-drilling machine	Sept. 15, 1868.
	Granger, H., *et al.* (*See* Biggs, Granger & Butler.)	
82,516	Granger, James, Zanesville, Ohio. Propelling apparatus	Sept. 29, 1868.
78,956	Granger, Lewis, Memphis, Mich. Spring-bed bottom	June 16, 1868.
84,487	Same.....Wash boiler	Dec. 1, 1868.
80,623	Granger, Niles, Saratoga, N. Y. Glass furnace	Aug. 4, 1868.
	Granier, Zoe and J., and Charles Gaudin. (*See* Gaudin & Granier.)	
	Grant, Benjamin S., *et al.* (*See* Ward, Moses N., assignor.)	
85,171	Grant, Edward M., Macon, Ga. Wrought-iron bridge pier	Dec. 22, 1868.
84,113	Grant, E. M., J. B. Van Dyne, and T. R. Pugh, Nashville, Tenn. Railroad-car stove	Nov. 17, 1868.
75,411	Grant, John, Northampton, Mass. Grinding knives for planers	Mar. 10, 1868.
73,712	Grant, Robert, Brooklyn, N. Y. Apparatus for charging water with carbonic acid. (Antedated Jan. 17, 1868)	Jan. 28, 1868.
2,970	Same.....Charging water with carbonic acid.....(Reissue)	June 9, 1868.
77,604	Grant, Royal Clark, Middleport, Ohio. Nail machine	May 5, 1868.
	Grass, Isaac, and Zadock P. Dederick. (*See* Dederick & Grass.)	
	Grassmuck, Charles W., and Thomas L. Rankin. (*See* Rankin & Grassmuck.)	
74,681	Graves, Almeron, Roscoe, Ill. Apparatus for handling animals in slaughtering	Feb. 18, 1868.
76,438	Graves, Alvah, Marcellus Falls, N. Y. Potato digger	Apr. 7, 1868.
77,279	Same.....same	Apr. 28, 1868.
75,261	Graves, Benjamin F., Groton, Mass. Milking machine	Mar. 10, 1868.
79,568	Same.....Teat cup for milking	July 7, 1868.
	Graves, O. J. (*See* Verry, George, assignor.)	
74,343	Graves, R. C., Barnesville, Ohio. Roofing composition	Feb. 11, 1868.
	Graves, S. S. (*See* Pike, O. M., assignor.)	
81,771	Graves, William S., Oberlin, Ohio. Fence-post driver	Sept. 1, 1868.
80,725	Gray, A. G., assignor to self and James T. Magee, St. John, N. B. Machine for cutting and folding sheet metal	Aug. 4, 1868.
	Gray, Charles M. (*See* Henderson, Henry A., assignor.)	
	Same.....(*See* Nohl, Eugene W., assignor.)	
76,747	Gray, Edward, Cuyahoga Falls, Ohio. Hospital bed	Apr. 14, 1868.
77,605	Gray, Elijah H., Winchester, Ill. Clothes-line hook	May 5, 1868.
76,748	Gray, Elisha, Cleveland, Ohio. Telegraph apparatus	Apr. 14, 1868.
	Gray, George L., and William Ledlie. (*See* Ledlie & Gray.)	
	Gray, Hala, and Martin Darling. (*See* Darling & Gray.)	
84,624	Gray, Henry H., assignor to self and Moses B. Pardee, Haverstraw, N. Y. Brick machine	Dec. 1, 1868.
	Gray, Hugh. (*See* Kirkley, James, assignor.)	
73,091	Gray, James, Albany, N. Y. Base-burning hot-air furnace	Jan. 7, 1868.
3,044	Same.....Base-burning stove.....(Reissue)	July 21, 1868.
84,109	Same.....Magazine stove	Nov. 17, 1868.
79,067	Gray, James, Newark, N. J. Sad iron. (Antedated June 13, 1868)	June 23, 1868.
82,110	Gray, James H., Boston, Mass. Lubricating pulleys. (Antedated Sept. 8, 1868)	Sept. 15, 1868.
	Gray, James H., *et al.* (*See* Talbott, S. J., assignor.)	
84,110	Gray, John, San Francisco, Cal. Hydro-carbon burner	Nov. 17, 1868.
84,877	Same.....Tile for floors, sidewalks, &c	Dec. 15, 1868.
73,319	Gray, John H., and Charles W. Calhoun, Florence Township, Mich. Potato digger	Jan. 14, 1868.
76,322	Gray, Joseph W., assignor to Saladee, Fee & Company, Clermont County, Ohio. Steam-engine governor	Apr. 7, 1868.
82,937	Gray, Josiah, Chicago, Ill. Railway frog	Oct. 13, 1868.
	Gray, Oliver B. (*See* La France, P. A., assignor.)	
77,031	Gray, N. A., Cleveland, Ohio. Steam plow	Apr. 21, 1868.
75,153	Gray, Robert D., assignor to self and William B. Brittingham, Lafayette, Ind. Rotary valve for steam enginery	Mar. 3, 1868.
	Gray, Rollin B., and Amos Broadnax. (*See* McLeod, N. N., assignor).....(Reissue)	
78,082	Gray, S. L., Chillicothe, Ohio. Harness for vicious horses	May 19, 1868.
	Gray, Solomon S., Boston, Mass. Machine for planing lumber "out of wind." (Disclaimer)	Aug. 6, 1868.
	Same.....same.....(Extension)	Aug. 17, 1868.
	Gray, Solomon S., *et al.* (*See* Shaw, Henry F., assignor.)	
	Same.....same.	
	Gray, Solomon S., and James A. Woodbury. (*See* Shaw, Henry F., assignor.)	
	Same.....same.	
83,707	Gray, Thomas, London, England. Preparing resin-size for use in paper making. (Patented in France June 30, 1868)	Nov. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,185	Gray, Wm., and Henry E. Porter, Hebron, Conn. Attaching axles to vehicles	Apr. 28, 1868.
84,944	Gray, Wm. H., New York, N. Y. Looking-glass support. (Antedated Dec. 8, 1868)	Dec. 15, 1868.
	Graybill, Manassah, and John S. Coffman. (*See* Coffman & Graybill.)	
75,154	Grebinger, Henry B., assignor to self, B. E. Kendig, and C. B. Herr, Millersville, Pa. Scrubber holder	Mar. 3, 1868.
	Greeley, Joseph, *et al.* (*See* Shepherd & George, assignors.)	
	Same.....same.	
	Greeley, Joseph, and Samuel Shepherd. (*See* Shepherd & George, assignors)..(Reissue.)	Jan. 14, 1868.
73,320	Green, A. P., Steuben, Ohio. Elastic coupling for seeding machines, &c	
	Green, Clay & Company. (*See* Jacobi & Klein, assignors.)	
	Green, Cyril W., and Curtis O. Luce. (*See* Luce & Green.)	Sept. 1, 1868.
81,624	Green, Duby, New York, N. Y. Distilling apparatus for spirits	Feb. 4, 1868.
74,079	Green, Ephraim R., and Henry D. Phillips, jr., Trenton, N. J. Brick machine	
81,361	Green, F. D., assignor to self and George Zimmer & Company, Williamsport, Pa. Machine for cutting panels	Aug. 25, 1868.
	Green, George C., and E. W. Woodruff. (*See* Woodruff & Green.)	
	Same.....same.	Apr. 28, 1868.
77,370	Green, George F., Kalamazoo, Mich. Pneumatic-tooth burr and drill	
	Green, George W., and Harry C. Cotter. (*See* Cotter & Green.)	
	Green, J., and C. Baggerman. (*See* Baggerman & Green.)	
3,177	Green, Jacob, assignor to self, Thomas H. and Hiram Willson, Charles R. Adams, and Samuel Munn, Norristown, Pa. Melting and smelting furnace.....(Division A, reissue)	Nov. 3, 1868.
3,178	Same.....Furnace for treating iron and for other purposes. (Division B, reissue)	Nov. 3, 1868.
78,951	Green, John A., North Waterford, Maine. Horse-power	Jnne 16, 1868.
81,081	Green, N. S., Utica, Wis. Snow plow	Aug. 18, 1868.
73,425	Green, Nelson W., Cortland, N. Y. Method of constructing artesian wells	Jan. 14, 1868.
73,887	Same.....Cortland Village, N. Y. Connecting stove pipes	Jan. 28, 1868.
82,401	Green, O. F., and James E. Clark, St. Louis, Mo. Manufacture of small beer	Sept. 22, 1868.
	Green, Parley G., and Warren Shaw. (*See* Shaw & Green).....(Extension.)	
84,351	Green, R. W., Bradford, Pa. Combined hammer and nail-holder	Nov. 24, 1868.
	Green, R. W., and J. W. Hilton. (*See* Hilton & Green.)	
74,818	Green, Samuel, New York, N. Y. Truss	Feb. 25, 1868.
81,625	Green, S. A., Lexington, Ind. Combined latch and lock	Sept. 1, 1868.
74,344	Green, Thomas, and Jacob Sommer, Metamora, Ill. Cultivator	Feb. 11, 1868.
81,772	Green, William, Holly, Mich. Potato digger and separator	Sept. 1, 1868.
82,111	Same.....Lifting jack. (Antedated Sept. 7, 1868)	Sept. 15, 1868.
	Green, William E., and Charles W. H. Day. (*See* Goodman, Thomas, assignor.)	
	Green, W. H. (*See* Robbins, Henry R., assignor.)	
82,112	Green, William W., jr., Janesville, Wis. Gate	Sept. 15, 1868.
84,352	Green, William W., jr., assignor to self and E. Brown, Janesville, Wis. Device for holding doors open	Nov. 24, 1868.
77,186	Greene, Chauncey O., Troy, N. Y. Mode of preventing the corrosion of cast-iron vessels	Apr. 28, 1868.
76,910	Greene, C. O., and Robert Ham, Troy, N. Y. Boiler	Apr. 21, 1868.
76,625	Greene, D. M., Troy, N. Y. Thermometric steam gauge	Apr. 14, 1868.
76,466	Greene, Francis, Troy, Pa. Door key	June 30, 1868.
	Greene, I. G. (*See* Dorn, R. H., assignor.)	
84,878	Greene, J. Ashton, Brooklyn, N. Y. Fastening India-rubber tires on carriage wheels	Dec. 15, 1868.
	Greene, John Ashton, and Henry A. Tweed. (*See* Blake, G. W., assignor.) (Reissue.)	
	Same.....same.....(Reissue.)	
	Greene, Tweed & Company. (*See* Weston, D. M., assignor.)	
81,362	Greene, William A., Troy, N. Y. Heater range	Aug. 25, 1868.
80,943	Greenfield, Henry, New York, N. Y. Mode of canceling postage and revenue stamps	Aug. 11, 1868.
74,819	Greenhalgh, James, Woonsocket, R. I. Harness mechanism for looms	Feb. 25, 1868.
81,891	Greenhut, Joseph B., Chicago, Ill. Grain binder	Sept. 8, 1868.
76,749	Greenleaf, George D., and Darius C. Larkins, Depauville, N. Y. Apparatus for treating milk	Apr. 14, 1868.
	Greenleaf, William. (*See* Balmer, James, assignor.)	
74,682	Greenleaf, Z. G., Bath, Maine. Bait and vegetable cutter	Feb. 18, 1868.
79,651	Greenwood, John, Rochester, N. Y. Machine for cutting staves	July 7, 1868.
81,892	Greenwood, J. T., Beloit, Wis. Gas heater	Sept. 8, 1868.
	Greenwood, M., & Company. (*See* Zeuner, Charles, assignor).....(Design.)	
79,467	Greer, George W., and Frank F. Landis, Lancaster, Pa. Grain thresher and separator	June 30, 1868.
79,652	Greer, Joseph H., Rochester, Pa. Cooking stove	July 7, 1868.
80,944	Gregg, Benjamin, Bennington, Vt. Bed bottom	Aug. 11, 1868.
75,749	Gregg, Henry P., Cincinnati, Ohio. Corn planter	Mar. 24, 1868.
81,626	Same.....Brush holder and mop head	Sept. 1, 1868.
75,155	Gregory, C. B., Beverly, N. J. Fireplace	Mar. 3, 1868.
76,750	Same.....same	Apr. 14, 1868.
77,032	Same.....Coal stove	Apr. 21, 1868.
81,492	Same.....Hot-air furnace	Aug. 25, 1868.
	Gregory, George, and William H. Cooper. (*See* Cooper & Gregory.)	
2,939	Gregory, George W., Watertown, N. Y. Pulley attachment for raising weight. (Reissue)	May 19, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,710	Grenier, Francois, assignor to G. H. Mercer and A. E. Monod, France. Dough mixer	Oct. 6, 1868.
74,345	Gresham, James, assignor to Ira Dimock, Great Britain. Injector for boilers. (Patented in England April 13, 1866)	Feb. 11, 1868.
74,346	Same.....Injector for boilers. (Patented in England April 13, 1866)	Feb. 11, 1868.
73,092	Gresiuchna, C., New York, N. Y. Apparatus for distilling and rectifying	Jan. 7, 1868.
81,363	Gretes, Charles W., Three Rivers, Mich. Coupling for vehicles	Aug. 25, 1868.
84,111	Greth, A. C., Reading, Pa. Wrench	Nov. 17, 1868.
73,799	Gridley, F. C., Hudson, Wis. Bed bottom	Jan. 28, 1868.
75,678	Gridley, Henry H., Auburn, N. Y. Saw mill	Mar. 17, 1868.
83,956	Same.....Swedge for saws	Nov. 10, 1868.
75,679	Gridley, James H., assignor to S. F. Dickinson, Washington, D. C. Mop wringer	Mar. 17, 1868.
	Gridley, Nelson C. (*See* Kasson, Amasa C., assignor.)	
	Same.....same.	
	Same.....same.	
	Same.....same.....(Reissue.)	
75,750	Gridley, Wilmer D., New Britain, Conn. Curtain fixture	Mar. 24, 1868.
83,058	Gridley, Wilmer D., New Britain, Conn. Toy pistol	Oct. 13, 1868.
3,142	Grier, William W., and Robert H. Boyd, assignors to Horace T. Love, New York, N. Y. Drill bit.....(Reissue)	Sept. 29, 1868.
	Griffen, J. F., and J. E. Winants. (*See* Winants & Griffen.)	
85,380	Griffin, Charles E., Roseville, Ill. Scythe	Dec. 29, 1868.
	Griffin, Charles E. (*See* Clarke, Nicholas P., assignor.)	
75,751	Griffin, Heber C., assignor to self, George W. Griffin, and John N. Howe, Franklin, N. H. Billiard cue	Mar. 24, 1868.
	Griffin, J. T. (*See* Cambridge, William C., assignor.)	
82,827	Griffin, Patrick H., Albany, N. Y. Key for hydrant cocks	Oct. 6, 1868.
77,371	Griffing, C. S. S., Unionville, Conn. Portable fence	Apr. 28, 1868.
78,661	Griffith, Amos W., Boston, Mass. Clothes dryer	June 9, 1868.
80,822	Griffith, Jethro J., Philadelphia, Pa. Artificial teeth	Aug. 11, 1868.
85,087	Griffith, J. S., Philadelphia, Pa. Toy entitled Sibyl's Cave. (Antedated Dec. 8, 1868)	Dec. 22, 1868.
	Griffiths, Charles W. (*See* Jelley, George, assignor.)	
77,482	Griffiths, Harry S., Brooklyn, N. Y. Suspension ring	May 5, 1868.
83,486	Griggs, Henry C., Waterbury, Conn. Campaign badge	Oct. 27, 1868.
77,033	Griggs, Henry C., assignor to Holmes, Griggs & Smith, Waterbury, Conn. Buckle	Apr. 21, 1868.
81,996	Grimes, C. T., Garrard County, Ky. Plow	Sept. 8, 1868.
	Grimes, Peter. (*See* Harvey, Wm. T., jr., assignor.)	
76,911	Grimes, William C., Philadelphia, Pa. Fire detector. (Antedated April 18, 1868)	Apr. 21, 1868.
83,846	Same.....Pressure blower	Nov. 10, 1868.
	Grimm, John, and H. B. Arnoldt. (*See* Arnoldt & Grimm.)	
84,625	Grimshaw, W. D., Newark, N. J. Stamp and die for sheet metal	Dec. 1, 1868.
	Grindrod, John, and Thomas Lovelidge. (*See* Lovelidge & Grindrod.)	
77,812	Griscom, Lewis, Mahanoy Plane, Pa. Lathe	May 12, 1868.
	Griscom, W. M. (*See* Oaks, W. A. C., assignor.)	
78,451	Grist, Thomas, Philadelphia, Pa. Reflecting gas burner. (Antedated May 19, 1868)	June 2, 1868.
83,487	Griswold, A. M., Momence, Ill. Cultivator	Oct. 27, 1868.
	Griswold, Del. M., *et al.* (*See* Beggar, Blood & Griswold.)	
74,347	Griswold, Edwin, Joel B. Cramer, and William Blay, Helena, Montana Territory. Equalizing doubletree	Feb. 11, 1868.
77,975	Griswold, G. G., New York, N. Y. Umbrella. (Antedated March 12, 1868)	May 19, 1868.
	Griswold, George G., *et al.* (*See* Bevans, Ira N., assignor.)	
73,800	Griswold, John W., Philadelphia, Pa. Grate for stoves and furnaces	Jan. 28, 1868.
81,161	Griswold, John W., and Edgar L. Thompson, Philadelphia, Pa. Grate bar	Aug. 18, 1868.
85,088	Griswold, V. M., Peekskill, N. Y. Filtering and pouring bottle	Dec. 22, 1868.
72,998	Griswold, W. C., New York, N. Y. Hat-blocking machine	Jan. 7, 1868.
84,690	Griswold, W. C., Brooklyn, N. Y. Machine for stretching hat bodies	Dec. 8, 1868.
81,364	Griswold, W. C., Brooklyn, N. Y., Augustus Pelisse, Newark, N. J., and Albert H. Hook, New York, N. Y. Machine for blocking hats	Aug. 25, 1868.
76,323	Gritzner, M. C., Grand Duchy of Baden. Sewing machine for working button holes	Apr. 7, 1868.
80,164	Groff, Michael G., Vogansville, Pa. Horse-power	July 21, 1868.
82,308	Groh, John M., Benevola, Md. Mat	Sept. 22, 1868.
82,517	Gross, B. F., Trenton, Tenn. Tanning compound	Sept. 29, 1868.
81,493	Gross, Henry, Tiffin, Ohio. Window sash	Aug. 25, 1868.
	Gross, Henry, and Michael Stoll. (*See* Stoll & Gross.)	
	Gross, J. Mason. (*See* Brown, Ira S. and Charles N., assignors.)	
	Gross, Julius, and Gustav Cramer. (*See* Cramer & Gross.)	
	Gross, Philip P., and Joseph H. McPheeters. (*See* McPheeters & Gross.)	
77,606	Grosvenor, Jonathan P., Lowell, Mass. Sawing machine	May 5, 1868.
81,997	Same.....Molding machine	Sept. 8, 1868.
82,113	Same.....Machine for planing and molding	Sept. 15, 1868.
73,321	Grotz, Renig, Chicago, Ill. Barrel-heading, circling, and beveling machine	Jan. 14, 1868.
	Grove, John H. S., and A. W. Hager. (*See* Hager & Grove.)	
80,348	Grove, Joseph M., and Henry Kedrick, Anderson, Ind. Machine for bending sheet metal	July 28, 1868.
82,711	Grover, Reuben C., Newton, Mass. Manufacture of edge tools	Oct. 6, 1868.
74,911	Grover, William, Holyoke, Mass. Counting attachment for thread-winding machines	Feb. 25, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,439	Groves, John, and Enoch B. Turner, Providence, R. I. Whirling toy	Apr. 7, 1868.
75,009	Grow, M. D., Fort Dodge, Iowa. Water wheel	Mar. 3, 1868.
81,162	Grübel, George, New Orleans, La. Tap and die	Aug. 18, 1868.
81,494	Gruey, Joseph, Kendallville, Ind. Water elevator	Aug. 25, 1868.
77,034	Gruger, John P., and Charles Makinson, Lancaster, Pa. Cord holder	Apr. 21, 1868.
82,712	Grundmann, Theodore, Cleveland, Ohio. Apparatus for the manufacture of vinegar	Oct. 6, 1868.
75,898	Gruneberg, John D., and Samuel H. Gilbert, Spring Mills, N. J. Coating metal	Mar. 24, 1868.
75,899	Grunert, W., and G. E. Bingham, assignors to selves and O. L. Packard, Milwaukee, Wis. Portable upright flue brazier	Mar. 24, 1868.
	Grupp, Sebastian, and Christian Oefinger. (*See* Oefinger & Grupp.)	
75,156	Grussi, John, Cleveland, Ohio. Flat-iron	Mar. 3, 1868.
83,772	Gsantner, Otto, East Orange, N. J. Elevated railway	Nov. 3, 1868.
83,153	Gudenoge, Karl, San Francisco, Cal. Billiard table	Oct. 20, 1868.
	Gudtner, David. (*See* Hemstreet, P. P., assignor.)	
2,791	Guenther, Godfrey, Chicago, Ill. Manufacture of glue...(Division A, reissue)	June 9, 1868.
2,972	Same.....Article of glue.....(Division B, reissue)	June 9, 1868.
3,129	Same.....Mode of drying glue.....(Division A, reissue)	Sept. 22, 1868.
3,130	Same.....Machinery or apparatus for drying.....(Division B, reissue)	Sept. 22, 1868.
79,113	Guernsey, W. B., New York, N. Y. Box	June 23, 1868.
78,591	Guerrant, C. Watson, Leakesville, N. C. Combined square and calipers	June 2, 1868.
73,527	Guerrant, John C., and Benton J. Field, Leakesville, N. C. Rat trap	Jan. 21, 1868.
83,708	Same.....Engraving machine	Nov. 3, 1868.
79,972	Guest, John H., Brooklyn, N. Y. Electro-magnetic temperature alarm	July 14, 1868.
79,973	Same.....Electro-magnetic burglar and fire alarm	July 14, 1868.
75,157	Guger, John N., Peoria, Ill. Tug and chain carrier	Mar. 3, 1868.
78,276	Guild, George M., Boston, Mass. Sounding board for pianos	May 26, 1868.
	Guild, James. (*See* Miner, Albert C., assignor.)	
3,212	Guild, J. H., Rupert, Vt. Float valve.....(Reissue)	Nov. 24, 1868.
81,272	Gullmann, C., Poughkeepsie, N. Y. Mop head and wringer	Aug. 18, 1868.
78,958	Guillod, Edward, assignor to Bryan, Dillingham & Company, Titusville, Pa. Construction of drilling jars	June 16, 1868.
84,353	Same.....Drilling jar	Nov. 24, 1868.
78,277	Gumfory, Michael, West Middlesex, Pa. Trace tug loop	May 26, 1868.
	Guning, James F. J., and Isaac T. Meyer. (*See* Meyer & Guning.)	
	Gunkel, John F. (*See* Bussey, John, assignor.)	
85,442	Gunn, Edwin F., Charleston, S. C. Breech-loading fire-arm	Dec. 29, 1868.
	Gunn, John, and John B. Christman. (*See* Christman & Gunn.)	
74,348	Gunn, M. W., La Salle, Ill. Harrow	Feb. 11, 1868.
74,349	Gunning, James F. J., New York, N. Y. Clasp for hoop skirts	Feb. 11, 1868.
84,418	Gunther, Gustav Julius, London, England. Armor plating for vessels. (Patented in England October 25, 1867)	Nov. 24, 1868.
76,751	Guseman, W. D., Morgantown, West Va. Fireplace	Apr. 14, 1868.
2,934	Same.....same.....(Reissue)	May 19, 1868.
79,653	Gustin, Jesse E., Elmira, N. Y. Detaching pulley	July 7, 1868.
85,302	Guthrie, Joseph T., Pittsburg, Pa. Railway-car brake	Dec. 29, 1868.
83,709	Guthrie, Warren H., Brooklyn, N. Y. Machine for trimming wall paper. (Antedated October 24, 1868)	Nov. 3, 1868.
85,005	Gutzkow, Frederic, San Francisco, Cal. Preparation of sulphates and the manufacture of fine silver therefrom	Dec. 15, 1868
82,938	Guy, B. F. and J. V., Macomb, Ill. Cultivator plow	Oct. 13, 1868.
80,165	Guy, George, Bay City, Mich. Steam generator	July 21, 1868.
83,488	Guy, John R., assignor to Rice & Guy, Springfield, Ohio. Coupling for railroad-train heaters	Oct. 27, 1868.
82,939	Guyer, Earl, Wolcott, Vt. Butter tub	Oct. 13, 1868.
	Guyer, Henry. (*See* Lipps, John P., assignor.)	
73,713	Guyol, Theodore, New Orleans, La. Metallic tie for cotton bales	Jan. 28, 1868.
76,440	Guyon, Francisque T. M. A., France. Printers' furniture	Apr. 7, 1868.
	Guzman, Adolph, *et al.* (*See* Ellershausen, Stayner & Guzman.)	
	Gwyer, F. S., and L. H. Mace. (*See* Mace & Gwyer.)	
73,322	Gwynn, Stuart, New York, N. Y. Solution for treating vegetable fiber for the manufacture of vegetable parchment	Jan. 14, 1868.
81,495	Gwynn, Stuart, assignor to Spencer M. Clark, New York, N. Y. Preparing oil	Aug. 25, 1868.
81,496	Gwynn, Stuart, New York, N. Y., and S. M. Clark, Washington, D. C., assignors to Spencer M. Clark. Apparatus for the purification of oil	Aug. 25, 1868.
	Gyroscopic Top Company. (*See* Arnold, C. P., assignor).....(Design.)	
80,726	Haag, Harrison, assignor to self and George W. Yager, Bernville, Pa. Machine for making wheels	Aug. 4, 1868.
	Haag, Joel and A. N. Wolf. (*See* Wolf & Haag.)	
80,945	Haas, Emil, and Max A. F., Mendota, Ill. Liquid cooler	Aug. 11, 1868.
	Haas, George A., and T. B. Luzier. (*See* Luzier & Haas.)	
81,627	Haas, Joseph, El Paso, Ill. Seeding machine	Sept. 1, 1868.
83,280	Haas, Martin, New York, N. Y. Compound for destroying insects	Oct. 20, 1868.
82,940	Habberley, John W., South Malden, Mass. Anchor	Oct. 13, 1868.
73,597	Hachenberg, George P., Coxsackie, N. Y. Vegetable cutter	Jan. 21, 1868.
79,068	Hachenberg, William, White Pigeon, Mich. Washing machine	June 23, 1868.
83,489	Hacker, Charles, Euphemia, Ohio. Spring-bed bottom	Oct. 27, 1868.
77,035	Hacker, V. A., Knoxville, Tenn. Scrubber	Apr. 21, 1868.
82,518	Hackett, Allin, Pittsfield, Maine. Saw mill	Sept. 29, 1868.
80,166	Hackett, Ephraim, assignor to self and R. West, Concord, N. H. Chafe iron	July 21, 1868.
77,280	Hadden, John L., Philadelphia, Pa. Water cooler	Apr. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
3,139	Hadfield, George, Cincinnati, Ohio. Medical vacuum chamber.....(Reissue)..	Sept. 29, 1868.
85,303	Hadfield, John G., Cincinnati, Ohio. Mode of treating diseases by vacuum. (Antedated Dec. 15, 1868)	Dec. 29, 1868.
73,714	Hadfield, Joseph, New York, N. Y. Machine for cutting soap	Jan. 28, 1868.
75,412	Hadfield, J. G., Cincinnati, Ohio. Surgical cup	Mar. 10, 1868.
78,278	Hadley, Amos, assignor to self and Robert Clenighen, Washington, D. C. Door indicator	May 26, 1868.
74,912	Hadley, Artemus N., Richmond, Ind. Insole for boots and shoes	Feb. 25, 1868.
	Hadley, C., *et al.* (*See* La Halt, Listerman & Hadley.)	
84,057	Hadley, Charles F., assignor to Clifford Arick, Chicopee, Mass. Chuck	Nov. 17, 1868.
81,893	Hadley, George D., assignor to self and Gardner Waters, Cincinnati, O. Globe valve	Sept. 8, 1868.
75,543	Hadwen, Arthur, Rochester, N. Y. Potato digger	Mar. 17, 1868.
82,519	Haeck, F., Belgium. Apparatus for distilling spirits. (Antedated Sept. 16, 1868)	Sept. 29, 1868.
	Haeffely, Edward, and James C. Ayer. (*See* Ayer & Haeffely.)	
73,093	Haehnlen, Theodore D., Philadelphia, Pa. Reciprocating-ball toy	Jan. 7, 1868.
83,154	Haessel, Jacob, St. Louis, Mo. Combined plow and harrow	Oct. 20, 1868.
79,341	Haenpel, Anton, and John Reinhardt, Philadelphia, Pa. Locomotive steam engine. (Antedated June 13, 1868)	June 30, 1868.
84,419	Hafelfinger, F., and R. N. Eagle, Washington, D. C. Corn husker, sheller, and stripper	Nov. 24, 1868.
81,894	Hafenegger, Joseph, San Francisco, Cal. Explosive compound	Sept. 8, 1868.
83,059	Hafner, John A., Commerce, Mo. Horse-power	Oct. 13, 1868.
74,216	Hagaman, Stinson, Weissport, Pa. Machine for beveling edges of slates. (Antedated Jan. 27, 1868)	Feb. 11, 1868.
78,959	Same.....Machine for rounding slate frames	June 16, 1868.
81,774	Same.....Machine for polishing wood	Sept. 1, 1868.
82,828	Same.....Machine for grinding and polishing school slates	Oct. 6, 1868.
81,895	Hagan, Edward, New York, N. Y. Service pipe for buildings	Sept. 8, 1868.
77,813	Hagar, E. L., Empire City, Colorado. Chart roller	May 12, 1868.
82,309	Hagemann, G. A., Matrona, Pa. Manufacture of bromine from bitterns	Sept. 22, 1868
84,354	Hager, A. W., and John H. S. Grove, Waverly, Iowa. Dog-power	Nov. 24, 1868
79,114	Hagerty, William, Monongahela, Pa. Hull of steamboats	June 23, 1868.
77,607	Hahn, John A., and Charles Vogler, Degraff, Ohio. Shoemakers' bench	May 5, 1868.
81,896	Haigh, Thomas, assignor to self and Charles M. Lightner, Harrisburg, Pa. Churn	Sept. 8, 1868
76,324	Haight, M. C., Geneva, N. Y. Skate	Apr. 7, 1868
79,342	Haight, William S., Waterford, N. Y. Apparatus for hopping beer	June 30, 1868
82,114	Haigney, John, and Frank M. Hedman, East Boston, Mass. Clothes pin	Sept. 15, 1868.
2,913	Hailes, William, Albany, N. Y. Stove.....(Design)..	Feb. 4, 1868
80,476	Hailes, William, assignor to J. F. Rathbone & Company, Albany, N. Y. Damper.	July 28, 1868
3,203	Same.....Stove.....(Design)..	Sept. 22, 1868
3,204	Same.....same.....(Design)..	Sept. 22, 1868
3,205	Same.....same.....(Design)..	Sept. 22, 1868.
3,206	Same.....same.....(Design)..	Sept. 22, 1868.
2,931	Hainemann, Sampson and Simon, and David Steiner, New York, N. Y. Trade mark.....(Design)..	Feb. 11, 1868.
2,986	Haines, Jonathan, assignor through mesne assignments to himself, Pekin, Ill. Grass harvester.....(Division D, reissue)..	June 16, 1868.
2,997	Same.....same.....(Division B, reissue)..	June 23, 1868.
2,998	Same.....same.....(Division C, reissue)..	June 23, 1868.
72,999	Haines, Samuel B., Lewistown, Pa. Harvester	Jan. 7, 1868.
79,115	Hainque, Martial, assignor to self and John Lowth, San Francisco, Cal. Drill stock	June 23, 1868.
75,010	Hainsworth, F., Chicago, Ill. Apparatus for ventilating water closets	Mar. 3, 1868.
75,011	Hainsworth, Jonathan, Chicago, Ill. Steam blower. (Antedated Feb. 24, 1868)..	Mar. 3, 1868.
	Halberstadt, Eli. (*See* Fenner, R. R., assignor.)	
76,076	Halbert, A. W., assignor to self and J. F. Stark, Taylor, N. Y. Sewing machine	Mar. 31, 1868.
	Hale, A. R. (*See* Tobey, Elisha H., assignor.)	
	Same.....same.	
75,900	Hale, C. S., and O. C. Hubbell, Cleveland, Ohio. Spring bottom for boots and shoes	Mar. 24, 1868.
80,477	Hale, Edwin, Boston, Mass. Hand nail-driver for boots and shoes	July 28, 1868.
79,569	Hale, Elias J., Foxcroft, Maine. Lantern	July 7, 1868.
	Hale, Henry & Co. (*See* Moore & Johnson, assignors.)	
75,262	Hale, H. B., and T. Flagler, Grass Lake, Mich. Mode of attaching animals to carriages	Mar. 10, 1868.
82,829	Hale, Henry J., Indianapolis, Ind. Bed bottom	Oct. 6, 1868.
77,036	Hale, Joseph, Somerville, Mass. Machine for bending wood	Apr. 21, 1868.
77,608	Hale, Joseph, Somerville, and William Hall, Brookline, Mass. Rein shackle	May 5, 1868.
	Hale, J. M., and William C. McGowan. (*See* McGowan & Hale.)	
81,163	Hale, Oliver B., Malone, N. Y. Portable cooking stove	Aug. 18, 1868.
	Hale Patent Washing Company. (*See* Haskell, E. P., assignor.)	
73,801	Hale, Robert, Chicago, Ill. Baby holder	Jan. 28, 1868.
73,802	Same.....Couch or cradle	Jan. 28, 1868.
76,752	Hale, W. I., assignor to self and W. M. Logan, Ashley, Ill. Post-hole-boring machine	Apr. 14, 1868.
80,725	Hall, Alexander W., New York, N. Y. Wash boiler	Aug. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Hall, Alfred B. (*See* Mignault, John B., assignor.)	
77,609	Hall, Alonzo J., Derry, N. H. Water wheel	May 5, 1868.
83,847	Hall, Andrew M., Falmouth, Maine. Potato digger	Nov. 10, 1868.
74,080	Hall, A. W., East Lebanon, N. H. Friction clutch	Feb. 4, 1868.
79,826	Hall, Charles C., Portland, Maine. Steam heating apparatus	July 14, 1868.
	Hall, Charles S. and Charles F. (*See* Wing, Samuel, assignor) (Reissue.)	Apr. 14, 1868.
76,753	Hall, D. C., Hannibal, Mo. Atmospheric churn	June 23, 1868.
79,116	Hall, David E., Detroit, Mich. Joint clamp	
	Hall, D. W., and W. M. Jones. (*See* Jones & Tyler, assignors) (Reissue.)	
	Same same (Reissue.)	Mar. 24, 1868.
75,752	Hall, Earl J., Indianapolis, Ind. Wind wheel	Nov. 24, 1868.
84,274	Hall, Earl J., assignor to self and Jacob Eldridge, Indianapolis, Ind. Pump	May 5, 1868.
77,610	Hall, Edwin A., Sugar Branch, Ind. Floor clamp	
	Hall, Elton & Company. (*See* Rich & Bassett, assignors.)	
76,441	Hall, E. R., assignor to self, D. M. Golden, and B. G. Eaton, Utica, N. Y. Clothes dryer	Apr. 7, 1868.
		June 9, 1868.
78,735	Same Horse hay rake	Feb. 18, 1868.
74,683	Hall, George W. S., Baltimore, Md. Exercising apparatus	May 12, 1868.
77,728	Hall, Henry A., Boston, Mass. Ankle or knee guard	Aug. 25, 1868.
81,497	Hall, H. H., Tioga, Pa. Box opener	Oct. 27, 1868.
83,378	Hall, Henry H., Boston, Mass. Index	July 7, 1868.
79,751	Hall, H. M., and G. W. Espey, Moore's Hill, Ind. Printing press	Apr. 28, 1868.
77,187	Hall, Henry R., Philadelphia, Pa. Enameling machine	Mar. 10, 1868.
75,413	Hall, Isaac, New York, N. Y. Machine for carving in wood	May 26, 1868.
78,279	Same Wood-carving machine	
	Hall, Isaac and Wm. J., *et al.* (*See* Prescott, Peter, assignor.)	
	Hall, Isaac E., and Julius Smith. (*See* Smith & Hall.)	
75,414	Hall, James H., Maysville, Ky. Mode of attaching coulters to plow beams	Mar. 10, 1868.
	Hall, James H., *et al.* (*See* Talbott, S. J., assignor.)	
	Hall, James Turner. (*See* Blakey & Fox, assignors.)	
83,490	Hall, John, Marshfield, Mass. Device for scuttling vessels	Oct. 27, 1868.
	Hall, John, *et al.* (*See* Locke, Charles S., assignor.)	
81,628	Hall, John C., Monroe, Wis. Harvester rake	Sept. 1, 1868.
	Hall, John E., and Samuel Darling. (*See* Darling & Hall.)	
3,063	Hall, John M., Philadelphia, Pa. Burial casket (Design)	June 2, 1868.
77,188	Hall, John S., Pittsburg, Pa	Apr. 28, 1868.
80,478	Same Machine for making bolts and spikes	July 28, 1868.
80,946	Same Nut machine	Aug. 11, 1868.
81,629	Same Safety-harness saddle tree	Sept. 1, 1868.
81,365	Hall, John S., Jeffersonville, Ind. Machine for bending wood	Aug. 25, 1868.
	Hall, John S., and Cyrus W. Saladee. (*See* Saladee & Hall.)	
	Same same.	
80,728	Hall, Joseph L., Cincinnati, Ohio. Fire-proof safe	Aug. 4, 1868.
81,630	Same Combination padlock	Sept. 1, 1868.
74,684	Hall, J. P., Wallingford, Conn. Razor strops	Feb. 18, 1868.
82,520	Hall, J. R., Salem, Ohio. Steam slide valve	Sept. 29, 1868.
76,754	Hall, Judson W., Worcester, Mass. Sad iron	Apr. 14, 1868.
2,959	Hall, Luther, assignor through mesne assignments to William N. Ely, Stratford, Conn. Eyeleting machine (Division A, reissue)	June 2, 1868.
2,960	Same same (Division B, reissue)	June 2, 1868.
2,961	Same same (Division C, reissue)	June 2, 1868.
2,962	Same same (Division D, reissue)	June 2, 1868.
78,592	Hall, N. B., and Herbert Jones, assignors to Thomas Kennedy, Branford, Conn. Cement for fastening door knobs, and for other purposes	June 2, 1868.
75,415	Hall, R. Henry, Taunton, Mass. Furnace for smelting ores of lead and other metals	Mar. 10, 1868.
78,662	Hall, Reuben S., Hamburg, Mich. Fruit gatherer	June 9, 1868.
80,624	Hall, Samuel L., West Salem, Wis. Churn and butter worker	Aug. 4, 1868.
78,593	Hall, Sanford V., McGrawville, N. Y. Washing machine	June 2, 1868.
81,897	Hall, Warren, Dennis, Mass. Cranberry gatheror	Sept. 8, 1868.
2,888	Hall, William, Dubuque, Iowa. Lightning rod (Reissue)	Mar. 3, 1868.
77,729	Same same	May 12, 1868.
77,976	Hall, William, Georgetown, Ill. Sandal	May 19, 1868.
80,625	Hall, William, assignor to self and John W. Pitt. North Adams. Mass. Let-off mechanism for looms	Aug. 4, 1868
	Hall, William, and Joseph Hale. (*See* Hale & Hall.)	
80,406	Hall, William, jr., North Adams, Mass. Drill holder	July 28, 1868.
81,998	Hall, William H., and John R. Clifford, Boston, Mass. Anti-interfering band	Sept. 8, 1868.
	Halladay, Daniel, Batavia, Ill. Governor for wind mills (Extension)	Aug. 28, 1868.
85,443	Hallam, A., Monmouth, Ill. Combined seed sower and harrow	Dec. 28, 1868.
84,692	Halleck, W. H., Ann Arbor, Mich. Implement for trenching around plants to prevent the approach of worms	Dec. 8, 1868.
83,627	Hallenbeck, Martin, assignor to Alfred Blaker, Albany, N. Y. Harvester	Nov. 3, 1868.
83,628	Same Cutting apparatus for harvesters	Nov 3, 1868.
	Haller, John A., and William A. Middleton. (*See* Middleton & Haller.)	
	Hallock, Absalom B. (*See* Nation, John, assignor.)	
75,631	Hallowell, Albert, Lowell, Mass. Apparatus for heating flat-irons	Mar. 17, 1868.
84,112	Same Gas and steam fittings	Nov. 17, 1868.
85,304	Halsey, James E., assignor to self, Morris H. Smith, and Samuel F. Noyes, New York, N. Y. Foundation of railroad tracks	Dec. 29, 1868.
81,082	Halsey, William H., Hoboken, N. J. Molding watch cases and lockets from hard rubber	Aug. 18, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Halstead, Samuel H., administrator of Jesse R. Clough, deceased. (*See* Clough, Jesse R.)	
74,081	Halsted, Griffin B., New York, N. Y. Mode of constructing molasses cups of sheet metal	Feb. 4, 1868.
84,545	Ham, A. W., Stockport, N. Y. Lifting jack for carriage thills	Dec. 1, 1868.
	Ham, Robert, and C. O. Greene. (*See* Greene & Ham.)	
80,823	Ham, Rufus, and Joseph Durgin, Bangor, Maine. Dumping cart	Aug. 11, 1868.
74,217	Hamar, Alexander, New York, N. Y. Smelting and desulphurizing iron ore	Feb. 11, 1868.
77,730	Same.....Iron furnace	May 12, 1868.
81,775	Same.....Making iron	Sept. 1, 1868.
84,113	Same.....Roasting iron ores by waste gases	Nov. 17, 1868.
	Hamblet, J., jr., and B. F. Edmands. (*See* Edmands & Hamblet.)	
	Hamburger, Isaac L. (*See* Burger, Lewis, assignor.)	
	Hamill, E. B., *et al.* (*See* Rowe, Mitchell & Hamill.)	
	Hamilton, Albert, and Richard Whiting. (*See* Whiting & Hamilton.)	
	Hamilton, Celeste H. E., and Louis J. Chollet. (*See* Chollet & Hamilton.)	
78,202	Hamilton, Edward, assignor to self and Matthew D. Rapp, Chicago, Ill. Bridge. (Antedated May 9, 1868)	May 26, 1868.
	Hamilton, James, *et al.* (*See* King, Jacob, assignor.)	
73,323	Hamilton, Jonathan R., Portland, Oregon. Corn sheller	Jan. 14, 1868.
73,324	Same.....Lamp-chimney cleaner	Jan. 14, 1868.
75,158	Same.....Instrument for making applications in uterine diseases, &c	Mar. 3, 1868.
83,848	Hamilton, J. R., Dexter, Maine. Valves at the end of tubes	Nov. 10, 1868.
79,827	Hamilton, O. Court, and Harvey McKinney, Turtle Creek, Pa. Fruit gatherer.	July 14, 1868.
	Hamilton, R., *et al.* (*See* Benn, Walter C., assignor.)	
	Same.....same.	
81,776	Hamilton, S. M., Baltimore, Md. Planing machine	Sept. 1, 1868.
81,898	Same.....same	Sept. 8, 1868.
84,822	Hamilton, Thomas F., New Haven, Conn. Imitation stone for building purposes	Dec. 8, 1868.
75,753	Hamilton, William, Chicopee, Mass. Device for oiling fast and loose pulleys	Mar. 24, 1868.
79,343	Same.....Hose coupling	June 30, 1868.
85,381	Hamilton, William, Toronto, Canada. Lock nut	Dec. 29, 1868.
81,498	Hamilton, William, Philadelphia, Pa. Pan-folding machine	Aug. 25, 1868.
85,089	Hamilton, W. G., New York, N. Y. Metal for, and mode of, manufacturing car wheels	Dec. 22, 1868.
82,521	Hamilton, William M., Wenona, Ill. Bed bottom	Sept. 29, 1868.
83,491	Hamilton, W. N., Odessa, Del. Grain drill	Oct. 27, 1868.
85,090	Hamlin, Edward, Delanco, N. J. Swage for saw teeth	Dec. 22, 1868.
80,167	Hamlin, Emmons, Winchester, Mass. Melodeon, &c	July 21, 1868.
83,849	Hamlin, E. B., St. Louis, Mo. Paint can	Nov. 10, 1868.
81,777	Hamlin, William E., jr., Providence, R. I. Heel plate for boots and shoes	Sept. 1, 1868.
77,814	Hamlin, William P., Exira, Iowa. Liniment	May 12, 1868.
82,830	Hammel, A. F., St. Louis, Mo. Breast yoke for harness	Oct. 6, 1868.
83,850	Hammer, George, assignor to self and Alfred Butz, Philadelphia, Pa. Cork-cutting machine	Nov. 10, 1868.
81,899	Hammer, Gunder E., Rochester, Minn. Stove-pipe thimble	Sept. 8, 1868.
76,755	Hammer, G. F., Cincinnati, Ohio. Machine for polishing wood	Apr. 14, 1868.
82,713	Hammer, J. A., and Thomas Chadwick, Newton, Iowa. Wash boiler	Oct. 6, 1868.
84,275	Hammond, Everett C., assignor to self and O. H. and Ira G. W. Pennock, Oswego, N. Y. Center-board winch	Nov. 24, 1868.
80,729	Hammond, George H., Davenport, N. Y. Clothes dryer	Aug. 4, 1868.
73,888	Hammond, Henry, Hartford, Conn. Die for forming slots in screws	Jan. 28, 1868.
83,773	Hammond, Henry L., Providence, R. I. Carriage jack	Nov. 3, 1868.
80,947	Hammond, John, Lattisburg, Ohio. Machine for handling hides	Aug. 11, 1868.
73,180	Hammond, J. F., North Sudbury, Mass. Straw cutter	Jan. 7, 1868.
	Hammond, J. T., and J. H. Hill. (*See* Hill & Hammond.)	
76,626	Hammond, Theophilus, Petersburg, Ind. Harness for breaking horses	Apr. 14, 1868.
84,114	Hamon, A., France. Machine for forming tin-lined lead pipe	Nov. 17, 1868.
83,155	Hampshire, John D., Paper Mills, Md. Corn harvester	Oct. 20, 1868.
84,276	Hancock, Anne B., Suspension Bridge, N. Y. Fan	Nov. 24, 1868.
77,372	Hancock, Benjamin F., Monroe, Wis. Animal trap	Apr. 28, 1868.
	Hancock, F., and F. B. Norton. (*See* Norton & Hancock.)	
76,756	Hancock, Henry J., New York, N. Y. Clothes dryer	Apr. 14, 1868.
3,158	Same.....Sewing-machine frame (Design)	Aug. 11, 1868.
83,492	Same.....Sewing machine	Oct. 27, 1868.
2,835	Hancock, John T., Boston, Mass. Steam-boiler furnace (Reissue)	Jan. 14, 1868.
73,803	Hancock, Thomas, and John H. Leaman, Richmond, Va. Machine for cleaning grain	Jan. 28, 1868.
74,082	Hand, John R., assignor to self and Johnson Orr, College Corner, Ohio. Cultivator	Feb. 4, 1868.
83,957	Handforth, Benjamin, Chicago, Ill. Curtain fixture	Nov. 10, 1868.
	Hanford, Edwin W. (*See* Mead, Ira W., assignor.)	
78,960	Hanger, James E., assignor to self and J. E. A. Gibbs, Staunton, Va. Cross-bar lock for doors, &c	June 16, 1868.
	Hanigan, Hugh, and William S. Bullock. (*See* Bullock & Hanigan.)	
	Hanley, William, and Levi B. Raymond. (*See* Raymond & Hanley.)	
79,654	Hanlon, George, William, Alfred, Edward, and Frederick, New York, N. Y. Velocipede	July 7, 1868
84,546	Hanna, Hugh, Pittsburg, Pa. Threshing machine	Dec. 1, 1868.
79,655	Hannah, William, Middlefield Center, N. Y. Horse hay fork	July 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Hannan, James, and Ellery P. Ralph. (*See* Ralph & Hannan.)	
	Hannan, James S., *et al.* (*See* Michel, A., assignor.)	
80,168	Hannen, H. S., Philadelphia, Pa. Manufacture of white lead	July 21, 1868.
79,344	Hanover, Major E., and D. D. Bailey, Lamoille, Ill. Cultivator	June 30, 1868.
84,355	Hansbrow, Thomas, deceased, (Luey A. Hansbrow and B. B. Redding, executors,) Sacramento, Cal. Pump	Nov. 24, 1868.
73,325	Hansel, John W., Peoria, Ill. Window-sash fastener	Jan. 14, 1868.
79,069	Hansen, C. O., Memphis, Tenn. Bevel square	June 23, 1868.
84,547	Hanson, C., Owatonna, Minn. Harrow	Dec. 1, 1868.
	Hanson, L. O. (*See* Paige, W. H., assignor.)	
	Same.....(*See* Hiteheock, Robert, assignor.)	
80,407	Hanson, L. W., and Samuel Bush, Springfield, Mass. Hose coupling	July 28, 1868.
	Happersett, Jaeob C. and Daniel W., and George W. Flowers. (*See* Flowers & Happersett.)	
77,037	Haraden, Harvey D., Hartford, Vt. Clothes pin	Apr. 21, 1868.
77,977	Same.....Hub for earriage wheels	May 19, 1868.
85,382	Harbaugh, Eli, Washington, Iowa. Fastening and strengthening for horse collars	Dee. 29, 1868.
83,281	Harbaugh, F. R., Philadelphia, Pa. Egg holder	Oct. 20, 1868
	Harbster Brothers & Company. (*See* Oaks, W. A. C., assignor.)	
78,663	Hareourt, Joseph F., Cineinnati, Ohio. Taeklo bloek	June 9, 1868
78,280	Harden, Frederiek, Conshohoeken, Pa. Safety valve	May 26, 1868.
73,245	Harden, John, Chieago, Ill. Anti-friction bearing for maehinery	Jan. 14, 1868
	Hardenbergh, Charles M., and William A. Lee. (*See* Lee & Hardenbergh.)	
82,714	Hardenstein, A. O. H., assignor to self and Marcellus A. Foute, Clinton, Miss. Explosive projeetile	Oet. 6, 1868
74,350	Hadesty, Benjamin T., Sunderlandville, Md. Tobacco-hill preparer	Feb. 11, 1868
75,901	Hardin, Wm. E., Bowling Green, Mo. Plow	Mar. 24, 1868
85,305	Harding, E. B., Northampton, Mass. Truss	Dec. 29, 1868.
75,902	Harding, Eliza J., St. Louis, Mo. Abdominal and uterine supporter	Mar. 24, 1868
	Harding, George, *et al.* (*See* Lalor, Thomas, assignor.)	
73,715	Harding, Gustavus P., England. Apparatus for drawing tapered tubes. (Patented in England Sept. 14, 1865)	Jan. 28, 1868.
	Same.....(*See* Cristoph, Hawksworth & Harding.)	
79,222	Harding, Jacob, assignor to Henry I. Allen & Company, Schooleraft, Mich. Hames fastener	June 23, 1868.
75,263	Harding, Thomas, Springfield, Ohio. Harvester rake	Mar. 10, 1868
	Harding, Thomas & W. N. Whiteley. (*See* Whiteley & Harding.)	
85,227	Hardy, Anson, Boston, Mass. Indicator for permutation loeks	Dee. 22, 1868
80,730	Hardy, Clinton R., Lexington, Ind. Car coupling	Aug. 4, 1868.
83,958	Hardy, Cyrus H., assignor to self and B. L. White, Bath, Maine. Saw horse	Nov. 10, 1868.
77,373	Hardy, Dexter D., assignor to Henry J. Behrens, Henry C. and Edward Hart, Cineinnati, Ohio. Rotary engine	Apr. 28, 1868
81,778	Hardy, Dexter D., assignor to Thomas H. Foulds, Cineinnati, Ohio. Submerged rotary pump	Sept. 1, 1868.
	Hardy, Dexter D., *et al.* (*See* Millward, Frank, assignor.)	
81,779	Hardy, John, 2d, Andover, and Byron B. Floyd, Lawrenee, Mass. Loeking lateh	Sept. 1, 1868
85,306	Hardy, Uriah W., Abingdon, Ill. Gate	Dec. 29, 1868.
78,083	Hare, C. C., Louisville, Ky. Corniee for buildings	May 19, 1868.
84,356	Hare, S. J., Louisville, Ky. Hot-air furnaee	Nov. 24, 1868.
73,889	Harger, David, Des Moines, Iowa. Car eoupling	Jan. 28, 1868.
74,083	Harger, David, assignor to self, D. H. Young, and A. S. Vorse, Des Moines, Iowa. Composition for roofing	Feb. 4, 1868.
81,083	Hargrave, T. C., Boston, Mass. Wheel and axle for railroad ears	Aug. 18, 1868.
82,941	Hargrave, Thomas C., assignor to self, William B. Charlton, and H. K. Moore, Boston, Mass. Device for changing speed in machinery	Oct. 13, 1868.
77,978	Hargrave, T. C., and W. B. Charlton, Boston, Mass. Low-water indieator	May 19, 1868.
73,094	Hargrave, W. O., Ripon, Wis. Cultivator	Jan. 7, 1868.
82,942	Harkrader, David M., Chili, Ill. Combined harrow and cultivator	Oet. 13, 1868.
76,185	Harlan, E. T., Star City, Ind. Churn	Mar. 31, 1868.
	Harlan, S. C. (*See* Hopson, Albert S., assignor.)	
82,522	Harlin, John, New York, N. Y. Lubricator	Sept. 29, 1868.
79,468	Harlow, Charles F., assignor to self and Dexter S. King, Boston, Mass. Machine for eutting and trimming bristles, felt, fur, wool, &c	June 30, 1868.
73,000	Harman, I. R., assignor to self and Thomas J. Meginnis, Whitestown, Ind. Sawing maehine	Jan. 7, 1868.
73,971	Harmar, W. T., New York, N. Y. Horseshoe	Feb. 4, 1868.
84,184	Harmon, Abram A., Olney, Ill. Cultivator	Nov. 17, 1868.
81,164	Harmon, B. H., and D. B. Sturdevant, Clifton Springs, N. Y. Method for removing tin and other eoatings from sheet metal	Aug. 18, 1868.
	Same.....(*See* Sturdevant & Harmon.)	
74,820	Harmon, Silas B., Portland, Maine. Carriage thill	Feb. 25, 1868.
73,246	Harmyer, Louis, Cineinnati, Ohio. Composition for preserving wood, metal, eanvas, &e	Jan. 14, 1868.
73,181	Harper, C. A., Wheeling, Ind. Cultivator	Jan. 7, 1868.
84,823	Same.....same	Dec. 8, 1868.
75,416	Harper, John, Hillsboro, Iowa. Hay raker and loader	Mar. 10, 1868.
83,493	Harper, Smith, Leipersville, Pa. Fishing net	Oet. 27, 1868.
73,095	Harrigan, D., and J. Whitney, Winchester, Mass. Worm for gear	Jan. 7, 1868.
78,961	Harrington, David, Woreester, Mass. Friction-eluteh pulley	June 16, 1868.
80,948	Same.....Loose pulley	Aug. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79, 752	Harrington, David, assignor to self and S. A. Wood, Worcester, Mass. Lubricating pulleys	July 7, 1868.
82, 402	Harrington, Jackson, assignor to self and A. C. Lippitt, New London, Conn. Gear-cutting tool	Sept. 22, 1868.
83, 379	Harrington, L., Saugatuck, Mich. Ironing table	Oct. 27, 1868
78, 962	Harrington, Richard C., Newark, N. J. Door lock	June 16, 1868.
	Harrington, Robert, and James Edward Boyce. (*See* Boyce & Harrington.)	
78, 963	Harris, Aaron B., assignor to self, W. D. Bryant, and H. H. Gates, Morrisville, Vt. Butter tub	June 16, 1868
78, 872	Harris, Alexander W., New York, N. Y. Suspender	June 16, 1868.
3, 227	Harris, C., and P. W. Zoiner, Cincinnati, Ohio. Stove (Design)	Nov. 3, 1868.
80, 949	Harris, Charles J., Warren, R. I. Spinning machine	Aug. 11, 1868
74, 218	Harris, David A., Ithaca, N. Y. Wood-planing machine	Feb. 11, 1868
78, 281	Harris, E. P., Conneautville, Pa. Seed planter	May 26, 1868
	Harris, E. S., and W. H. H. Jones. (*See* Jones & Harris.)	
73, 445	Harris, Francis M., Winnemac, Ind. Washing machine	Jan. 21, 1868
	Harris, George R. (*See* Finch, Edward T., assignor.)	
	Harris, George W. (*See* Carey, Wilson W., assignor.)	
81, 499	Harris, George W., and George Elliot, Aurora, Ind. Car spring	Aug. 25, 1868.
84, 357	Harris, Hiram, Circleville, Ohio. Snow plow	Nov. 24, 1868.
82, 619	Harris, H. J., Shreveport, La. Pyrotechnic signal	Sept. 29, 1868.
80, 479	Harris, James, Janesville, Wis. Harvester	July 28, 1868.
84, 277	Same.....Evaporator	Nov. 24, 1868
79, 070	Harris, James T., Swampscott, Mass. Leather roller	June 23, 1868
78, 282	Harris, John K., Springfield, Ohio. Harness	May 26, 1868
73, 001	Harris, L. P., Crestline, Ohio. Apparatus for clarifying saccharine juices	Jan. 7, 1868
75, 417	Harris, Samuel, Springfield, Mass. Grain separator	Mar. 10, 1868
2, 987	Harris, Samuel and David A., Shippensburg, Pa. Horse hay fork (Reissue)	June 16, 1868
80, 169	Harris, Sandy, Philadelphia, Pa. Weighing scale	July 21, 1868
74, 530	Harris, William C., A. Robert Roseman, and Hubbil B. Hutchins, Philadelphia, Pa. Carriage for advertising	Feb. 18, 1868
	Harris, W. H., and W. B. Gould. (*See* Gould & Harris.)	
	Harris, William P., and Oliver Taurot. (*See* Taurot & Harris.)	
	Harris, W. S., *et al.* (*See* White, C. N., assignor.)	
80, 480	Harrison, Andrew J., assignor through mesne assignments to self, W. W. Dexter, Alonzo K. Cutts, and Samuel C. Burnham, jr., Janesville, Wis. Watch. (Antedated Jan. 28, 1868)	July 28, 1868.
2, 891	Harrison, Benj. J., and Jas. Condie, New York, N. Y. Folding chair (Reissue)	Mar. 10, 1868.
79, 828	Harrison, Caleb, Milwaukee, Wis. Rotary steam engine. (Antedated June 27, 1868)	July 14, 1868.
81, 900	Harrison, Charles, New York, N. Y. Cock or faucet	Sept. 8, 1868.
85, 006	Same.....Slow-closing valve for water closets	Dec. 15, 1868.
	Harrison, Edward, New Haven, Conn. Grinding mill (Extension)	May 18, 1868.
81, 780	Same.....same	Sept. 1, 1868.
85, 444	Same.....same	Dec. 29, 1868.
78, 522	Harrison, Job, assignor to self, George W. Esterly, and C. C. Lewis, White Water, Wis. Cooking stove fire chamber	June 2, 1868.
75, 754	Harrison, Joseph, jr., Philadelphia, Pa. Low-water detector	Mar. 24, 1868.
80, 543	Same.....Steam generator	Aug. 4, 1868.
80, 408	Harrison, Joseph G., New York, N. Y. Soap cup	July 28, 1868.
82, 220	Harrison, Joseph John and Edward, Great Britain. Brake for yarn beams of looms	Sept. 15, 1868.
	Harrison, Thomas B., *et al.* (*See* Fellows, Harrison & Dyer.)	
	Harrison, Thomas B., and John H. Morris. (*See* Morris & Harrison.)	
80, 069	Harrison, Thomas J., assignor to self and George Allin, New York, N. Y. Machine for bending pipe	July 21, 1868.
78, 664	Harrison, William N. and John J., Hornby, N. H. Corn planter	June 9, 1868.
80, 170	Harrison, William O., Crittenden, Vt. Harvester	July 21, 1868.
84, 115	Harrison, William S., Germantown, Tenn. Washing machine	Nov. 17, 1868.
75, 632	Harroun, Alexander, jr., South Onondaga, N. Y. Harness. (Antedated March 4, 1868)	Mar. 17, 1868.
	Harrow, Thomas A. (*See* Gibson, A. J., assignor.)	
	Harrow, Thomas A., and Benjamin F. Thurston. (*See* Gibson, A. J., assignor.)	
	Harry, John T., *et al.* (*See* Symons, Harry & Stephens.)	
74, 084	Harsen, William, Green Point, N. Y. Steam pump	Feb. 4, 1868.
73, 002	Harsha, James, Circleville, Ohio. Plow and harrow combined	Jan. 7, 1868.
84, 058	Harsha, Mortimer S., assignor to self and Edwin Meredeth, Batavia, Ill. Washing machine	Nov 17, 1868.
74, 351	Harsin, George, and T. M. Kirkpatrick, Kirkville, Iowa. Hand loom	Feb. 11, 1868.
82, 404	Harsin, George, and C. T. Sanders, Kirkville, Iowa. Machine for shearing sheep.	Sept. 22, 1868.
	Hart, Abraham, *et al.* (*See* Moxey, John G., assignor.)	
	Hart, Carmi, Bridgeport, Conn. Machine for cutting veneers (Extension)	Mar. 16, 1868.
77, 483	Hart, Edward H., New York, N. Y. Fur cuff	May 5, 1868.
85, 307	Hart, Francis P., assignor to self and Samuel Keneagy, Strasburg, Pa. Breaking the surge on harness or vehicles	Dec. 29, 1868.
75, 012	Hart, George, New Bedford, Mass. Traveler for furling sails	Mar. 3, 1868.
78, 203	Hart, George D., Muncie, Pa. Cultivator. (Antedated May 11, 1868)	May 26, 1868.
	Hart Grain Separator Company. (*See* McCulloch, Thomas H., assignor.)	
	Hart, H. C., and M. H. Foster. (*See* Foster & Hart.)	
	Same.....same.	
80, 620	Hart, Isaac C., Galesburg, Ill. Thill coupling	Aug. 4, 1868.
74, 352	Hart, Isaac W., and Omer Norton, New Britain, Conn. Carpet fastener	Feb. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Hart, Jeffery, *et al.* (*See* Monach, James, assignor.)	
	Same.....same.	
3,100	Hart, John, Lancaster, Pa. Bottle.....(Design)..	July 14, 1868.
84,488	Hart, Thomas M., New Bedford, Mass. Wooden washer for carriages. (Antedated Nov. 14, 1868)	Dec. 1, 1868.
78,204	Hart, William C., assignor to self and Charles S. Jones, Nantucket, Mass. Lounge	May 26, 1868.
	Hart, William H., and George S. Hurford. (*See* Adt, John, assignor.)	
76,186	Hart, William H., jr., Philadelphia, Pa. Mode of packing neck ties	Mar. 31, 1868
82,831	Harter, Elam, Dowagiac, Mich. Automatic grate	Oct. 6, 1868.
	Hartford Carpet Company. (*See* Malkin, Levi G., assignor.).....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Same.....(*See* Thompson, Henry G., assignor.).....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
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	Same.....same.....(Design.)	
73,528	Hartford, D. Frank, assignor to self and Edmund Tarbell, Boston, Mass. Pipe and rod cutter	Jan. 21, 1868.
	Hartley, Thomas, *et al.* (*See* Sweeney, Mathews & Hartley).....(Reissue.)	
75,013	Hartman, Andrew, Railroad gate	Mar. 3, 1868.
76,627	Hartman, Charles R., Vincennes, Ind. Subsoil plow	Apr. 14, 1868.
3,076	Same.....same.....(Reissue)..	Aug. 11, 1868.
	Hartmann, F., *et al.* (*See* Baierle, Hartmann & Reese.)	
81,631	Hartnett, John M., assignor to Robert L. Fabian, Waukegan, Ill. Corn husker	Sept. 1, 1868.
	Hartshorn, Charles E. (*See* Pine, Benj., assignor.)	
75,418	Hartshorn, Henry M., assignor to self and Daniel Febes, Malden, Mass. Lamp shade	Mar. 10, 1868.
2,955	Hartshorn, Sheldon S., assignor to the West Haven Buckle Company, West Haven, Conn. Buckle.....(Reissue)..	May 26, 1868.
	Hartshorn, Sheldon S., deceased, by Stephen E. Booth, administrator, Orange, Conn. Buckle.....(Extension)..	Nov. 5, 1868.
80,171	Hartsock, A. C., Douglas, Ill. Mill-stone dress	July 21, 1868.
	Hartsuff, J. H., and J. D. Bryson. (*See* Bryson & Hartsuff.)	
77,038	Hartupee, Andrew, Pittsburg, Pa. Grate bar	Apr. 21, 1868.
79,656	Hartwell, Edson, Hubbardston, Mass. Rocking chair	July 7, 1868.
74,219	Hartwig, Charles F., assignor to self and George R. Kelsey, New Haven, Conn. Hose coupling	Feb. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Harvey, Charles R., New York, N. Y. Air-heating furnace.....(Extension)..	Jan. 10, 1868.
73,003	Harvey, Charles T., Tarrytown, N. Y. Elevated railroad.....	Jan. 7, 1868.
79,753	Same.....same.....	July 7, 1868.
79,754	Same.....same.....	July 7, 1868.
79,755	Same.....Mode of propulsion and construction of elevated railroads.....	July 7, 1868.
79,756	Same.....Railroad car.....	July 7, 1868.
79,757	Same.....Car wheel.....	July 7, 1868.
74,189	Harvey, Edmund A., Wilmington, Del. Carriage shaft and pole coupling.....	Feb. 4, 1868.
	Harvey, Edward. (*See* Webster, John T., assignor.).....(Design.)	
78,283	Harvey, E. K., Quincy, Ohio. Revolving harrow and roller.....	May 26, 1868.
83,851	Same.....Corn harvester.....	Nov. 10, 1868.
75,159	Harvey, John, Scranton, Pa. Hat hook.....	Mar. 3, 1868.
	Harvey, L. D., and William Shea. (*See* Shea & Harvey.)	
74,353	Harvey, P. J., Chicago, Ill. Spring-bed bottom.....	Feb. 11, 1868.
74,220	Harvey, William, Albany, N. Y. Padlock. (Antedated Sept. 12, 1867).....	Feb. 11, 1868.
79,570	Harvey, William, Volga City, Iowa. Sulky cultivator.....	July 7, 1868.
82,943	Harvey, William T., jr., assignor to self and Peter Grimes, Philadelphia, Pa. Saw handle.....	Oct. 13, 1868.
	Harwood, George S., and George H. Quincy. (*See* Sampson, Thomas, assignor.)	
3,222	Harwood, Luther W., assignor to Fuller, Warren & Company, Troy, N. Y. Plate of a cook-stove.....(Design)..	Nov. 3, 1868.
75,264	Haseltine, John, assignor to self and Person Noyes, Warren, N. H. Composition for stuffing leather.....	Mar. 10, 1868.
77,979	Haseltine, John, assignor to Charles L. Wheeler, Methuen, Mass. Pad for horses' hoofs.....	May 19, 1868.
3,207	Hasenclever, Frederick A., New York, N. Y. Trade mark.....(Design)..	Sept. 22, 1868.
	Haserot, J., and John Maddin. (*See* Maddin & Haserot.)	
84,185	Haskell, E. P., assignor to the Hale Patent Washer Company, New Bedford, Mass. Axle box.....	Nov. 17, 1868.
79,974	Haskell, Jacob W., Boston, Mass. Tool holder.....	July 14, 1868.
82,310	Haskell, John W. C. and J. E., Chicago, Ill. Trunk caster. (Antedated Sept. 11, 1868).....	Sept. 22, 1868.
85,091	Haskin, Henry P., assignor to self and Joseph L. Brenton, Roscoe, Ill. Gate....	Dec. 22, 1868.
75,544	Haskin, Uri, jr., Pittsburg, Pa. Spiral gearing.....	Mar. 17, 1868.
75,545	Haskins, Franklin, Ware, Mass. Shuttle binder.....	Mar. 17, 1868.
3,100	Haskins, John, Boston, Mass. Rubber fabric.....(Reissue)..	Aug. 25, 1868.
82,944	Same.....Elastic goring for boots and shoes.....	Oct. 13, 1868.
78,964	Haskins, Joseph T., assignor to self and E. Rowe, Rockport, Mass. Warping chock.....	June 16, 1868.
	Haskins, J. W. (*See* Martin, George W. assignor.)	
	Same.....same.	
83,283	Haslam, Septimus, jr., assignor to self and John B. Talcott, New Britain, Conn. Machine for producing reciprocating motion in knitting machines, &c.....	July 28, 1868.
77,611	Haslam, Walter, New Britain, Conn. Seaming machine.....	May 5, 1868.
83,494	Hassam, John M., Mt. Vernon, Maine. Apple corer and quarterer.....	Oct. 27, 1868.
	Hastie, George, and Ferdinand Moore. (*See* Moore & Hastie.)	
73,096	Hastings, Charles, Dowagiac, Mich. Beehive.....	Jan. 7, 1868.
	Same.....(*See* Hoar, John S., assignor.)	
73,598	Hastings, George, jr., Wheeling, West Va. Rolling machine.....	Jan. 21, 1868.
	Hastings, Michael, and Ralph G. Packard. (*See* Packard & Hastings.)	
	Hastings, W. J., *et al.* (*See* Franklin, Hastings & Holford.)	
82,945	Haswell, A. J., Circleville, Ohio. Heating stove and fireplace. (Antedated Oct. 6, 1868).....	Oct. 13, 1868.
74,354	Hatch, Edward, Charlestown, Mass. Clasp for belts.....	Feb. 11, 1868.
74,355	Same.....Combined collar and bosom.....	Feb. 11, 1868.
82,115	Hatch, Frank, La Crosse, Wis. Window screen.....	Sept. 15, 1868.
78,802	Hatch, Isaac C., Camden, N. J. Brick-drying apparatus.....	June 9, 1868.
	Hatch, James, and Otis Adams. (*See* Adams & Hatch.)	
	Hatch, Jesse W., and Henry Churchill, Rochester, N. Y. Machine for cutting boot and shoe soles.....(Extension)..	Dec. 31, 1868.
80,172	Hatch, Moses M., Portland, Maine. Apple corer. (Antedated July 8, 1868).....	July 21, 1868.
85,092	Hatch, N. L., Cape Elizabeth, Maine. Hay loader.....	Dec. 22, 1868.
76,187	Hatch, Nehemiah L., assignor to self and J. W. Gavett, Cape Elizabeth, Maine. Meat chopper.....	Mar. 31, 1868.
85,093	Hatch, Nehemiah L., assignor to self and Charles Dyer, Cape Elizabeth, Maine. Carriage.....	Dec. 29, 1868.
83,629	Hatch, Warner, Plainfield, Ill. Furnace for heating soldering irons.....	Nov. 3, 1868.
73,004	Hatfield, T. J., Warsaw, Ind. Vegetable cutter.....	Jan. 7, 1868.
	Hathaway, A., *et al.* (*See* Blood, Hathaway & Beach.)	
	Same.....same.	
	Hathaway, Addison, and Jonas Kendall. (*See* Kendall & Hathaway.)	
	Same.....same.	
79,345	Hathaway, Alfred, Charlestown, Mass. Paper shears.....	June 30, 1868.
74,085	Hathaway, B. G. H., Rock Stream, N. Y. Harvester.....	Feb. 4, 1868.
74,685	Same.....same.....	Feb. 18, 1868.
83,630	Hathaway, Dexter, Wyoming, Wis. Grain separator.....	Nov. 3, 1868.
74,531	Hathaway, Jasper R., Westfield, N. Y. Burial case.....	Feb. 18, 1868.
83,495	Same.....Composition for manufacture of burial cases.....	Oct. 27, 1868.
81,632	Hathaway, Joseph, Woodstock, Vt. Water wheel.....	Sept. 1, 1868.
75,755	Hathaway, Richmond, Chicopee, Mass. Caster for sewing machines.....	Mar. 24, 1868.
78,523	Hathaway, Richmond, assignor to self and Levi O. Allen, Chicopee, Mass. Cloth and clothes pin.....	June 2, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Hathorn, George H., and James E. Nute. (*See* Nute & Hathorn.)	
80,731	Hattan, D., Zanesville, Ohio. Fireplace	Aug. 4, 1868
	Hatting, J. B., and H. McManus. (*See* McManus & Hatting.)	
73,804	Hatton, James, New York, N. Y. Metallic handle	Jan. 28, 1868
	Hauberger, Thomas E. (*See* Witsil, George L., assignor.)	
	Same.....same.	
73,005	Hauck, C. J., Williamsburg, N. Y. Flower stand	Jan. 7, 1868
2,862	Same.....Brooklyn, N. Y. Oil can.....(Design)	Jan. 28, 1868
75,903	Same.....Williamsburg, N. Y. Hinge for sheet-metal boxes	Mar. 24, 1868.
75,904	Same.....Oil can	Mar. 24, 1868.
	Haueisen, Engen, *et al.* (*See* Nulsen, Haueisen & Wagner.)	
84,116	Hauer, Henry, Philadelphia, Pa. Padding or stuffing for horses	Nov. 17, 1868.
81,165	Haugh, Benjamin F., Indianapolis, Ind. Bolt for prison doors	Aug. 18, 1868.
	Haughwout, E. V., & Company. (*See* McCleish, James, assignor.)	
79,117	Havanagh, Bernard, New York, N. Y. Wash-basin overflow and discharge pipe. (Antedated June 13, 1868)	June 23, 1868.
83,631	Havell, George, Newark, N. J. Skate	Nov. 3, 1868.
83,852	Havell, Henry, Newark, N. J. Machine for bending carpet-bag frames. (Antedated October 24, 1868)	Nov. 10, 1868.
79,346	Havely, Peter C., and William W. Coggshall, Rensselaerville, N. Y. Hammer	June 30, 1868.
	Havemeyer, Theodore A., *et al.* (*See* Kronig, Carl, assigner.)	
74,086	Haven, Asa S., Barre, Mass. Device for preventing cows and calves from sucking the teats, and for leading cattle	Feb. 4, 1868.
	Haven, James L., & Company. (*See* Darrow, George P., assignor.)	
	Haven, James L., and James L. Branson. (*See* Albertson & Byers, assignors.)	
73,890	Havens, Jesse, Auburn, N. Y. Wood-saw frame	Jan. 28, 1868.
77,879	Havens, Jesse, assignor to self and George Palmer, Auburn, N. Y. Stump extractor	May 12, 1868.
82,405	Haverly, James, and Charles A. Tibbitts, La Porte, Ind. Thill coupling	Sept. 22, 1868.
81,500	Haviland, Benjamin, Hudson, N. Y. Chuck	Aug. 25, 1868.
80,732	Hawes, C. M., New York, N. Y. Pattern for trimming hat brims	Aug. 4, 1868.
77,281	Hawes, J. H., Boston, and George H. Bliss, West Stockbridge, Mass. Machine for cleaning emery	Apr. 28, 1868.
77,282	Same.....Belt clasp. (Antedated April 25, 1868)	Apr. 28, 1868.
78,873	Hawes, J. H. G., Newark, N. J. Combined influx and vent valve	June 16, 1868.
76,077	Hawes, L. K., Whitewater, Wis. Bed bottom	Mar. 31, 1868
78,284	Hawkins, Frederick, Chicago, Ill. Concrete-brick machine	May 26, 1868.
80,733	Hawkins, George H., New York, N. Y. Machine for blocking and stretching hats	Aug. 4, 1868.
81,999	Same.....Construction of dolls' heads	Sept. 8, 1868.
	Hawkins, Horace B. (*See* Woodward, Davis B., assignor.)	
75,905	Hawkins, Horace R., Akron, Ohio. Horse rake	Mar. 24, 1868.
73,006	Hawkins, John E., Lansingburg, N. Y. Toy	Jan. 7, 1868.
74,221	Hawkins, Wetsel E., assignor to Simpson, Hall, Miller & Company, Wallingford, Conn. Butter dish	Feb. 11, 1868.
	Hawkins, William H. (*See* Whitworth, John, assignor).....(Reissue.)	
84,626	Hawks, Elizabeth, Vineland, N. J. Heating stove	Dec. 1, 1868.
81,366	Hawks, Francis H., St. Louis, Mo. Attaching soles to boots and shoes	Aug. 25, 1868.
78,874	Hawks, Thomas, Rochester, N. Y. Composition for the manufacture of beer, ale, porter, &c.	June 16, 1868.
78,875	Same.....Concentrated malt extract	June 16, 1868.
78,370	Hawksley, G. W., and Matthew Wild, England. Combination of a puddling furnace with a steam generator	May 26, 1868.
	Hawksworth, William, *et al.* (*See* Christoph, Hawksworth & Harding.)	
81,781	Hawley, B. R., Normal, Ill. Tubular air-heater	Sept. 1, 1868.
84,117	Same.....Drying kiln	Nov. 17, 1868.
75,160	Hawley, Lewis T., Salina, and Amos Westcott, Syracuse, N. Y. Device for cooling milk	Mar. 3, 1868.
	Hawley, Samuel R., *et al.* (*See* Stout & Richardson, assignors.)	
74,222	Hawley, William H., Utica, N. Y. Whiffletree hook	Feb. 11, 1868.
74,223	Same.....same	Feb. 11, 1868.
82,832	Same.....Grappling irons	Oct. 6, 1868.
	Haworth, J. R., and J. L. Wilson. (*See* Wilson & Haworth.)	
73,007	Hawthorne, Edward, Mountain View, Cal. Fire escape	Jan. 7, 1868.
84,489	Hawxhurst, George, Somersville, Cal. Mode of preventing corrosion in boiler tubes in sea-going vessels	Dec. 1, 1868.
	Hay, Alexander, administrator of Marie Amedee Charles Mellier, deceased. (*See* Mellier, Marie Amedee Charles).....(Extension.)	
82,946	Hay, Cyrus, Stoneham, Mass. Boot and shoe bottoming	Oct. 13, 1868.
76,442	Hayeock, B. A., Richland, Iowa. Lining of furnaces	Apr. 7, 1868.
75,419	Hayden, Charles, Collinsville, Conn. Subsoil attachment for plows	Mar. 10, 1868.
83,959	Same.....Nut cracker	Nov. 10, 1868.
84,186	Hayden, George H., New Market, Ala. Saddle	Nov. 17, 1868.
3,292	Hayden, Henry H., assignor to Holmes, Booth & Haydens, New York, N. Y. Fork or spoon handle.....(Design)	Dec. 15, 1868.
3,300	Same.....Handle of a fork or spoon.....(Design)	Dec. 29, 1868.
73,599	Hayden, Hiram W., Waterbury, Conn. Lamp	Jan. 21, 1868.
73,600	Same.....same	Jan. 21, 1868.
83,380	Hayden, Joel, jr., Haydensville, Mass. Chuck valve for steam and other enginery	Oct. 27, 1868.
73,972	Hayden, Martin, Detroit, Mich. Seeding cultivator	Feb. 4, 1868.
73,973	Same.....Seeding machine	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,901	Hayden, Peter, Pittsburg, Pa. Brick machine	Sept. 8, 1868.
81,367	Hayden, William B., Columbus, Ohio. Wire stretcher for fences	Aug. 25, 1868.
	Hayen, Jacob F. (*See* Ponton, John, assignor.)	
3,101	Hayes, Charles I., and Martin Newman, assignors to George and Charles Place, New York, N. Y. Circular-saw mill (Reissue)	Aug. 25, 1868.
79,347	Hayes, Daniel, Cambridge, Mass. Clasp hook	June 30, 1868.
74,821	Hayes, Daniel, and William Tree, San Francisco, Cal. Fire-escape ladder	Feb. 25, 1868.
	Hayes, Edward, *et al.* (*See* Lennox, Robbins & Hayes.)	
3,140	Hayes, George E., Buffalo, N. Y. Vulcanizing vessel (Reissue)	Sept. 29, 1868.
73,326	Hayes, George E., assignor to the Buffalo Dental Manufacturing Company, Buffalo, N. Y. Steam compressor for vulcanizing flasks	Jan. 14, 1868.
73,974	Same.....Dentists' flask	Feb. 4, 1868.
2,894	Hayes, Jabez W., Newark, N. J. Fruit box or basket (Reissue)	Mar. 10, 1868.
82,311	Hayes, John P., Philadelphia, Pa. Range. (Antedated Sept. 8, 1868)	Sept. 22, 1868.
80,173	Hayes, John W., assignor to self and Jacob G. Crockett, Kittery, Maine. Governor	July 21, 1868.
	Hayes, Nathaniel, and Washington Blythe. (*See* Blythe & Hayes.)	
84,693	Hayes, Virgil, Campbell G. Waldo, and Harlan A. Main, Tekonsha, Mich. Grain binder	Dec. 8, 1868.
78,084	Haynes, E. K., Hanover, N. H. Lamp shade	May 19, 1868.
	Haynes, Henry S. (*See* Ritchel, Charles F., assignor.)	
	Haynes, S. A., and George Wells. (*See* Wells & Haynes.)	
75,420	Haynie, G. W., Olney, Ill. Car coupling	Mar. 10, 1868.
78,665	Haynie, Jacob D., New Antioch, Ohio. Corn coverer	June 9, 1868.
78,666	Hays, Asahel, Guy's Mills, Pa. Seed planter	June 9, 1868.
78,736	Hays, Lydia, Ames, Iowa. Pad billet	June 9, 1868.
2,914	Hays, Margaret J., Allegheny City, Pa. Label (Design)	Feb. 4, 1868.
78,085	Haythorn, Frederick, Philadelphia, Pa. Spinning frame	May 19, 1868.
75,906	Haythorn, J., and J. Martin, Thompsonville, Conn. Carding machine	Mar. 24, 1868.
81,084	Haythorn, Joseph, and Charles E. Price, Thompsonville, Conn. Alarm for carding machine	Aug. 18, 1868.
82,312	Hayward, B. F., Nebraska City, Neb. Hen's nest	Sept. 22, 1868.
	Hayward, Daniel, deceased, by Caleb Swan, executor, Easton, Mass. Manufacture of India-rubber (Extension)	Aug. 28, 1868.
75,421	Hayward, D. E., Malden, Mass. Scrub brush	Mar. 10, 1868.
80,263	Hayward, Henry, New York, N. Y. Felted fabric	July 21, 1868.
79,904	Hayward, William, and John Lees, Danville, Pa. Fagot or pile for manufacturing railroad rails	July 14, 1868.
	Hazard, E. C. (*See* Crump, Samuel, assignor.)	
79,071	Head, Dexter, Medusa, N. Y. Hoisting apparatus	June 23, 1868.
83,496	Head, George B., Albany, N. Y. Artificial leg	Oct. 27, 1868.
77,283	Head, Smith, Halifax, Pa. Shingle machine	Apr. 28, 1868.
73,529	Headington, Nicholas, Cincinnati, Ohio. Railroad-rail fastening	Jan. 21, 1868.
73,097	Heafer, Napoleon B., Bloomington, Ill. Brick press	Jan. 7, 1868.
78,737	Heald, Chester, Marshalltown, Iowa. Sleigh	June 9, 1868.
81,166	Heald, J. A., Columbus, Miss. Combined fork, shovel, and hoe	Aug. 18, 1868.
79,758	Healey, Joseph, jr., Detroit, Mich. Stove-pipe damper	July 7, 1868.
	Hearn, Fleming G., and William Bisbee. (*See* Bisbee & Hearn.)	
	Heath, A. R., and A. Morehouse. (*See* Morehouse & Heath.)	
80,950	Heath, George W., Burlington, Pa. Horse hay fork	Aug. 11, 1868.
73,975	Heath, Henry, assignor to Henry G. Fish, Thomas R. Clark, and Thomas J. Flagg, New York, N. Y. Drawers	Feb. 4, 1868.
77,189	Heath, Henry, assignor to Fisk, Clark & Flagg, New York, N. Y. Cloth drawers	Apr. 28, 1868.
76,188	Heath, J. Wilson, Memphis, Tenn. Earth-boring auger	Mar. 31, 1868.
78,086	Heath, Watson A., Apalachia, N. Y. Horse hay rake	May 19, 1868.
73,008	Heath, William, Bath, Maine. Invalid bedstead	Jan. 7, 1868.
75,265	Same.....same	Mar. 10, 1868.
2,950	Same.....same (Reissue)	May 26, 1868.
74,686	Heatherington, Jacob, Bellair, Ohio. Extension coal chute	Feb. 18, 1868.
82,313	Heatley, John, Etna, Pa. Furnace for working iron	Sept. 22, 1868.
80,409	Heaton, Abram, assignor to self and Bradley & Goodsell, Bridgeport, Conn. Water meter	July 28, 1868.
75,266	Heaton, Edward, New Haven, Conn. Shank spring	Mar. 10, 1868.
2,935	Same.....Metallic shank for boots and shoes (Reissue)	May 19, 1868.
74,532	Heaton, John C., assignor to self and Nathaniel Earle, Fitchburg, Mich. Car coupling	Feb. 17, 1868.
83,960	Heator, Julius S., Ovid, Mich. Revolving table	Nov. 10, 1868.
73,327	Heavner, A. J., Time, Ill. Churn	Jan. 14, 1868.
3,053	Hebbard, Alonzo, assignor to Edward Corning, New York, N. Y. Spoon or fork handle (Design)	May 26, 1868.
	Hebbard, Ira. (*See* Rist, J. W., assignor.)	
	Same.....same.	
	Same.....same.	
	Same.....(*See* Sebring, Thompson C., assignor.)	
76,912	Heberling, John and William L., Mount Pleasant, Ohio. Root cutter	Apr. 21, 1868.
	Heck, John. (*See* Rowell, Warren, assignor.)	
79,224	Heckhart, George W., assignor to self and Christian Kramer, Columbiana, Ohio. Hames coupling	June 23, 1868.
81,902	Same.....Fifth-wheel bender	Sept. 8, 1868.
76,443	Heckel, Joseph, and Michael Eichinge, Decatur, Ill. Composition for covering wooden bridges, buildings, &c	Apr. 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Heeker, Israel. (*See* Smith, Wm. H., assignor.)	
	Heela Works Company. (*See* Seymour & Goodrich, assignors.)	
84,118	Hedden, D. B., Newark, N. J. Chair. (Antedated Nov. 5, 1868)	Nov. 17, 1868.
75,267	Hedenberg, John W., Chicago, Ill. Cotton-balo tie	Mar. 10, 1868.
77,484	Hedges, Isaac A., and Joseph M. Story, assignors to Lane & Bodley, Cincinnati, Ohio. Machine for sawing lath	May 5, 1868.
	Hedman, Frank M., and John Haigney. (*See* Haigney & Hedman.)	
	Hedrick, Henry, and Joseph M. Grove. (*See* Grove & Hedrick.)	
	Hedstrom, John M., and Albert I. Thunell. (*See* Thunell & Hedstrom.)	
79,469	Heermans, Theodore, Pleasant Hill, Mo. Coffee roaster	June 30, 1868.
73,891	Hefft, Christofer, Tazewell County, Ill. Cultivator	Jan. 28, 1868.
82,406	Heflin, Archabald T., Monmouth, Ill. Cultivator	Sept. 22, 1868.
80,951	Hegerman, G. E., Brooklyn, N. Y. Tin can	Aug. 11, 1868.
	Heigus, Levi. (*See* Sthore, Charles, assignor.)	
77,731	Heikes, David M., Franklin Township, Pa. Clover separator and huller	May 12, 1868.
78,087	Hein, G. A., Waterford, Pa. Water-spout fastening	May 19, 1868.
76,444	Heindl, J. J., New York, N. Y. Basket grate for furnaces	Apr. 7, 1868.
79,225	Heine, H., New York, N. Y. Steam generator	June 23, 1868.
78,971	Heine, Louis, Philadelphia, Pa. Steam bath. (Antedated June 13, 1868)	June 16, 1868.
	Heinemann, Jacob. (*See* Silbermann & Unger, assignors.)	
	Same.....samo.	
76,757	Heinemann, Theo. William, New York, N. Y. Mode of purifying, seasoning, and preserving wood	Apr. 14, 1868.
	Heinrich, Joseph, *et al.* (*See* Palmer, Charles H., assignor.)	
75,680	Heins, F. W., New York, N. Y. Washing machine	Mar. 17, 1868.
3,277	Heiser, Francis C., Brooklyn, E. D., N. Y. Snuff box (Design)	Dec. 8, 1868.
75,161	Heisler, Jonathan, Schuylkill Haven, Pa. Tonic or bitters	Mar. 3, 1868.
	Heitzman, J., and S. Scheiblein. (*See* Scheiblein & Heitzman.)	
82,947	Heliker, Martin, and O. A. White, assignors to selves and J. W. Bostwick, Norwalk, Ohio. Churn dasher	Oct. 13, 1868.
85,445	Heliker, M. R., Norwalk, Ohio. Churn dasher	Dec. 29, 1868.
73,601	Helm, Henry, Pittsburg, Pa. Washing machine	Jan. 21, 1868.
81,368	Helmer, James L., Rome, N. Y. Gate for water wheels	Aug. 25, 1868.
80,952	Helms, Charles H., Poughkeepsie, N. Y. Machine for scarifying leather	Aug. 11, 1868.
80,953	Same.....Heel trimmer	Aug. 11, 1868.
73,247	Helton, M. W., and J. H. Redfield, Bloomington, Ind. Automatic alarm for grist mills	Jan. 14, 1868.
84,824	Hemingway, H. N., Rochester, N. Y. Bed spring	Dec. 8, 1868.
73,182	Heminway, Samuel T., Saratoga Springs, N. Y. Burglar-alarm lock	Jan. 7, 1868.
78,205	Hemphill, James, Pittsburg, Pa. Steam-engine slide valve	May 26, 1868.
	Hemphill, James M. (*See* Colwell, W. S., assignor.)	
81,633	Hemstreet, P. P., assignor to self and David Gudtner, Galesburg, Ill. Fire heater	Sept. 1, 1868.
80,954	Henderson, E. C. and R. A., Albia, Iowa. Mill-stone machine	Aug. 11, 1868.
81,501	Henderson, Henry A., Avoca, N. Y. Gate	Aug. 25, 1868.
75,756	Henderson, Henry A., assignor to self and Charles M. Gray, Avoca, N. Y. Farm gate	Mar. 24, 1868.
75,546	Henderson, Isaac W., Leavenworth, Kan. Pen holder for ruling machine	Mar. 17, 1868.
78,088	Henderson, L., Manson, N. C. Cotton cultivator. (Antedated May 12, 1868)	May 19, 1868.
73,098	Henderson, L. F., Freeport, Ill. Portable fence	Jan. 7, 1868.
78,371	Henderson, Michael, Detroit, Mich. Car brake and starter	May 26, 1868.
80,070	Same.....Potato digger	July 21, 1868.
77,190	Henderson, Smith S., North Cohoeton, N. Y. Wagon brake	Apr. 28, 1868.
80,174	Henderson, William H., assignor to William H. Snider, West Point, Ill. Churn	July 21, 1868.
79,975	Hendrick, Charles E., Chicopee, Mass. Feather renovator	July 14, 1868.
81,369	Same.....same	Aug. 25, 1868.
	Hendrick, E. E., and Peter Dolan. (*See* Engelhardt, Johan, assignor.)	
73,602	Hendrick, H. H., Dayton, Ohio. Steam-engine globe valve	Jan. 21, 1868.
81,370	Hendricks, Joseph E., assignor to Brown & Brothers, Waterbury, Conn. Lamp	Aug. 25, 1868.
73,716	Hendricks, J. Moore, Philadelphia, Pa. Rice-hulling machine	Jan. 28, 1868.
	Same.....(*See* Climo, John C., assignor.)	
	Same.....same.	
	Hendricks, William C., *et al.* (*See* Connett, Matthew F., assignor.)	
84,945	Hendrickson, Benjamin, Huntington, N. Y. Gate latch	Dec. 15, 1868.
74,356	Hendry, Thomas C., Union Point, Ga. Combined square and gauge	Feb. 11, 1868.
83,156	Hendry, T. C., assignor to self and R. B. Smith, Union Point, Ga. Auger handle	Oct. 20, 1868.
78,089	Hendy, Joshua, San Francisco, Cal. Concentrator	May 19, 1868.
80,071	Heneage, Robert, assignor to self and Ira R. Amsden, Buffalo, N. Y. Insole for boots and shoes	July 21, 1868.
80,410	Heneage, Robert, assignor to Breed & Company, Buffalo, N. Y. Slate frame	July 28, 1868.
78,206	Heneage, Robert, and F. W. Breed, Buffalo, N. Y. Railroad-car ventilator	May 26, 1868.
	Heneage, R., and Henry Spendelow. (*See* Spendelow & Heneage.)	
73,183	Henfield, George H., San Francisco, Cal. Car-axle box	Jan. 7, 1868.
83,961	Same.....Journal box	Nov. 10, 1868.
	Henion, S. J. (*See* McDaniel, A., assignor.)	
74,357	Henkle, Curran W., Washington C. H., Ohio. Corn planter	Feb. 11, 1868.
78,285	Henley, Henry, Halbert's Bluff, Ind. Dryer	May 26, 1868.
78,738	Same.....New Garden, Ind. Press	June 9, 1868.
85,007	Henley, Henry, Shoals, and John J. Reinhart, Loogootee, Ind. Grain dryer	Dec. 15, 1868.
84,669	Henlon, Samuel Warren, Selma, Ala. Suspender. (Antedated June 1, 1868)	Dec. 1, 1868.
80,072	Hennasy, Michael, assignor to self and John Adams, Crawford, N. J. Claw bar	July 21, 1868.
73,328	Henning, Gottlieb, and Horman P. Willie, Buffalo, N. Y. Boot heel	Jan. 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
3,227	Henry, B. Tyler, assignor through mesne assignments to the Winchester Arms Company, New Haven, Conn. Magazine fire-arm.....(Reissue)..	Dec. 8, 1868.
84,187	Henry, Charles, Brooklyn, and John, Morrisania, and Edmund McLoughlin, New York, N. Y. Method of etching relief plates for surface printing.....	Nov. 17, 1868.
74,087	Henry, John S., and Abraham H. Reist, Manheim, Pa. Bolt and rivet cutter....	Feb. 4, 1868.
	Henry, Robert, *et al.* (*See* Allaire, Seaman, assignor.)	
73,603	Henry, Samuel B., Bridgeport, Conn. Articles made of molded wood.....	Jan. 21, 1868.
	Henshaw, Henry, *et al.* (*See* Folger & Henshaw.)	
2,867	Henshaw, J. R., assignor through mesne assignments to the Middletown Tool Company, Middletown, Conn. Self-mousing hook.....(Reissue)..	Feb. 11, 1868.
83,060	Henson, William S., New York, N. Y. Engine governor.....	Oct. 13, 1868.
	Henzel, Reichert, Wolff & Company. (*See* Valetton, Louis D., assignor.)	
82,314	Hepworth, S. S., Boston, Mass. Centrifugal machine.....	Sept. 22, 1868.
	Herbert, Alfred, and Charles E. Stone. (*See* Stone & Herbert.)	
83,381	Herbert, Henry, Jersey City, N. J. Buckle.....	Oct. 27, 1868.
81,782	Herbert, William H., Blissfield, Mich. Miter box.....	Sept. 1, 1868.
84,059	Herbig, Adam, assignor to self and Thomas Blackburn, Corry, Pa. Tuyere....	Nov. 17, 1868.
74,224	Hergesheimer, George, assignor to self and Cornelius V. Fort, Philadelphia, Pa. Brush bridle.....	Feb. 11, 1868.
	Herig, J., and James M. Johnson. (*See* Johnson & Herig.)	
77,039	Herman, J. Henry, Boston, Mass. Railroad rail.....	Apr. 21, 1868.
73,717	Hermance, Charles W., Saratoga, N. Y. Stone-drilling machine.....	Jan. 28, 1868.
84,188	Hermance, C. W., assignor to W. P. Ostrander, A. H. Pearsall, B. G. Shults, and A. L. Finne, Schuylerville, N. Y. Stone-drilling machine.....	Nov. 17, 1868.
76,189	Hermance, Levi, Hudson, N. Y. Stone-drilling machine.....	Mar. 31, 1868.
73,805	Herndon, John T., Bancroft, Mo. Cultivator.....	Jan. 28, 1868.
78,372	Herold, John, and Mercer Brown, Frederick, Md. Polish for leather.....	May 26, 1868.
77,816	Herr, August W., Chicago, Ill. Fire-proof safe.....	May 12, 1868.
	Herr, C. B., *et al.* (*See* Grebinger, Henry B., assignor.)	
	Herr, Christian G. (*See* Baker, Henry, assignor.)	
75,757	Herr, Levi, West Lampeter, Pa. Trace fastener.....	Mar. 24, 1868.
78,667	Herr, Rudolph, Brooklyn, N. Y. Heel for boots, &c.....	June 9, 1868.
82,715	Herrick, George W., assignor to self and H. H. Gibbs, Stuyvesant, N. Y. Device for casting lugs and dovetails.....	Oct. 6, 1868.
79,348	Herrick, Harvey, Dixon, Ill. Combined stove pipe, oven, and water heater	June 30, 1868.
80,073	Herrick, Hiram, Boston, Mass. Piano-forte.....	July 21, 1868.
76,915	Herrick, Isaiah, Merrimack, N. H. Mode of churning butter.....	Apr. 21, 1868.
77,485	Herrick, John I., Milwaukee, Wis. Street car. (Antedated April 23, 1868).....	May 5, 1868.
3,244	Herriet, Julius, assignor to David Wolfe Bruce, New York, N. Y. Ornamented printers' type.....(Design)..	Nov. 17, 1868.
3,245	Same.....Ornamented type for printers.....(Design)..	Nov. 17, 1868.
75,162	Herring, George W., Bangor, Maine. Cant hook.....	Mar. 3, 1868.
81,502	Herrington, A. E., and John D. Richards, Big Prairie Ronde, Michigan. Corn planter.....	Aug. 25, 1868.
	Herrington, Charles, *et al.* (*See* Wiggins, George, assignor.)	
	Herrington, E. S., and J. Ruhl. (*See* Ruhl & Herrington.)	
84,278	Herriott, T. M., and Samuel Myers, South Pittsburg, Pa. Balance slide valve..	Nov. 24, 1868.
	Herrmann, L., and Henry A. Rust. (*See* Rust & Herrmann.)	
	Herrosee, Charles T. (*See* Klee, Leopold, assignor.)	
82,833	Hersey, Charles H., Boston, Mass. Rotary pump.....	Oct. 6, 1868.
	Hersey, Thomas, *et al.* (*See* Ward, Moses N., assignor.)	
	Hershock, Jacob B., and Reuben Fink. (*See* Fink & Hershock.)	
	Herthel, George P., jr. (*See* Cook, Isaac, assignor.)	
79,905	Hertle, Emil T., and Richard Thompson, New York, N. Y. Machinery for making wire heddles.....	July 14, 1868.
76,628	Hervey, H. M., Madison, Ohio. Jack scale.....	Apr. 14, 1868.
73,806	Hervey, I. H. A., Cleveland, Ohio. Skating rink.....	Jan. 28, 1868.
75,268	Hess, Charles, Lyons, Iowa. Gang plow.....	Mar. 10, 1868.
78,286	Hess, Charles, assignor to Robert T. T. Spence, Lyons, Iowa. Churn. (Antedated May 14, 1868).....	May 26, 1868.
82,116	Hess, Daniel, Blandville, Ky. Brick machine.....	Sept. 15, 1868.
	Hess, J. F., & Brother. (*See* Best, M. L., assignor.)	
82,948	Hess, John I., Philadelphia, Pa. Hot-air furnace. (Antedated Sept. 26, 1868)..	Oct. 13, 1868.
	Hess, John M., *et al.* (*See* Springer, Joseph H., assignor.)	
	Hess, John R., *et al.* (*See* Swafford, Butler & Hess.)	
73,329	Hess, N. W., and J. H. Fry, Fort Wayne, Ind. Wagon jack.....	Jan. 14, 1868.
79,118	Hester, A. B., North Vernon, Ind. Sash balance.....	June 23, 1868.
80,734	Hester, Eben, Suffield, Conn. Belt punch.....	Aug. 4, 1868.
75,758	Hester, James, Knoxville, Ill. Mode of securing checks and drafts from fraud..	Mar. 24, 1868.
	Hetzell, J. G., and Hatfield Hopper. (*See* Hopper & Hetzell.)	
82,117	Heuermann, John, Davenport, Iowa. Coupling.....	Sept. 15, 1868.
85,094	Heupecke, William, Black Creek, Pa. Water wheel.....	Dec. 22, 1868.
80,735	Hewes, Omer, Kankakee City, Ill. Car coupling.....	Aug. 4, 1868.
75,907	Hewes, S. E., Albany, N. Y. Extension and step ladder.....	Mar. 24, 1868.
82,221	Same.....Step-ladder joint.....	Sept. 15, 1868.
81,167	Hewett, Henry W., New York, N. Y. Steam safety valve.....	Aug. 18, 1868.
73,184	Hewett, Clark R., Waupun, Wis. Straw cutter and corn sheller combined.....	Jan. 7, 1868.
	Hewett, R. L., *et al.* (*See* Barnard, Nye & Hewett.)	
75,759	Hewett, S. B., jr., Eagle Grove, Iowa. Wire-fence key.....	Mar. 24, 1868.
76,629	Hewett, William, Trenton, N. J. Swing carriage.....	Apr. 14, 1868.
77,374	Hewit, Silas, Seneca Falls Village, N. Y. Flour packer.....	Apr. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
83, 853	Hewit, Silas, Senoca Falls Village, N. Y. Churn. (Antedated Oct. 31, 1868)	Nov. 10, 1868.
84, 879	Hewitt, E. W., Pecatonica, Ill. Sulky harrow	Dec. 15, 1868.
77, 284	Hewitt, Frederic, Newark, N. J. Pulley	Apr. 28, 1868.
79, 571	Hewitt, John W., and George R. Lynch, Allegheny City, Pa. Furniture caster	July 7, 1868.
80, 544	Hewitt, William, England. Composition for preventing incrustation in steam boilers	Aug. 4, 1868.
78, 207	Hewson, Robert, San Francisco, Cal. Parlor skate	May 26, 1868.
78, 739	Heyen, D. H., New York, N. Y. Propeller	June 9, 1868.
74, 533	Heyer, W. D., New Orleans, La. Hemmer, marker, &c., for sewing machines. (Antedated Feb. 7, 1868)	Feb. 18, 1868.
	Heyl, F., and J. Kirchfeld. (*See* Kirchfeld & Heyl.)	
80, 074	Heyl, John A., assignor to self and John H. Wiggins, Boston, Mass. Horse-shoe	July 21, 1868.
81, 634	Heyl, John A., assignor to self, Joseph G. Loring, and John H. Wiggin, Boston, Mass. Railway switch	Sept. 1, 1868.
82, 949	Heylin, L. C., Philadelphia, Pa. Compartment cane	Oct. 13, 1868.
	Heywood Brothers & Company. (*See* Howe, Martin V. B., assignor.)	
74, 913	Heywood, Levi, Gardner, Mass. Rattan machine	Feb. 25, 1868.
79, 976	Same.....Machine for shaving rattan	July 14, 1868.
80, 627	Same.....Machine for bending wood	Aug. 4, 1868.
	Same.....(*See* Howe, Martin V. B., assignor.)	
2, 858	Heywood, Levi, assignor to Heywood Brothers & Company, Gardner, Mass. Chair.....(Design)	Jan. 14, 1868.
76, 446	Heywood, R. W., Baltimore, Md. Portable head rest for car seats	Apr. 7, 1868.
79, 759	Hibell, John, England. Annealing pots and saucers	July 7, 1868.
75, 547	Hickey, Patrick, assignor to self and Robert Porter, Philadelphia, Pa. Can for putting up alkalies	Mar. 17, 1868.
76, 190	Hickman, F. M., Rolling Prairie, Ind. Gate	Mar. 31, 1868.
75, 014	Hickman, G. G., Coatesville, Pa. Bottle	Mar. 3, 1868
73, 893	Hickman, G. G., assignor to self and George Windle, Coatesville, Pa. Shutter fastening	Jan. 28, 1868.
83, 962	Hickman, H. M., and B. G. Devoe, Vandalia, Ill. Harrow	Nov. 10, 1868.
75, 422	Hickok, D. K., Morrisville, Vt. Clothes pin	Mar. 10, 1868
75, 908	Same.....Carriage and sleigh top	Mar. 24, 1868.
82, 950	Same.....Potato washer. (Antedated Sept. 30, 1868)	Oct. 13, 1868.
76, 630	Hickok, S. S., Methuen, and D. B. Clement, Boston, Mass. Ball caster	Apr. 14, 1868.
82, 834	Hickok, W. O., Harrisburg, Pa. Paper-ruling machine	Oct. 6, 1868.
83, 963	Hickok, W. O., and George W. Reisinger, Harrisburg, Pa. Tool holder for lathes	Nov. 10, 1868.
	Hicks, Benjamin W. (*See* Lane, George, assignor.)	
77, 375	Hicks, David, and Sidney Doty, assignors to selves, Jerome B. Sweetland, Charles E. Adams, Samuel N. Bronson, and Alonzo Barbour, Pontiac, Mich. Rafter hook for hoisting apparatus	Apr. 28, 1868.
	Hicks, Edw. J., and Gurdon G. Wolfe. (*See* Colby & Scorer, assignors.) (Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Same.....(*See* Walker, Thomas, assignor).....(Design.)	
	Same.....(*See* Vedder, Nicholas S., assignor).....(Design.)	
	Same.....same.....(Design.)	
75, 548	Hicks, James N., Barry Center, N. Y. Horse rake	Mar. 17, 1868.
83, 497	Hicks, Philip, Chicago, Ill. Truck and wagon reach	Oct. 27, 1868.
74, 687	Hidden, John, Lawrence, Kansas. Wind wheel	Feb. 18, 1868.
77, 732	Hiemenz, Nicholas, Buffalo, N. Y. Beer cooler	May 12, 1868.
84, 060	Hietel, Julius, John Wenzel Hietel, and J. L. Geissler, Philadelphia, Pa. Watch escapement	Nov. 17, 1868.
	Higgins, Elias S. (*See* Weild, Wm., assignor.)	
80, 349	Higgins, J. D., Greenville, Conn. Hand punch	July 28, 1868.
	Higgins, Julius E. (*See* Merriam & Luce, assignors.)	
	Higgins, Oliver, and G. W. Gardner. (*See* Gardner & Higgins.)	
73, 718	Higgins, Orlando M., assignor to self and Freeman Higgins, Lowell, Mass. Stove-pipe coupling	Jan. 28, 1868.
83, 061	Higgins, Rozander S., Olney, Ill. Plow	Oct. 13, 1868.
77, 817	Higgins, S. R., Palmer, Mich. Hay raker and loader	May 12, 1868.
77, 880	Higgins, Walter, San Francisco, Cal. Carriage spring	May 12, 1868.
76, 447	Higgins, W. F., and Jerome Perry, Watsonville, Cal. Gang plow	Apr. 7, 1868.
	Higgins, William N., *et. al.* (*See* Cragne, Francis and George G., assignors.)	
80, 736	Higginson, George, Newark, N. J. Support for car-seat backs	Aug. 4, 1868.
83, 632	Hight, Orion R., Dowagiac, Mich. Window sash and frame	Nov. 3, 1868.
79, 226	Highton, William, assignor to Moses Pond & Company, Malden, Mass. Hot-air register	Juno 23, 1868.
79, 349	Highley, Charles, Port Byron, N. Y. Churn and ice-cream freezer	June 30, 1868.
80, 284	Hilbright, Frederick L., assignor to self and Charles E. Woodman, Newark, N. J. Cigar	July 28, 1868.
	Hildreth, Edwin A., and George E. Burt. (*See* Burt & Hildreth.)	
74, 225	Hildreth, Eugenius A., Wheeling, West Va. Composition of matter for forming ornaments, &c	Feb. 11, 1868.
74, 688	Hildreth, George W., Lockport, N. Y. School desk	Feb. 18, 1868.
76, 914	Hildreth, J. W., Boston, Mass. Leather-polishing machine	Apr. 21, 1868.
	Hildreth, Stanley B., and George E. Burt. (*See* Burt & Hildreth.)	
80, 175	Hiles, S. B., and J. B. Danner, Saltilloville, Ind. Straw cutter	July 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79, 227	Hill, A. L., Decatur, Ill. Fastening check hooks and terrets	June 23, 1868.
79, 977	Samo.....Breast strap	July 14, 1868.
83, 157	Samo.....Fastening for check hooks and terrets	Oct. 20, 1868.
	Hill, Alva T., and Jonathan Sprague. (*See* Sprague & Hill.)	
74, 757	Hill, A. V., Limestone, N. Y. Work trimmer for boots and shoes. (Antedated Feb. 12, 1868)	Feb. 25, 1868.
2, 836	Hill, B. B., Chicopee, Mass. Hand stamp.....(Reissue)	Jan. 14, 1868.
76, 631	Hill, Charles J., assignor to Joseph Shepherd Wyon and Alfred Benjamin Wyon, England. Machine for producing reduced copies of medals, &c. (Patented in England April 5, 1867)	Apr. 14, 1868.
84, 880	Hill, Collins F., Hamilton, Ohio. Spirit level. (Antedated Dec. 8, 1868)	Dec. 15, 1868.
82, 523	Hill, David R. P., Morgantown, West Va. Paint oil	Sept. 29, 1868.
	Hill, Edwin A. (*See* Cobb, John W., assignor.)	
	Hill, Edwin A., and John W. Cobb. (*See* Cobb & Hill.)	
83, 964	Hill, Francis H., Chicago, Ill. Coffin	Nov. 10, 1868.
83, 158	Hill, Frank A., Marysville, Cal. Seeding machine	Oct. 20, 1868.
82, 315	Hill, George P. B., Virginia City, Nev. Process of extracting precious metals from ores, &c.	Sept. 22, 1868.
3, 148	Hill, Joseph, Newark, N. J. Knife or fork handle.....(Design)	Aug. 4, 1868.
	Hill, Joseph Stacy, and James Willard Patterson. (*See* Patterson & Hill.)	
79, 119	Hill, Justin H., Clinton, Ill. Cultivator	June 23, 1868.
79, 120	Hill, J. H., and J. T. Hammond, Clinton, Ill. Corn planter	June 23, 1868.
81, 503	Hill, Lucian, assignor to Lawson Hill, North Brookfield, Mass. Crimping clamp.	Aug. 25, 1868.
	Hill, Lysander. (*See* Ellsworth, E. A., assignor.)	
73, 892	Hill, Lysander and Adolaido R., Alexandria, Va. Cradle	Jan. 28, 1868.
78, 287	Hill, Mario L., New York, N. Y. Shoe	May 26, 1868.
74, 088	Hill, Porter, Millport, N. Y. Churn	Feb. 4, 1868.
76, 632	Hill, S. B., assignor to self and Levi B. Tayler, Chicopee, Mass. Brace for bits	Apr. 14, 1868.
80, 545	Hill, S. B., assignor to self, Levi B. Taylor, and Charles B. Lang, Chicopee, Mass. Tassel fastener. (Antedated July 18, 1868)	Aug. 4, 1868.
73, 604	Hill, Thomas, New Centerville, Wis. Lathing machine	Jan. 21, 1868.
	Hill, Truman A., and Joseph H. Bodine, (*See* Bodine & Hill.)	
	Samo.....samo.	
83, 633	Hill, Thomas M., Richmond, Ind. Animal trap	Nov. 3, 1868.
79, 470	Hill, Warren, Springfield, Mass. Ticket punch	June 30, 1868.
80, 824	Hillabold, Martin, Syracuse, Ind. Saw mill. (Antedated Aug. 1, 1868)	Aug. 11, 1868.
2, 966	Hillebrand, Louis, Philadelphia, Pa. Key socket.....(Design)	Mar. 31, 1868.
	Hillebrand, Louis, and Sterling Bonsall. (*See* Bonsall & Hillebrand.)	
	Same.....same.	
79, 121	Hillis, W. D., Elgin, Ill. Fence	June 23, 1868.
	Hillman, William G. (*See* Ramsey, James S., assignor.)	
73, 807	Hills, Amariah M., Hockanum, Conn. Lawn mower	Jan. 28, 1868.
3, 030	Samo.....same.....(Reissue)	July 14, 1868.
	Hills, L. D. (*See* Smith, John C., assignor.)	
	Hill, Seth H., *et al.* (*See* Peck, Walter, assignor.)	
76, 915	Hilton, A. J. H., Boston, Mass. Fruit jar and clamp. (Antedated March 10, 1868)	Apr. 21, 1868.
81, 635	Hilton, J. W., and R. W. Green, Bradford, Pa. Axe	Sept. 1, 1868.
74, 822	Hilton, Richard H., assignor to Mitchell & Allen, Newbern, N. C. Machine for cleaning cotton	Feb. 25, 1868.
77, 881	Hilton, Robert V., John G. Webster, and Hiram E. Wheeler, Lowell, Mass. Chisel handle	May 12, 1868.
79, 350	Himes, Theodore, New Albany, Ind. Dress protector	June 30, 1868.
74, 358	Himmelberger, Tyson, Heidelberg Township, Pa. Horse rake	Feb. 11, 1868.
82, 620	Himmer, Jacob, Hartford, Conn. Tool for gas fitters	Sept. 29, 1868.
85, 095	Hinds, James, and James Gee, Conologue, Ill. Cultivator	Dec. 22, 1868
76, 448	Hinds, Justin, Salem, and G. H. Lodge, Swampscott, Mass. Steam-engine piston.	Apr. 7, 1868.
85, 308	Hinds, Russell P., Chicago, Ill. Paint composition	Dec. 29, 1868.
76, 449	Hinds, Warner, Worcester, Mass. Horseshoe	Apr. 7, 1868.
82, 080	Hinds, William H. H., Groton, Mass. Candlestick	Sept. 8, 1868.
79, 351	Hine, Miller J., Equality, Ill. Shingle machine	June 30, 1868.
78, 090	Hine, R. D., Matteawan, N. Y. Process of facing wool hat-bodies with fur	May 19, 1868.
80, 176	Hinkle, Philip, San Francisco, Cal. Bed bottom	July 21, 1868.
84, 119	Hinman, Clement F., Chicago, Ill. Composition roofing	Nov. 17, 1868.
74, 823	Hinman, J. W., Berlin, Wis. Harness-pad tree	Feb. 25, 1868.
81, 903	Hinsdale, C. C., Cleveland, Ohio. Manufacture of sheet and plate iron	Sept. 8, 1868.
76, 191	Hinternesch, H. D., Baltimore, Md. Saw mill	Mar. 31, 1868.
	Hinton, John, and George Mercer. (*See* Mercer & Hinton.)	
81, 636	Hinz, Henry P., Dunton, Ill. Potato digger	Sept. 1, 1868.
	Hipple, Frank K. (*See* Knorr, Jacob, assignor.)	
	Hirsh, Henry, and Seligman Oppenheimer. (*See* Ramuz, Ulysse Humbert, assignor.)	
84, 490	Hirst, John, assignor to self and Henry A. Dirkes, Jamaica, N. Y. Car brake. (Antedated Nov. 13, 1868)	Dec. 1, 1868.
75, 909	Hirst, Robert, Hudson, N. Y. Pen	Mar. 24, 1868.
80, 955	Hirzel, John George, Wilmington, Del. Meat chopper	Aug. 11, 1868.
79, 978	Hise, Henry, Chicago, Ill. Trace buckle	July 14, 1868.
73, 719	Hitchcock, Alonzo, New York, N. Y. Mode of producing a vibrating swell in organs	Jan. 28, 1868.
79, 572	Same.....Treadle for machinery	July 7, 1868.
76, 633	Hitchcock, Beecher, Waukegan, Ill. Bed bottom	Apr. 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,120	Hitchcock, Dwight, Syracuse, N. Y. Roofing compound	Nov. 17, 1868.
	Hitchcock, H. C. (*See* Mansfield, F. W., assignor.)	
73,009	Hitchcock, John G., New York, N. Y. Hay fork	Jan. 7, 1868.
	Hitchcock, J. G., and H. P. Wetmore. (*See* Wetmore & Hitchcock.)	
74,534	Hitchcock, M. T., Springfield, Mass. Car ventilator	Feb. 18, 1868.
80,411	Same.....same	July 28, 1868.
75,910	Hitchcock, Robert, Springfield, Mass. Car ventilator	Mar. 24, 1868.
74,359	Hitchcock, Robert, assignor to self, George C. Fisk, and Levi O. Hanson, Springfield, Mass. Link joint for ear seats	Feb. 11, 1868.
74,914	Hitchcock, Robert, and George A. Jones, New York, N. Y. Gearing for lamp trains	Feb. 25, 1868.
82,951	Hitchings, Benjamin, Lynn, Mass. Last	Oct. 13, 1868.
74,824	Hitchings, E. W., Pottsdam, N. Y. Grain regulator	Feb. 25, 1868.
82,316	Hiteshew, William H., Perrysburg, Ind. Hay raker and loader	Sept. 22, 1868.
74,689	Hitt, Edgar, Katonah, N. Y. Carriage	Feb. 18, 1868.
	Hittinger, Michael. (*See* Rawson, George W., assignor.)	
	Same.....same.	
82,835	Hixon, P. V., Tioga, Pa. Harrow teeth	Oct. 6, 1868.
76,916	Hoadley, Joseph M., Birmingham, Conn. Crochet needle. (Antedated April 8, 1868)	Apr. 21, 1868.
76,450	Hoadley, Robert, and Henry S. Shipman, Ansonia, Conn. Lamp burner	Apr. 7, 1868.
75,911	Hoagland, Christopher, Delavan, Wis. Cultivator	Mar. 24, 1868.
83,159	Hoagland, George H., Port Jervis, N. Y. Railroad axle. (Antedated Oct. 10, 1868)	Oct. 20, 1868.
2,967	Hoagland, Joseph C., Fort Wayne, Ind. Trade mark .....(Design)	Mar. 31, 1868.
75,633	Hoagland, Josiah Y., Auburn, N. Y. Machine for grinding harvester knives	Mar. 17, 1868.
76,758	Hoagland, Samuel M., assignor to self and Daniel Kostenbander, Catawissa, Pa. Horse hay fork	Apr. 14, 1868.
74,360	Hoar, John S., assignor to self, Nathaniel E. Cutler, and Charles Hastings, West Acton, Mass. Chuck for planing machine	Feb. 11, 1868.
3,095	Hoard, John W., assignor to Henry W. Holly, Brooklyn, N. Y. Marking slate. (Reissue)	Aug. 25, 1868.
82,836	Hobart, B. H., and D. C. Chapman, Troy, Pa. Fastening horse collars	Oct. 6, 1868.
80,628	Hobart, Joseph, Boston, Mass. Double volute spring	Aug. 4, 1868.
79,352	Hobbs, A. J., Van Wirt, Ga. Medical compound	June 30, 1868.
78,965	Hobbs, Augustus R., Elizabeth, N. J. Fanning attachment for rocking chairs	June 16, 1868.
76,452	Hobbs, Augustus R., and Nathaniel F. Wright, Elizabethport, N. J. Fanning chair	Apr. 7, 1868.
81,504	Hobbs, Lewis F., Quiney, Mass. Device for holding spools of thread	Aug. 25, 1868.
82,716	Hobbs, Micah, Natick, Mass. Sole-cutting machine	Oct. 6, 1868.
	Hobson, W. J., and A. M. Southard. (*See* Southard & Hobson.)	
79,122	Hochbrunn, C., New York, N. Y., Flower frame	June 23, 1868.
79,829	Hochstein, Anthony, Williamsville, N. Y. Harrow	July 14, 1868.
82,717	Hockmeyer, H., Toledo, Ohio. Butt hinge	Oct. 6, 1868.
82,001	Hoekert, S. L., assignor to G. W. Perrine, Milwaukee, Wis. Abdominal supporter	Sept. 8, 1868.
82,837	Hockett, Asa, and Albert C., Plainfield, Ind. Tile machine	Oct. 6, 1868.
76,759	Hoddick, Frederick, assignor to George A. Prince & Co., Buffalo, N. Y. Reed organ	Apr. 14, 1868.
81,783	Hodges, J. W., assignor to self and A. W. King, Plymouth, Ill. Device for binding loads of hay upon wagons	Sept. 1, 1868.
73,808	Hodges, Leonard L., Boston, Mass. Picture-frame supporter	Jan. 28, 1868.
3,164	Hodgkins, Thomas J., jr., Peekskill, N. Y. Base of a stove .....(Design)	Aug. 25, 1868.
	Hodgkins William, 3d. (*See* Niekerson, Charles N., assignor.)	
78,966	Hodgson, Isaac, Indianapolis, Ind. Construction of prisons	June 16, 1868.
	Hoe, R., & Co. (*See* McDonald, Wm., assignor).....(Reissue.)	
	Same.....(*See* Chase, Wm. P., assignor.)	
	Same.....(*See* De Puy, Alexander T., assignor).....(Reissue.)	
84,627	Hoe, Richard M., and Stephen D. Tucker, New York, N. Y. Printing press	Dec. 1, 1868.
81,273	Hoeft, Wilhelm, Fountain City, Wis. Washing machine	Aug. 18, 1868.
82,407	Hoeller, C., Cincinnati, Ohio. Stove-pipe elbow	Sept. 22, 1868.
82,118	Hoermann, Arnold, New York, N. Y. Screw-cutting die. (Antedated Sept. 4, 1868)	Sept. 15, 1868.
78,740	Hofer, John C., Bell Air, Ohio. Coopers' croze	June 9, 1868.
77,486	Hoffheins, Reuben, Dover, Pa. Reaping machine. (Antedated April 22, 1868)	May 5, 1868.
78,091	Hoffman, Austin D., assignor to self, H. M. Carpenter, G. F. Townsend, and Fred. Braeket, Minneapolis, Minn. Churn	May 19, 1868.
83,498	Hoffman, Austin D., assignor to self and Frank Brewster, Minneapolis, Minn. Till alarm	Oct. 27, 1868.
81,371	Hoffman, Charles F., New Orleans, La. Combined potato planter and cultivator	Aug. 25, 1868.
78,092	Hoffman, James, Belvidere, N. J. Gauge frame for slitting raw hides	May 19, 1868.
80,350	Same.....Tanners' hook	July 28, 1868.
79,760	Hoffman, Lewis G., Albany, N. Y. Parlor ice-creeper	July 7, 1868.
74,089	Hoffman, William J., assignor to George V. Hoffman, Croton Falls, N. Y. Water wheel	Feb. 4, 1868.
75,912	Hoffmann, F. E., Prussia. Apparatus for crushing and pulverizing stones and other hard substances	Mar. 24, 1868.
3,237	Hoffmann, Friedrich E., Prussia. Circular kiln .....(Reissue)	Dec. 22, 1868.
76,451	Hoffstaetter, Ernst, New York, N. Y. Machine for picking hair	Apr. 7, 1868.
	Hofheimer, Henry, and Baruh Ney. (*See* Ney & Hofheimer.)	
75,760	Hogan, Benjamin, Albany, N. Y. Hat conformator	Mar. 24, 1868.
83,710	Hogan, Patrick J., Cincinnati, Ohio. Attaching handles to picks	Nov. 3, 1868.
84,694	Hogeland, Israel, Indianapolis, Ind. Clothes rack	Dec. 8, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,121	Hogle, Sidney S., Berea, Ohio. Seeding machine and cultivator	Nov. 17, 1868.
75,269	Hoit, L. B., Cedar Falls, Iowa. Straw cutter	Mar. 10, 1868
77,376	Same.....Milking stool and pail holder	Apr. 28, 1868.
83,282	Hoke, Samuel, Mt. Pleasant, Md. Chimney	Oct. 20, 1868.
79,123	Holbrook, Amos, Lynn, Mass. Book binding	June 23, 1868.
81,904	Holbrook, Benjamin F., and Ebenezer B. Rumrill, Boston, Mass. Stove grate	Sept. 8, 1868.
75,015	Holbrook, Charles W., assignor to self, William Boardman, and Charles G. Bayler, New York, N. Y. Hydraulic press	Mar. 3, 1868.
	Holbrook, Frank F. (*See* Mathews, Elbridge G., assignor.)	
	Holbrook, Gilbert F., and Charles F. Carr. (*See* Carr & Holbrook.)	
77,044	Holcomb, Charles C., Madison, Wis. Gate and door latch	Apr. 21, 1868.
76,760	Holden, Cyrus B., Worcester, Mass. Horse rake	Apr. 14, 1868.
76,917	Holden, L. E., Cleveland, Ohio. Fruit can	Apr. 21, 1868.
76,325	Holden, Stephen B., assignor to self and William A. Newton, Sedalia, Mo. Car seat	Apr. 7, 1868.
	Holder, Daniel C. (*See* Taggart, John, assignor.)	
74,361	Holderman, Henry Abraham, North Manchester, Ind. Fruit mill and press	Feb. 11, 1868.
80,737	Holdmann, Wilhelm, New York, N. Y. Method of separating fibers from mulberry trees	Aug. 4, 1868.
84,548	Holdredge, C. H., Westerly, R. I. Box for carriage wheels	Dec. 1, 1868.
	Holdredge, Sidney L. (*See* Callender, Mills L., assignor.)	
	Holford, J. A., *et al.* (*See* Franklin, Hastings & Holford.)	
	Holland, Charles. (*See* Frear, George A., assignor.)	
80,077	Holland, Franklin G., Washington, D. C. Metallic paint. (Antedated July 8, 1868)	July 21, 1868.
73,010	Holland, James, Conshohocken, Pa. Boot	Jan. 7, 1868.
76,453	Holland, James, Brooklyn, N. Y. Skate	Apr. 7, 1868.
76,454	Holland, John H., Hancock, Mich. Pen	Apr. 7, 1868.
76,634	Holland, Lewis M., Galesburg, Ill. Cultivator	Apr. 14, 1868.
83,965	Holland, Timothy, New York, N. Y. Lubricator	Nov. 10, 1868.
78,594	Holland, Timothy, and John P. Cody, Cincinnati, Ohio. Lubricator	June 2, 1868.
	Hollenberger, S. S. (*See* Colbert, George H., assignor.)	
78,288	Holliday, Charles, England. Machinery for printing on fabrics	May 26, 1868.
77,980	Hollingsworth, James H., assignor to self, Albert Rementer, and W. C. Russell, Philadelphia, Pa. Refrigerator	May 19, 1868.
75,913	Hollingsworth, John W., and Horatio D. Weaver, Mt. Vernon, Ind. Ice crusher	Mar. 24, 1868.
84,744	Hollister, Josiah E., Calais, Vt. Elevator	Dec. 8, 1868.
79,124	Hollister, J. F., Plano, Ill. Globe joint	June 23, 1868.
73,330	Holly, Henry W., Norwich, Conn. Implement for drawing nails	Jan. 14, 1868.
73,331	Same.....Implement for dyers and bleachers	Jan. 14, 1868.
	Same.....(*See* Hoar, John W., assignor).....(Reissue.)	
	Holly, J. H., and J. H. McElroy. (*See* McElroy & Holly.)	
	Holman, Andrew J. (*See* Van Doren, Isaac, assignor).....(Reissue.)	
3,031	Holman, D. S., Conneautville, Pa. Seed planter.....(Reissue)	July 14, 1868.
75,016	Holman, George, Waterville, N. Y. Revolving fire-arm	Mar. 3, 1868.
73,185	Holmes, A. P., Great Falls, N. H. Bobbin	Jan. 7, 1868.
	Holmes, Booth & Haydens. (*See* Atwood, Lewis J., assignor.)	
	Same.....same.	
	Same.....same.	
	Same.....(*See* Hayden, Henry H., assignor).....(Design.)	
	Same.....same.....(Design.)	
80,179	Holmes, Charles E. L., Waterbury, Conn. Machine for drying and scouring sheet metal	July 21, 1868.
	Same.....(*See* Ingraham, John, assignor.)	
	Holmes, D. E., and William M. Russell. (*See* Russell & Holmes.)	
81,505	Holmes, Daniel M., Williamsburg, N. Y. Machine for making ginger snaps, &c.	Aug. 25, 1868.
80,481	Holmes, Edward and Britain, Buffalo, N. Y. Machine for crozing and howeling barrels	July 28, 1868.
80,482	Same.....Machine for leveling the staves in barrels	July 28, 1868.
80,483	Same.....Machine for jointing staves	July 28, 1868.
81,274	Same.....Power windlass for making casks	Aug. 18, 1868.
78,373	Holmes, Elijah, Lynn, Mass. Vegetable and fruit slicer	May 26, 1868.
	Holmes, Griggs & Smith. (*See* Griggs, Henry C., assignor.)	
84,881	Holmes, Isaac V., New York, N. Y. Metallic lath	Dec. 15, 1868.
82,718	Holmes, James, Belfast, Maine. Stave machine	Oct. 6, 1868.
76,192	Holmes, John, Johnson, Vt. Dumping wagon	Mar. 31, 1868.
74,535	Holmes, J. Burt, Cincinnati, Ohio. Canopy for tents and bed nettings	Feb. 18, 1868.
	Holmes, John B., New York, N. Y. Derrick.....(Extension)	Feb. 18, 1868.
75,914	Holmes, Lewis, Keene, N. H. Meat broiler	Mar. 24, 1868.
82,317	Holmes, Luther W., Grand Ledge, Mich. Arrangement of mechanism for operating punches	Sept. 22, 1868.
73,605	Holmes, Orsamus, New Lenox, Ill. Grain separator	Jan. 21, 1868.
76,326	Holmes, Robert, Detroit, Mich. Base-burning stove	Apr. 7, 1868.
76,761	Holmes, Robert, assignor to the Middletown Plate Company, Middletown, Conn. Ice pitcher	Apr. 14, 1868.
83,854	Holmes, Samuel, England. Vapor burner. (Patented in England March 23, 1868)	Nov. 10, 1868.
82,002	Holmes, William, Clarksville, N. Y. Horse hay rake	Sept. 8, 1868.
	Holmes, W. W., and H. E. Fowler. (*See* Fowler & Holmes.)	
78,524	Holms, Lawrence, Paterson, N. J. Filter	June 2, 1868.
77,285	Holske, William F., New York, N. Y. Tubular structure	Apr. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,524	Holt, Andrew J., Peru, Ind. Seed planter	Sept. 29, 1868.
83,160	Holt, John L., Providence, R. I. Toy	Oct. 20, 1868.
	Holt, M. L., *et al.* (*See* Abbott, Tuttle & Holt.)	
79,072	Holt, Sidney, Baraboo, Wis. Hop stripper	June 23, 1868.
81,275	Holt, S. A., and C. H. Williams, Hudson, Mass. Peg feed stop for pegging machines	Aug. 18, 1868.
81,637	Holt, S. R., Worthington, Ohio. Process of making vinegar	Sept. 1, 1868.
80,956	Holt, Thomas, Austria. Steam generator. (Patented in England June 10, 1867)	Aug. 11, 1868.
78,741	Holton, Francis H., Brooklyn, N. Y. Nursing nipple	June 9, 1868.
82,003	Holton, George, Chicago, Ill. Smoke stack	Sept. 8, 1868.
83,499	Holtzscheiter, Leonard, assignor to A. B. Shipley, Philadelphia, Pa. Box opener	Oct. 27, 1868.
77,733	Holzer, Edward R., Philadelphia, Pa. Scaffold	May 12, 1868.
81,905	Holzhauser, William, Buffalo, N. Y. Ventilator	Sept. 8, 1868.
	Homan, George W. (*See* Gates, William, assignor.)	
	Home Manufacturing Company. (*See* Covel, E. Hall, assignor.)	
	Homesley, A. R., *et al.* (*See* Williams, E. P., assignor.)	
73,362	Honeywell, Isaiah, Toledo, Iowa. Beehive	Feb. 11, 1868.
	Hood, C., and L. Muller. (*See* Muller & Hood.)	
77,041	Hood, George G., and John D. Kelly, Providence, R. I. Washing machine	Apr. 21, 1868.
78,967	Hood, Joel S. and J. H., Washington, D. C. Perpetual register. (Antedated June 6, 1868)	June 16, 1868.
75,634	Hood, John H., Danville, N. Y. Composition for roofing	Mar. 17, 1868.
	Hook, Albert H., *et al.* (*See* Griswold, Pelisse & Hook.)	
75,915	Hook, Gilman, West Harwich, Mass. Marine paint	Mar. 24, 1868.
82,952	Hooker, Horace B., Rochester, N. Y. Skate. (Antedated Oct. 6, 1868)	Oct. 13, 1868.
82,953	Same.....same. (Antedated Sept. 28, 1868)	Oct. 13, 1868.
78,452	Hooker, William C., Abington, Ill. Gate	June 2, 1868.
80,738	Hooker, William D., San Francisco, Cal. Valve for steam engines	Aug. 4, 1868.
81,168	Same.....Direct-acting engine	Aug. 18, 1868.
83,382	Hoop, P., jr., and R., Berlin Cross Roads, Ohio. Hot blast apparatus for puddling and other furnaces	Oct. 27, 1868.
76,762	Hooper, Benjamin F., Newark, N. J. Coach pad	Apr. 14, 1868.
78,093	Hooper, Henry O., Diamond Springs, Cal. Machine for polishing wood	May 19, 1868.
80,863	Hooper, James E., Woodberry, Md., and Benjamin Arnold, East Greenwich, R. I. Spinning machine	Aug. 11, 1868.
79,830	Hooper, R. H., West Roxbury, Mass. Working the pedals of piano-fortes, &c	July 14, 1868.
75,163	Hooton, J. S., New Carlisle, Ind. Apparatus for heating and purifying feed-water for steam generators	Mar. 3, 1868.
79,471	Same.....Beehive	June 30, 1868.
75,423	Hoover, George, Richmond, Ind. Trammel for steel rails	Mar. 10, 1868.
75,916	Hoover, Henry C., Green Castle, Pa. Carriage-bow setter	Mar. 24, 1868.
84,825	Hoover, James, assignor to self and James Sayler, Gratis, Ohio. Fly trap	Dec. 8, 1868.
75,270	Hoover, Winfield H., North Benton, Ohio. Car coupling	Mar. 10, 1868.
84,946	Hoover, W. Upton, Daysville, Ky. Plow	Dec. 15, 1868.
81,276	Hope, Erwin T., Philadelphia, Pa. Elevator	Aug. 18, 1868.
	Hopewell, John C. (*See* Ryner, Wm., assignor).....(Reissue.)	
83,161	Hopkins, B. A., Sodus, N. Y. Feed-water heater for steam boilers	Oct. 20, 1868.
78,803	Hopkins, C., Philadelphia, Pa. Tool for rejeweling watches	June 9, 1868.
82,222	Hopkins, George M., Albion, N. Y. Low-water indicator	Sept. 15, 1868.
76,635	Hopkins, Henry S., Boston, Mass. Pump piston	Apr. 7, 1868.
	Hopkins, James M., *et al.* (*See* Fithian, Lemuel S., assignor.)	
	Same.....same.	
77,612	Hopkins, Samuel B., and Edward H. Anderson, assignors to selves and J. M. Satterfield, Easton, Md. Vapor burner	May 5, 1868.
	Hopkins, Samuel C. (*See* Foss, George F., assignor.)	
81,372	Hopkins, Samuel P., Port Deposit, Maryland. Churn dasher and lid	Aug. 25, 1868.
83,634	Hopper, Hatfield, and J. G. Hetzell, Newark, N. J. Slate cutter	Nov. 3, 1868.
73,332	Hopper, Thomas C., Philadelphia, Pa. Dry gas meter	Jan. 14, 1868.
82,408	Hopson, A. S., Plainview, Minn. Clothes dryer	Sept. 22, 1868.
76,078	Hopson, Albert S., assignor to self and S. C. Harlan, Plainview, Minn. Horse-shoe	Mar. 31, 1868.
	Hopson, W. L., *et al.* (*See* Williams, E. P., assignor.)	
	Hormann, F., and F. Rohrbacher. (*See* Rohrbacher & Hormann.)	
80,739	Horn, Alfred, Silver City, Nev. Amalgamator	Aug. 4, 1868.
77,613	Horn, Benjamin, Sergeantsville, N. J. Mileage register	May 5, 1868.
82,223	Horn, Charles L., jr., and Leonard Mancy, assignors to Leonard Mancy, St. Morgan, Ill. Gang plow	Sept. 15, 1868.
	Horn, E. P., and A. J. Carver. (*See* Carver & Horn.)	
78,094	Horn, Isaac A., Cincinnati, Ohio. Plate for artificial teeth	May 19, 1868.
75,424	Horne, W. L., Batavia, Ill. Steam water elevator	Mar. 10, 1868.
83,855	Horner, Edwin J., Wilmington, Del. Car spring	Nov. 10, 1868.
	Horner, George W. (*See* Poindexter, Benj. P., assignor.)	
81,085	Horner, Samuel E., Shiloh, N. J. Thill coupling	Aug. 18, 1868.
73,446	Horner, W. T., Buffalo, N. Y. Well tube	Jan. 21, 1868.
83,162	Horning, Frank M., East Pike, N. Y. Steam generator	Oct. 20, 1868.
	Horr, John F. (*See* Julien, John, assignor.)	
84,279	Horrobin, William T., Bennington, Vt. Molding machinery	Nov. 24, 1868.
80,180	Horrocks, William, Poughkeepsie, N. Y. Mode of attaching carriage tops	July 21, 1868.
75,271	Horsford, E. N., Cambridge, Mass. Preparation of acid phosphate of lime	Mar. 10, 1868.
75,272	Same.....Manufacture of acid phosphates to be used in food	Mar. 10, 1868.
76,763	Same.....Method of preparing acid phosphate of lime	Apr. 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
2,979	Horsford, E. N., assignor through mesne assignments to the Rumford Chemical Works, Providence, R. I. Pulverulent acid for use in the preparation of soda powders, farinaceous food, and for other purposes.....(Reissue)..	June 9, 1868.
	Horsford, E. N., and George F. Wilson. (*See* Wilson & Horsford.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
79,831	Horst, Jacob W., Annville, Pa. Manure fork.....	July 14, 1868.
73,248	Horton, B. F., Ithaca, N. Y. Horse rake.....	Jan. 14, 1868.
76,193	Horton, Calvin, Somerville, Mass. Trunk.....	Mar. 31, 1868.
81,086	Horton, Chase B., Sand Bank, N. Y. Flour bolt.....	Aug. 18, 1868.
74,363	Horton, Elijah, Okee, Wis. Wagon spring.....	Feb. 11, 1868.
	Horton, E. D., *et al.* (*See* Hurd, P. H., assignor.)	
73,099	Horton, Jacob C., New York, and James Milligan, Brooklyn, N. Y. Spirit meter for distilleries.....	Jan. 7, 1868.
80,957	Horton, J. G. C., Gillespie, Ill. Water elevator.....	Aug. 11, 1868.
75,017	Horton, Lewis, and Josiah A. McGaw, Manchester, N. H. Trunk easter.....	Mar. 3, 1868.
74,536	Horton, Marcus L., Worcester, Mass. Furnace.....	Feb. 18, 1868.
	Horton, S. E. (*See* Emmett, Wm., assignor.)	
78,095	Horton, Van Rensselaer W., Palmyra, N. Y. Farm gate.....	May 19, 1868.
77,614	Horton, William H., Providence, R. I. Lamp burner.....	May 5, 1868.
74,537	Horton, William H., assignor to self and Nathan P. Brown, Chelsea, Mass. Lamp shade. (Antedated Dec. 27, 1867).....	Feb. 18, 1868.
77,377	Horton, W. W., Katonah, N. Y. Rack for hats and dishes.....	Apr. 28, 1868.
76,455	Hosford, Elihu, Chicago, Ill. Coal stove.....	Apr. 7, 1868.
80,484	Same.....Range.....	July 28, 1868.
3,101	Hoskin, Robert, assignor to Edward C. Sampson, Brooklyn, N. Y. Floor oil-cloth pattern.....(Design)..	July 14, 1868.
77,815	Hoskins, Joseph S., Spring Hill, Mo. Hemp-breaking machine.....	May 12, 1868.
82,838	Hosmer, Alfred, Watertown, Mass. Stall for horses.....	Oct. 6, 1868.
84,190	Hosmer, Silas, Concord, Mass. Tanning apparatus.....	Nov. 17, 1868.
85,096	Hotchkiss, A. A., Hannibal, Mo. Fastening for wagon bodies.....	Dec. 22, 1868.
73,447	Hotchkiss, B. B., New York, N. Y. Rifling ordnance.....	Jan. 21, 1868.
78,595	Hotchkiss, H. L., assignor to L. Candee & Company, New Haven, Conn. Overshoe.....	June 2, 1868.
79,906	Hotchkiss, Leander, assignor to Elisha Turner, Torrington, Conn. Fruit picker.	July 14, 1868.
84,549	Hotchkiss, Ophelia C., Cortlandville, N. Y. Ironing table.....	Dec. 1, 1868.
81,169	Hotz, N., Green Point, N. Y. Coffee pot. (Antedated Aug. 5, 1868).....	Aug. 18, 1868.
82,318	Hotz, Nicholas, Green Point, N. Y. Still.....	Sept. 22, 1868.
77,191	Houck, Charles S., Green Point, N. Y. Capstan for hoisting machines.....	Apr. 28, 1868.
85,446	Houck, J. O., Iowa City, Iowa. Device for supporting wagon tongues.....	Dec. 29, 1868.
	Hough, David L. (*See* Burnham, John, assignor.)	
78,968	Houghtaling, Ambrose L., assignor to George W. Philip, Philmont, N. Y. Drawing and twisting head for spinning.....	June 16, 1868.
76,456	Houghtling, Ira, Houghton, Mich. Horse collar.....	Apr. 7, 1868.
	Houghton, Abner S., and Courtland B. Wilson. (*See* Wilson & Houghton.)	
79,228	Houghton, Alfred, Seville, Ohio. Horse hay fork.....	June 23, 1868.
	Houghton, Charles, *et al.* (*See* Palmer, Charles W., assignor.)	
84,550	Houghton, J. S., Philadelphia, Pa. Compound for coating the outside walls of buildings.....	Dec. 1, 1868.
83,163	Houghton, J. S., and Charles B. Rees, Philadelphia, Pa. Ventilating fruit houses.	Oct. 20, 1868.
85,383	House, James, Turin, N. Y. Seed sower.....	Dec. 29, 1868.
76,764	House, Mark W., Cleveland, Ohio. Lamp.....	Apr. 14, 1868.
77,882	House, Royal E., Binghamton, N. Y. Electro-phonetic telegraph.....	May 12, 1868.
74,364	Housman, Michael and Simeon, Huntington, Ind. Corn sheller.....	Feb. 11, 1868.
75,681	Houston, William H., New York, N. Y. Machine for setting and distributing type.....	Mar. 17, 1868.
	Houts, Christopher M., *et al.* (*See* Cox, Needham, assignor.)	
	Hover, H. F. (*See* Everitt, Elisha E., assignor.)	
83,062	Hover, Lewis, Chicago, Ill. Iron door.....	Oct. 13, 1868.
80,485	Hovey, Samuel D., Brooklyn, N. Y. Rubber head for pencils.....	July 28, 1868.
77,981	Hovey, William H., Holly, Mich. Mode of seenring tires to wheels.....	May 19, 1868.
81,506	Hovey, William H., Springfield, Mass. Brick machine.....	Aug. 25, 1868.
74,457	How, Thomas P., Brooklyn, N. Y. Copying press.....	Apr. 7, 1868.
77,378	How, W. Storer, Cincinnati, Ohio. Vial. (Antedated April 22, 1868).....	Apr. 28, 1868.
79,832	Howard, Adolphus, Wellsville, N. Y., and G. F., Chicago, Ill., assignors to George F. Howard. Machine for washing leather.....	July 14, 1868.
76,079	Howard, Alonzo J. F., Milford, Mass. Boot crimper.....	Mar. 31, 1868.
81,087	Howard, A. J. F., assignor to self and E. Mann, Milford, Mass. Boot crimper..	Aug. 18, 1868.
	Howard, A. J. F., and Eldridge Mann. (*See* Mann & Howard.)	
83,063	Howard, C. A., Pontiac, Mich. Horse hay fork.....	Oct. 13, 1868.
78,804	Howard, Cornelius A., assignor to self and Richard McCloy, New Haven, Conn. Compression cock.....	June 9, 1868.
78,453	Howard, C. H., assignor through mesne assignments to self and Horace N. Jordan, Lewiston, Maine. Warping frame.....	June 2, 1868.
74,090	Howard, Edward, Boston, Mass. Stem winding watch.....	Feb. 4, 1868.
75,018	Same.....Dust ring for watches.....	Mar. 3, 1868.
77,487	Howard, Francis M., and Daniel W. Avery, St. Paul, Ind. Ditching and grading machine.....	May 5, 1868.
81,373	Howard, Frank A., Belfast, Maine. Machine for mitering.....	Aug. 25, 1868.
	Same.....(*See* Allard, Isaac, assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,170	Howard, George C., Philadelphia, Pa. Machine for finishing cloth	Aug. 18, 1868.
78,454	Howard, Henry, Springfield, Mass. Valve gear for steam heating apparatus	June 2, 1868.
81,638	Howard, James, and Edward T. Bousfield, England. Steam generator	Sept. 1, 1868.
80,181	Howard, Samuel, Great Britain. Machine for pressing hats	July 21, 1868.
77,734	Howard, William, Watertown, N. Y. Cheese vat	May 12, 1868.
	Howard, William B. (*See* Thompson, James K., assignor.)	
	Same.....same.	
75,019	Howard, William O., New York, N. Y. Shot cartridge. (Antedated Feb. 22, 1869)	Mar. 3, 1868.
73,333	Howarth, John, Salem, Mass. Cupola furnace	Jan. 14, 1868.
	Howe, Dexter. (*See* Witt, Daniel, assignor.)	
83,966	Howe, D. D., Beaver Dam, Wis. Railway-car coupling	Nov. 10, 1868.
77,488	Howe, Frank E., New York, N. Y., and Lindsey I., Boston, Mass. Combined coal hopper and platform scale	May 5, 1868.
80,351	Howe, Henry, Oneonta, N. Y. Bolt cutter	July 28, 1868.
83,164	Same.....Harvester	Oct. 20, 1868.
80,486	Howe, Henry R., Hartwick, N. Y. Car coupling	July 28, 1868.
77,489	Howe, Jarvis, Milford, Mass. Boot form	May. 5, 1868.
81,088	Howe, John C., assignor to self and Thomas Gates, Worcester, Mass. Meat cutter	Aug. 18, 1868.
	Howe, John N., *et al.* (*See* Griffin, Heber C., assignor.)	
82,839	Howe, Joseph, Mt. Pleasant, Iowa. Brace for carriages	Oct. 6, 1868.
74,690	Howe, Luther, Alamo, Mich. Fence for collecting rain water for stock	Feb. 18, 1868.
	Howe Manufacturing Company. (*See* Piper, Truman, assignor.)	
	Same.....(*See* Piper & Bradley, assignors.)	
73,720	Howe, Martin V. B., assignor to self and Levi Heywood, Gardner, Mass. Wood-bending machine	Jan. 28, 1868.
73,721	Howe, Martin V. B., assignor to Heywood Brothers & Company, Gardner, Mass. Tilting-chair seat	Jan. 28, 1868.
76,458	Howe, Orrin P., Augusta, Maine. Photographic transfer	Apr. 7, 1868.
82,409	Howe, Oziel A., Jersey City, N. J. Machine for making horseshoes	Sept. 22, 1868.
	Howe Scale Company. (*See* Reynolds, Wm. W., assignor.)	
	Howe, T. J., and M. F. Lowth. (*See* Lowth & Howe.)	
	Same.....same.	
85,384	Howell, Charles P., Covington, Ky. Hoe	Dec. 29, 1868.
79,761	Howell, David B., New York, N. Y. Hanging swords	July 9, 1868.
75,682	Howell, Edward, assignor to self and P. C. Ford, Ashtabula, Ohio. Thill strap	Mar. 17, 1868.
3,074	Howell, F. A., New York, N. Y. Show-case frame.....(Design)	June 30, 1868.
76,194	Howell, George, Philadelphia, Pa. Mode of filling marshes	Mar. 31, 1868.
82,224	Howell, George, and William Smith, assignors to George Howell, Philadelphia, Pa. Device for filling marshes	Sept. 15, 1868.
83,967	Howell, Levi T., assignor to self, William Sharp, and Smith Fisher, Camden, N. J. Retaining device for doors	Nov. 10, 1868.
77,615	Howell, Theodore, and Charles P. Oliver, Newark, N. J. Frame for stretching hides and leather	May 5, 1868.
84,428	Howell, William, and N. W. Browning, Webster City, Iowa. Compound for hardening and uniting iron and steel in the manufacture of plows, &c	Nov. 24, 1868.
	Howell, Wm., *et al.* (*See* Finn, James C., assignor.)	
82,119	Howell, William, James C. Finn, and C. A. Duy, Philadelphia, Pa. Floor covering	Sept. 15, 1868.
	Howell, W. H. (*See* Rich, Otis N., assignor.)	
73,606	Howell, W. T., Alfred, N. Y. Plow	Jan. 21, 1868.
74,538	Howenstine, David J., assignor to self and Paterson V. Wilkins, Marshallville, Ohio. Horse hay fork	Feb. 18, 1868.
	Howes, A. D., and Albert Moore. (*See* Moore & Howes.)	
	Howes, Amaziah T. (*See* Blake, John W., assignor.)	
85,228	Howes, Frederic, Boston, Mass. Anchor	Dec. 22, 1868.
	Howitt, William, and William Simpson. (*See* Simpson & Howitt.)	
83,165	Howland, Amasa, Sandy Hill, N. Y. Vat for cylinder paper machines	Oct. 20, 1868.
	Howland, A. B., and A. K. Murray. (*See* Murray & Howland.)	
76,918	Howland, George B., Gardner, Ill. Gate latch	Apr. 21, 1868.
83,064	Howlett, Francis, West Rupert, Vt., and Charles R. Sherman, Salem, N. Y. Gearing for grindstones	Oct. 13, 1868.
77,616	Hoxie, Horace S. Adrian, Mich. Plow coulter	May 5, 1868.
74,758	Hoxsie, David H., Providence, R. I. Implement for making eyelets	Feb. 25, 1868.
	Hoy, H. C., *et al.* (*See* Slagle, Miller, & Hoy.)	
79,353	Hoyt, Alfred, New York, N. Y. Match safe	June 30, 1868.
78,455	Hoyt, Asa, Chicago, Ill. Pavement for streets and walks	June 2, 1868.
83,065	Hoyt, Charles W., South Norwalk, Conn. Pump	Oct. 13, 1868.
80,178	Hoyt, Franklin, and Aaron Denio, Montpelier, Vt. Water wheel	July 21, 1868.
74,091	Hoyt, F. A., Hanover, Wis. Flour safe and sifter	Feb. 4, 1868.
	Hoyt, George A. (*See* McGregor, F. B., assignor.)	
82,225	Hoyt, John, Hughsonville, N. Y. Water wheel	Sept. 15, 1868.
73,809	Hoyt, S. Grant, New York, N. Y. Ice pick	Jan. 28, 1868.
79,833	Hoyt, William H., assignor to self and Nathan Seeley, Bethel, Conn. Machine for sizing hat bodies	July 14, 1868.
	Hubbard, Benjamin R., and William S. Gatlin. (*See* Gatlin & Hubbard.)	
3,075	Hubbard, Calvin L., assignor to the New Haven Steam Heating Company, New Haven, Conn. Screen.....(Design)	June 30, 1868.
79,979	Hubbard, C. W., Pittsburg, Pa. Saw handle	July 14, 1868.
79,980	Same.....Machine for grinding saws	July 14, 1868.
82,621	Hubbard, George W., Lowville, N. Y. Hammer	Sept. 29, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,100	Hubbard, George W., assignor to Cresson & Smith, Philadelphia, Pa. Shaft coupling	Jan. 7, 1868.
75,275	Hubbard, George W., and Scott A. Smith, assignors to Cresson & Smith, Philadelphia, Pa. Grinding mill	Mar. 10, 1868.
80,546	Hubbard, George W., and Scott A. Smith, Philadelphia, Pa. Hanger for shafting.	Aug. 4, 1868.
83,635	Hubbard, H. J., Chicopee, Mass. Bobbin	Nov. 3, 1868.
	Hubbard, Joseph, and George H. Fox. (*See* Fox & Hubbard.)	
76,459	Hubbard, L. D., Worcester, Mass. Bench or table	Apr. 7, 1868.
84,491	Hubbard, L. H., Canton, Ohio. Washing machine	Dec. 1, 1868.
82,410	Hubbard, Moses G., Syracuse, N. Y. Gearing for harvesters	Sept. 22, 1868.
82,411	Same ....same	Sept. 22, 1868.
82,412	Hubbard, Moses G., assignor to the Hubbard Mower Company, Syracuse, N. Y. Harvester	Sept. 22, 1868.
82,413	Same....same	Sept. 22, 1868.
82,414	Same....same	Sept. 22, 1868.
82,415	Same....same	Sept. 22, 1868.
74,539	Hubbard, N. W., New York, N. Y. Horseshoe	Feb. 18, 1868.
74,825	Hubbard, S., Quincy, Ill. Toy gun	Feb. 25, 1868.
	Hubbard, Theodore B. (*See* Brown, Jairus, assignor.)	
80,958	Hubbard, William W., Manchester, N. H. Scroll-sawing machine	Aug. 11, 1868.
75,761	Hubbell, Abijah, assignor to self, E. P. H., and George V. Capron, Sharon, Conn. Machine for hulling grain	Mar. 24, 1868.
77,379	Hubbell, A. Y., Elmira, N. Y. Manufacture of sad irons	Apr. 28, 1868.
	Hubbell, O. C., and C. S. Hale. (*See* Hale & Hubbell.)	
79,981	Hubbell, Sanders, jr., West Salem, Ohio. Catch for money drawers	July 14, 1868.
79,762	Hubbell, William Wheeler, Philadelphia, Pa. Quartz mill	July 7, 1868.
74,540	Hubert, Joseph, Buffalo, N. Y. Construction of tan vats	Feb. 18, 1868.
	Huckins, Daniel J., *et al.* (See Warner, Daniel, assignor.)	
77,286	Hudson, Charles H., Roxbury, Mass. Apparatus for diffusing liquids	Apr. 28, 1868.
78,456	Hudson, Edward P., New York, N. Y. Furnace for roasting ores	June 2, 1868.
	Hudson, James, *et al* (*See* Shellenback & Auguspurger, assignors.)	
78,208	Hudson, Sidney, Milford, Mich. Grain register	May 26, 1868.
2,937	Hudson, Thomas S., Boston, Mass. Inkstand, sponge cup, and pen rack, (Design)	Feb. 18, 1868.
76,460	Same....East Cambridge, Mass. Die for forming letters and figures on the edges of type blocks	Apr. 7, 1868.
77,042	Hue, Leon V., and Charles Roziere, France. Method for molding designs	Apr. 21, 1868.
	Hues, Alexander G. (*See* Phillips, George B., assignor.)	
83,383	Huffman, David, Luray, Va. Device for sharpening saws	Oct. 27, 1868.
74,759	Huffman, Samuel, Westfield, Ill. Animal trap	Feb. 25, 1868.
80,959	Huffnagle, Alfred, Philadelphia, Pa. Key-hole guard	Aug. 11, 1868.
75,917	Huffnagle, George W., New Hope, Pa. Oyster knife	Mar. 24, 1868.
	Huggins, George A., *et al.* (*See* Wilder, John B., assignor.)	
79,907	Huggins, George A., assignor to self and H. W. Shepard, Mannsville, N. Y. Milk can	July 14, 1868.
73,607	Hughes, David W., Quincy, Ill. Plow	Jan. 21, 1868.
	Hughes, E., *et al.* (*See* Trimble, George, W., assignor.)	
	Hughes, George, executor, &c. (*See* Parrott & Bordman.)	
84,826	Hughes, Henry O., Judson, Mo. Beehive	Dec. 8, 1868.
74,691	Hughes, John, Newark, N. J. Harness pad	Feb. 18, 1868.
82,954	Same....Gig saddle. (Antedated October 3, 1868)	Oct. 13, 1868.
85,385	Hughes, J. M., Menomonee, Wis. Medical compound	Dec. 29, 1868.
74,092	Hughes, N. G., Waynesburg, Pa. Corn planter. (Antedated Jan. 27, 1868)	Feb. 4, 1868.
80,864	Hughes, N. G., assignor to self and Thomas Braden, Waynesburg, Pa. Fruit picker	Aug. 11, 1868.
76,461	Hughes, Seymour, San Francisco, Cal. Ore crusher and grinder	Apr. 7, 1868.
74,826	Hughes, William C., Scio, Mich. Self-raising flour	Feb. 25, 1868.
76,327	Hughson, S. S., Newark, N. J. Sifter	Apr. 7, 1868.
75,164	Hugunin, R. B., Cleveland, Ohio. Pen rest	Mar. 3, 1868.
75,425	Same....Clothes wringer	Mar. 10, 1868.
83,283	Huie, H. R., Hayward's, Cal. Gang plow	Oct. 20, 1868.
81,089	Hulbert, H. C., and Alonzo Follett, Brooklyn, N. Y. Hat	Aug. 18, 1868.
78,457	Hulbert, Samuel, Ogdensburg, N. Y. Plow	June 2, 1868.
84,827	Hulett, T. G., Niagara, N. Y. Cable shackle for bridges	Dec. 8, 1868.
78,374	Hull, F., Birmingham, Conn. Skirt former	May 26, 1868.
	Hull, F., and Company, *et al.* (*See* Lattin, John R., assignor) ....(Reissue.)	
79,982	Hull, F. A., Belvidere, Ill. Car coupling	July 14, 1868.
74,365	Hull, George S., Washington, Iowa. Fruit mill	Feb. 11, 1868.
74,226	Hull, Harvey, West Exeter, N. Y. Hay loader	Feb. 11, 1868.
	Hull, H. C. (*See* Richmond, Isaac C., assignor.)	
85,097	Hull, Henry E., and Burlin T. Merritt, Sag Harbor, N. Y. Window frame	Dec. 22, 1868.
84,061	Hull, Isaac, assignor to self and J. Ferguson Morsell, Stamford, Conn. Rein holder	Nov. 17, 1868.
	Hull, John A., and John Spear, (*See* Spear & Hull.)	
73,249	Hull, John S., Cincinnati, Ohio. Soda fountain	Jan. 14, 1868.
75,165	Same....Hydro-carbon burner	Mar. 3, 1868.
76,195	Same....Gas heater	Mar. 31, 1868.
81,507	Hull, Liverus, Charlestown, Mass. Manufacture of whips from India-rubber	Aug. 25, 1868.
82,840	Same....Whip handle	Oct. 6, 1868.
81,090	Hull, Stephen, Poughkeepsie, N. Y. Harvester rake	Aug. 18, 1868.
74,366	Hull, Thomas, and Alexander H. Vail, assignors to selves and E. Wright Vail, Poughkeepsie, N. Y. Lubricating compound	Feb. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,919	Hulse, James H., Baltimore, Md. Frame for stretching pants. (Antedated April 8, 1868)	Apr. 21, 1868.
74,827	Humann, August, New York, N. Y. Button-hole cutter	Feb. 25, 1868.
79,908	Humaston, John P., assignor to self and Hamilton E. Towle, New York, N. Y. Loom	July 14, 1868.
79,344	Humes, Joseph G., Gravois Mills, Mo. Flour bolt	June 30, 1868.
78,096	Humes, J. P., Winnebago City, Minn. Medical compound	May 19, 1868.
	Humiston, Willis, Troy, N. Y. Apparatus for molding candles...(Extension)	Apr. 3, 1868.
73,894	Hummer, Uriah, White Oak, Pa. Manure drag	Jan. 28, 1868.
77,380	Humphery, Josiah, Washington, D. C. Sad-iron holder	Apr. 28, 1868.
	Same.....(*See* Colby, Daniel C., assignor.)	
73,011	Humphrey, D. S., East Townsend, Ohio. Field fence	Jan. 7, 1868.
74,541	Humphrey, Eugene, Boston, Mass. Saw	Feb. 18, 1868.
	Humphrey, William. (*See* Fassett, Nelson B., assignor.)	
	Humphrey, W. H. (*See* Farley, G. W., assignor.)	
	Humphrey, W. P. (*See* Towndrow, Josephus Smith, assignor.)	
83,774	Humphreys, John, Chicopee, Mass. Adjustable gearing for lathes	Nov. 3, 1868.
83,384	Humphreys, R. W., Clarksville, Tenn. Steam generator	Oct. 27, 1868.
74,093	Humphreys, Thomas H., Trenton, N. J. Vise	Feb. 4, 1868.
84,112	Humphries, Guy C., Washington, D. C. Can opener	Nov. 17, 1868.
	Hundt, J. O., and R. K. Slaughter. (*See* Slaughter & Hundt.)	
	Hunkins, Edgar J., and Harrison S. Snow. (*See* Snow & Hunkins.)	
	Hunnewell, F. (*See* Wool, James, assignor.)	
78,969	Hunsberger, Jonathan, Worcester Township, Pa. Horse rake	June 16, 1868.
79,909	Hunt, Almon, and C. C. Chapman, Macomb, Ill. Wagon seat	July 14, 1868.
83,385	Hunt, Amos B., Matteson, N. Y. Elevator	Oct. 27, 1868.
74,094	Hunt, Cyrus D., Fair Haven, Mass. Nail-plate feeder	Feb. 4, 1868
84,189	Same.....Nail-cutting plate	Nov. 17, 1868.
75,426	Hunt, C. S., Terre Bonne Parish, La. Stopping and starting cars	Mar. 10, 1868.
78,742	Same.....Heating device for chairs, &c	June 9, 1868.
77,982	Hunt, C. S., Terre Bonne Parish, and J. B. Knight, New Orleans, La., assignors to C. S. Hunt, William F. Pratt, and Peter M. Peterson. Apparatus for collecting marsh and other gases	May 19, 1868.
77,983	Same.....Illuminating gas	May 19, 1868.
82,319	Hunt, David, jr., Worcester, Mass. Velocipede	Sept. 22, 1868.
82,320	Hunt, D. W., San Francisco, Cal. Wood pavement	Sept. 22, 1868.
74,095	Hunt, E. J., Concord, N. H. Machine for cutting cards	Feb. 4, 1868.
84,882	Hunt, Edmund S., Weymouth, Mass. Manufacture of fans	Dec. 15, 1868.
85,447	Hunt, Eliza D., New York, N. Y. Washing machine	Dec. 29, 1868.
2,837	Hunt, Franklin Benjamin, Richmond, Ind. Straw cutter.....(Reissue)	Jan. 14, 1868.
2,838	Hunt, Franklin B., assignor through mesne assignments to himself, Richmond, Ind. Straw cutter.....(Reissue)	Jan. 14, 1868.
77,883	Hunt, George W., Hopkinton, Mass. Sleeping car	May 12, 1868.
76,920	Hunt, H., Delavan, Wis. Gate	Apr. 21, 1868.
77,735	Same.....same	May 12, 1868.
	Hunt, Hixson, and Benjamin Rutter. (*See* Rutter & Hunt.)	
77,043	Hunt, H. C., Amboy, Ill. Head-rest. (Antedated April 10, 1868)	Apr. 21, 1868.
	Hunt, John C., and Horatio H. Bingham. (*See* Bingham & Hunt.)	
81,639	Hunt, John C., and Joseph Temple, Terre Haute, Ind. Tool for laying off furrows for mill-stone dressing	Sept. 1, 1868.
79,910	Hunt, Joshua, assignor through mesne assignments to the American Patent Chromatic Printing Press Company, Richmond, Ind. Inking apparatus for color printing	July 14, 1868.
77,617	Hunt, Leavitt, Weathersfield, Vt. Sulky plow	May 5, 1868.
80,629	Hunter, Andrew, San Francisco, Cal. Machine for separating and concentrating sulphurets. (Antedated July 25, 1868)	Aug. 4, 1868.
73,722	Hunter, A. G., Wales. Manufacture of soda and potash	Jan. 28, 1868.
77,381	Same.....Manufacture of carbonates of soda and potash	Apr. 28, 1868.
77,618	Same.....Manufacture of zinc	May 5, 1868.
78,375	Same.....Manufacture of soda and potash	May 26, 1868.
85,386	Hunter, David, North Bennington, Vt. Water regulator for paper-pulp machines	Dec. 29, 1868.
77,287	Hunter, Edward, Philadelphia, Pa. Spectacles	Apr. 28, 1868.
78,376	Hunter, Jerry A., New London, Va. Machine for straightening tobacco	May 26, 1868.
	Hunter, J. A., *et al.* (*See* Davis, Edward M., assignor.)	
	Hunter, J. F., *et al.* (*See* Cahill, George, assignor.)	
78,970	Hunter, J. Morrison, Morristown, N. J. Sole for boots, &c	June 16, 1868.
73,250	Hunter, J. S., Hartford, Conn. Steam-generator water gauge	Jan. 14, 1868.
79,657	Hunter, Robert, New York, N. Y. Propeller	July 7, 1868.
80,960	Same.....same	Aug. 11, 1868.
84,628	Same.....Toy fish	Dec. 1, 1868.
83,856	Hunter, Samuel, Andrew County, Mo. Sawing machine	Nov. 10, 1868.
83,711	Hunter, Thomas A., and John Blewitt, New York, N. Y. Lamp	Nov. 3, 1868.
75,762	Hunter, William C., Newport, Ky. Washing machine	Mar. 24, 1868.
78,876	Hunter, W. R. S., assignor to self and H. T. Rockwell, Blackberry Station, Ill. Bed bottom	June 16, 1868
85,008	Huntington, Frank A., San Francisco, Cal. Carriage spring	Dec. 15, 1868.
76,462	Huntington, Samuel W., Augusta, Maine. Lamp shade	Apr. 7, 1868
76,921	Same.....same	Apr. 21, 1868.
79,125	Same.....Door spring	June 23, 1868.
79,658	Same.....Scissors and shears	July 7, 1868.
84,695	Same.....Shearing machine	Dec. 8, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,547	Huntington, T. Romeyn and William W., Minneapolis, Minn. Railroad gate	Aug. 4, 1868.
79,911	Huntington, T. S., and A. Fulton, Bellefontaine, Ohio. Passenger register	July 14, 1868.
75,918	Huntley, G. R., Taunton, Mass. Faucet	Mar. 24, 1868.
82,841	Huntley, Hosea H., Quincy, Ill. Steam-boiler furnace	Oct. 6, 1868.
75,919	Hunton, Jonathan, assignor to self and L. Freeland, Haversack, N. J. Mode of casting plow shares	Mar. 24, 1868.
	Huntoon, Lafayette. (*See* Baldwin, C. W., assignor.)	
	Huntoon, Reuben K., and J. Augustus Lynch. (*See* Lynch & Huntoon.)	
	Huntoon, Reuben K., *et al.* (*See* Marden, Jeremiah A., assignor.)	
78,743	Hunziker, Gaspar, Summit, Miss. Apparatus for distilling wood	June 9, 1868.
78,668	Huot, Fleury, and Constant Baudouin, New York, N. Y. Hat. (Antedated May 22, 1868)	June 9, 1868.
3,145	Huot, Fleury, assignor through mesne assignments to himself, New York, N. Y. Refining petroleum (Reissue)	Oct. 6, 1868.
74,367	Hurd, Asa, Yonkers, N. Y. Buckle	Feb. 11, 1868.
82,842	Hurd, A. B., Watkins, N. Y. Combined measure and weigher	Oct. 6, 1868.
82,321	Hurd, Edwin, Virginia City, Nevada. Oil cup	Sept. 22, 1868.
77,382	Hurd, Hosea B., assignor to self, John N., and Sam. Hurd, Aurora, Ill. Carriage-pole support	Apr. 28, 1868.
	Hurd, Oscar Z., and Harmon F. Lushbaugh. (*See* Lushbaugh & Hurd.)	
75,274	Hurd, P. H., assignor to Clara Hurd and E. D. Horton, Croton, Mich. Baby creeper or walker	Mar. 10, 1868.
82,416	Hurd, William C., New York, N. Y. Manufacture of paint	Sept. 22, 1868.
81,091	Hurff, Aaron, Swedesboro, N. J. Ventilator	Aug. 18, 1868.
	Hurford, George S., and William H. Hart. (*See* Adt, John, assignor.)	
77,490	Hurlbut, Sidney S., Cordova, Ill. Grain separator	May 5, 1868.
	Hurlbut, Silas. (*See* Cornell, Wm. F., assignor.)	
	Same same.	
75,020	Hurst, Charles, New York, N. Y. Car replacer	Mar. 3, 1868.
80,182	Hurst, Daniel W., Petersburg, Va. Fly net for horses	July 21, 1868.
83,386	Hurt, J. M., Black and White, Va. Plant protector	Oct. 27, 1868.
	Huse, Stephen W. (*See* Calvert, Frank, assignor.)	
84,358	Huss, John Adam, Louisville, Ky. Machine for cleaning entrails	Nov. 24, 1868.
76,636	Hussey, Daniel, Nashua, N. H. Let-off mechanism for looms	Apr. 14, 1868.
84,123	Same Differential-gear elevator	Nov. 17, 1868.
73,976	Hussey, M. L. M., New York, N. Y. Postal scale	Feb. 4, 1868.
76,922	Husted, Frank H., Buffalo, N. Y. Base-burning stove	Apr. 21, 1868.
76,080	Huston, J., jr., and O. W. Stanford, Sharonville, Ohio. Fastening for carriage curtains. (Antedated March 23, 1868)	Mar. 31, 1868.
	Hutchings, John W. (*See* Voiles, J. E., assignor.)	
	Hutchings, Sabin, and J. D. Leach. (*See* Leach & Hutchings.)	
	Same same.	
	Hutchins, A., and Thomas Ucker. (*See* Ucker & Hutchins.)	
79,472	Hutchins, Carleton B., Ann Arbor, Mich. Compound for covering roofs and other structures	June 30, 1868.
	Hutchins, Hubbil B., *et al.* (*See* Harris, Roseman & Hutchins.)	
73,723	Hutchins, Seth T., assignor to Horace A. Lathrop, North Anson, Maine. Spokeshaves	Jan. 28, 1868.
	Hutchinson, Aaron T., *et al.* (*See* La Baw, Hutchinson & Fleming.)	
84,947	Hutchinson, Alfred, assignor to self and Stephen H. Markley, Philadelphia, Pa. School desk and seat	Dec. 15, 1868.
75,021	Hutchinson, Charles B., Auburn, N. Y. Machine for jointing staves	Mar. 3, 1868.
80,740	Hutchinson, C. S. Burlington, N. J. Apparatus for distilling spirits	Aug. 4, 1868.
77,044	Hutchinson, Edwin F., Auburn, Maine. Land roller	Apr. 21, 1868.
79,073	Hutchinson, George E., assignor to self and J. B. Brown, Cleveland, Ohio. Toy cannon	June 23, 1868.
75,166	Hutchinson, James, Fond du Lac, Wis. Hop press	Mar. 3, 1868.
	Hutchinson, James S. (*See* Johnson, Thomas, assignor.)	
	Hutchinson, John, and Jeffrey Hart. (*See* Monach, James, assignor.)	
78,669	Hutchison, D. S., San Francisco, Cal. Plate for artificial teeth	June 9, 1868.
73,101	Hutson, Ezra, Brockport, N. Y. Push jack for railroad cars	Jan. 7, 1868.
	Hutson, William H., and J. B. Drake. (*See* Drake & Hutson.)	
75,920	Hutwohl, Franz, New York, N. Y. Furniture edge	Mar. 25, 1868.
	Hyatt, Eugene. (*See* Ransom, Louis, assignor.)	
77,736	Hyatt, I. L., Rockford, Ill. Tax calculator	May 12, 1868.
76,765	Hyatt, John W., jr., Albany, N. Y. Composition for billiard balls and other articles	Apr. 14, 1868.
81,508	Hyde, A. T., Rochester, Minn. Bitters	Aug. 25, 1868.
	Hyde, Henry H. (*See* Simonds, Warren A., assignor.)	
82,719	Hyde, J. Burrows, New York, N. Y. Mode of preserving fruits, meats, vegetables, and other perishable substances	Oct. 6, 1868.
	Hyde, J. Little. (*See* Chinnock, Charles, assignor.)	
78,289	Hyde, Stephen, New York, N. Y. Surcingle	May 26, 1868.
	Hyneman, Isaac. (*See* Motte, Simon, assignor.)	
75,427	Hyslop, John, jr., and Charles E. Phillips, Abington, Mass. Combined lifter and tongs	Mar 10, 1868.
85,448	Ickes, Isaiah, Massillon, Ohio. Music book	Dec. 29, 1868.
77,192	Iden, James C., Buckingham Township, Pa. Safety pocket	Apr. 28, 1868.
3,270	Ilenburg, Hermann, assignor to MacKellar, Smiths & Jordan, Philadelphia, Pa. Printers' type (Design)	Dec. 1, 1868.
3,271	Same same (Design)	Dec. 1, 1868.
79,573	Ilgenfritz, G. W., and M. Schall, York, Pa. Oil-tank car	July 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Illig, P. J., and J. Neuberger. (*See* Neuberger & Illig.)	
73,895	Illingsworth, Benjamin, assignor to Andrew J. Brubaker and Albert Bliss, jr., Freeport, Ill. Churn	Jan. 28, 1868.
83,500	Imbach, M. G., Hartford, Conn. Hasp lock	Oct. 27, 1868.
80,352	Imbach, M. G., and I. Weidenman, Hartford, Conn. Paper cap	July 28, 1868.
73,334	Imlay, William L., Philadelphia, Pa. Locking knob latch	Jan. 14, 1868.
73,335	Same.....Hydro-carbon burner	Jan. 14, 1868.
73,724	Same.....Closing fruit jars	Jan. 28, 1868.
75,275	Same.....same	Mar. 10, 1868.
73,336	Ingalls, A., Independence, Iowa. Seeder and cultivator combined	Jan. 14, 1868.
77,045	Ingalls, Allen, Hartwick Township, N. Y. Sleigh brake	Apr. 21, 1868.
	Ingalls, Gustavus W. (*See* Abbott, Rogers A., assignor.)	
2,849	Ingalls, William Allen, Chicago, Ill. Method of casting screws.....(Reissue)	Feb. 4, 1868.
74,542	Ingersoll, John, Cleveland, Ohio. Lamp	Feb. 18, 1868.
74,915	Ingersoll, Simon, assignor through mesne assignments to self and Job Johnson, Mianus, Conn. Gate latch	Feb. 25, 1868.
80,961	Ingle, E. W., New Orleans, La. Guide and marker for sewing machines	Aug. 11, 1868.
75,763	Inglis, C. W., Paterson, N. J. Machine for preparing peat	Mar. 24, 1868.
85,098	Inglis, William, England. Steam cylinder	Dec. 22, 1868.
2,968	Ingraham, Elias, Bristol, Conn. Clock front.....(Design)	Mar. 31, 1868.
2,969	Same.....Clock-case front.....(Design)	Mar. 31, 1868.
	Same.....same.....(Extension of Design)	Sept. 2, 1868.
	Same.....Clock case.....(Extension of Design)	Dec. 2, 1868.
84,492	Ingraham, John, assignor through mesne assignments to Charles E. L. Holmes, New York, N. Y. Clasp for hoop skirts	Dec. 1, 1868.
75,549	Ingram, James, New York, N. Y. Privy	Mar. 17, 1868.
82,955	Same.....Troy, N. Y. Folding camp stool	Oct. 13, 1868.
	Inman, Henry W., and Lorenzo D. Gillett. (*See* Gillett & Inman.)	
	Inman Manufacturing Company. (*See* Fenner, John S., assignor.)	
	Same.....same.	
73,810	Inskeep, John S., West Middleburg, Ohio. Sugar mold	Jan. 28, 1868.
81,092	Irish, Nathaniel, Rochester, Minn. Attaching pole straps to neck yokes	Aug. 18, 1868.
84,421	Same.....Compound for roofing and painting	Nov. 24, 1868.
78,209	Irland, D. H., Fayette, N. Y. Apparatus for the manufacture of coal gas	May 26, 1868.
33,166	Irrgang, Benjamin, Philadelphia, Pa. Chimney cowl	Oct. 20, 1868.
73,896	Irvin, James D., Corydon, and B. I. Seward, Bloomington, Ind. Alarm for grist mills	Jan. 28, 1868.
81,374	Irvine, William M., Montgomery, Ala. Bale fastening	Aug. 25, 1868.
81,784	Irvine, William M., and Alfred H. Moses, Montgomery, Ala. Ventilator for hats	Sept. 1, 1868.
73,608	Irving, Benjamin, New York, N. Y. Steam generating apparatus for heating buildings	Jan. 21, 1868.
83,066	Same.....Fuel from spent tan bark	Oct. 13, 1868.
85,172	Irving, Benjamin, assignor to H. A. Taylor, New York, N. Y. Bark crusher	Dec. 22, 1868.
85,173	Same.....Apparatus for obtaining extracts from bark for tanning, &c.	Dec. 22, 1868.
85,174	Same.....Method of concentrating the extract of bark for tanning, &c.	Dec. 22, 1868.
85,175	Same.....Apparatus for concentrating extract of tan bark	Dec. 22, 1868.
73,167	Irwin, A., Madison, Ind. Mode of putting up starch for use	Oct. 20, 1868.
	Irwin, A. Barr, and Henry L. Brown. (*See* Owen, John, assignor.)	
73,612	Irwin, John H., Chicago, Ill. Lantern	Jan. 7, 1868.
	Irwin, Samuel L., and Pius L. Shepler. (*See* Shepler & Irwin.)	
75,635	Isbell, Charles W., New York, N. Y. Rotary blower	Mar. 17, 1868.
79,983	Isbell, George M., Farrington, Conn. Needle for sewing machines. (Antedated July 3, 1868)	July 14, 1868.
83,168	Iseminger, D. H., McLean, Ill. Saw-filing machine	Oct. 20, 1868.
73,897	Isensee, Albert, Indianapolis, Ind. Burglar-alarm lock	Jan. 28, 1868.
77,884	Isham, George B., Burlington, Vt. Culinary apparatus	May 12, 1868.
83,169	Isham, Ralph H., Brooklyn, N. Y. Steam generator	Oct. 20, 1868.
73,013	Iske, Anthony, Lancaster, Pa. Alarm lock for doors	Jan. 7, 1868.
77,193	Iske, Anthony, assignor to self and Benjamin Mishler, Lancaster, Pa. Hospital bedstead	Apr. 28, 1868.
84,696	Same.....Bell alarm and table bell	Dec. 8, 1868.
	Iske, Anthony, *et al.* (*See* Stoll, Michael, assignor.)	
80,962	Israel, J. D., Utica, Iowa. Fence-post driver	Aug. 11, 1868.
73,898	Ivens, Edmund M., New Orleans, La. Centrifugal pump	Jan. 28, 1868.
83,501	Ivers, Samuel, New Bedford, Mass. Needle	Oct. 27, 1868.
83,502	Iversen, I. O., Madison, Wis. Dyeing textile fabrics with aniline colors	Oct. 27, 1868.
74,692	Ives, E. D., New Haven, Conn. Picture knob	Feb. 18, 1868.
76,766	Same.....Manufacture of glass knobs	Apr. 14, 1868.
	Ives, Franklin B. (*See* Pauley, Jason B., assignor.)	
81,509	Ives, Silas Y., Meriden, Conn. Cheese press	Aug. 25, 1868.
82,956	Ives, W. A., New Haven, Conn. Expansion bit for wood boring	Oct. 13, 1868.
82,957	Same.....Hollow auger	Oct. 13, 1868.
	Jackman, R. P., and L. C. Stiles. (*See* Stiles & Jackman.)	
76,767	Jackson, Allen S., assignor to self and John F. Miles, Kokomo, Ind. Lantern	Apr. 14, 1868.
85,009	Jackson, Anthony W., La Crosse, Wis. Machine for cutting and splitting wood	Dec. 15, 1868.
85,449	Jackson, Charles H., St. Louis, Mo. Filter. (Antedated Dec. 17, 1868)	Dec. 29, 1868.
	Jackson, Edward H. (*See* Schumann, Carl, assignor.)	
80,487	Jackson, Edwin W., Brooklyn, N. Y. Rotary steam engine	July 28, 1868.
84,629	Jackson, F. C., Peru, Ind. Boot crimper	Dec. 1, 1868.
74,368	Jackson, H., New York, N. Y. Game	Feb. 11, 1868.
74,369	Jackson, James A., Macon, Mich. Beehive	Feb. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
83,170	Jackson, John, Owego, N.Y. Carriage spring	Oct. 20, 1868.
77,491	Jackson, J. C., Rochester, N.Y., and F. J., Danbury, Conn. Bedstead fastening.	May 5, 1868.
2,960	Jackson, Meigs, Clarksburg, West Va. Bottle (Design)	Mar. 24, 1868.
80,630	Jackson, Noah and A. W., Napoleon, Ohio. Rotary steam engine	Aug. 4, 1868.
77,288	Jackson, Peter H., New York, N.Y. Steering apparatus	Apr. 28, 1868.
	Jackson, R. (*See* Lidren, Christopher, assignor.)	
	Same same.	
79,229	Jackson, W. H., Salem, Mass. Manufacture of gunpowder	June 23, 1868.
77,619	Jackson, W. H., Brooklyn, N.Y., and George Merrill, Newburyport, Mass., assignors to the Merrimac Loom Company. Loom	May 5, 1868.
78,290	Jacob, George W., Quincy, Ohio. Vegetable slicer	May 26, 1868.
82,525	Jacobi, Maurice Herrmann, and Eugene Klein, assignors to Green, Clay & Company, Russia. Galvano-plastic process for precipitating iron on molds, &c.	Sept. 29, 1868.
77,818	Jacobi, Otto, Philadelphia, Pa. Manufacture of white lead	May 12, 1868.
	Jacobs, Edward R., *et al.* (*See* Murrill, John W., assignor.)	
73,977	Jacobs, John, Oneida, Ill. Collar block. (Antedated Jan. 24, 1868)	Feb. 4, 1868.
84,828	Jacobs, Marion, Sturgis, Mich. Potato digger	Dec. 8, 1868.
80,741	Jacobs, Thomas, assignor to self, James E., and John H. Kennedy, Philadelphia, Pa. Passenger register	Aug. 4, 1868.
83,171	Jacobs, W. W., Hagerstown, Md. Vapor burner	Oct. 20, 1868.
85,099	Same Lamp	Dec. 22, 1868.
80,742	Jacobus, P. N., Flatbrookville, N. J. Screw	Aug. 4, 1868.
81,171	Same Screw driver and countersink	Aug. 18, 1868.
81,785	Jacoby, F., St. Louis, Mo. Apparatus for extracting wort and similar liquids	Sept. 1, 1868.
	Jacques, James A., *et al.* (*See* Coles, Jacques & Fanshawe.)	
80,488	Jaeger, Gustav L., New York, N.Y. Water meter	July 28, 1868.
79,126	Jalourcau, Alfred Fauvin, France. Machine for manufacturing telographic cables	June 23, 1868.
83,284	James, Arthur, England. Envelope for needles	Oct. 20, 1868.
	James, Charles H., assignor. (*See* Nason, Joseph, assignor.)	
77,194	James, David A., Cincinnati, Ohio. Method of expressing liquids from solids	Apr. 28, 1868.
84,422	James, Eben, assignor to self and W. B. Brinley, Tyngsboro, Mass. Machine for making boxes	Nov. 24, 1868.
77,885	James, Joseph H., assignor to self and Seth Baxter, Warren, R. I. Buckle	May 12, 1868.
83,503	James, Thomas R., St. Louis, Mo. Tram for ganging mill stones	Oct. 27, 1868.
73,899	Jameson, Abiezer, Trenton, N. J. Roofing material	Jan. 28, 1868.
77,289	Same Vise	Apr. 28, 1868.
83,069	Jameson, D. W., Warren, Ohio. Machine for grinding the cutters of mowing machines	Oct. 13, 1868.
84,191	Same Machine for holding the cutters of mowing machines while being ground	Nov. 17, 1868.
76,196	Jameson, Jacob, Philadelphia, Pa. Process and apparatus for the manufacture of iron and steel	Mar. 31, 1868.
84,745	Jameson, Robert G., and William H. Chamberlain, Bristol, N. H. Horseshoe	Dec. 8, 1868.
	Jamison, Jacob. (*See* Martin, John, assignor.)	
82,417	Jamison, John P., New York, N.Y. Boot	Sept. 22, 1868.
76,768	Jamison, S. S., jr., Saltsburg, Pa. Car replacer	Apr. 14, 1868.
76,769	Same Steam-engine valve gear	Apr. 14, 1868.
76,770	Same Rotary steam-engine	Apr. 14, 1868.
	Janeway, George J., *et al.* (*See* Stelle, David D., assignor) (Reissue)	
	Same (*See* McDonald, Thomas E., assignor.)	
80,743	Janeway, John, Indianapolis, Ind. Bedstead fastener	Aug. 4, 1868.
75,276	Janeway, John L., Flemington, N. J. Gate	Mar. 10, 1868.
76,081	Same same	Mar. 31, 1868.
77,046	Janney, Eli H., Alexandria, Va. Car coupling	Apr. 21, 1868.
80,489	Janvrin, George W., Great Falls, N. H. Wagon	July 28, 1868.
79,834	Jaques, Abram C., Leavenworth, Kansas. Plow	July 14, 1868.
	Jaques, Frank T., and Charles E. Smith. (*See* Smith & Jaques.)	
	Jaques, John S. and Frank T. (*See* Smith, Charles E., assignor.)	
76,771	Jarboe, John William, Green Point, N.Y. Paper cask	Apr. 14, 1868.
83,968	Jarecki, Charles, assignor to Jarecki & Company, Erie, Pa. Piston for deep-well pumps	Nov. 10, 1868.
	Jarnagin, James A. (*See* Shields, F. M., assignor.)	
	Jarrett, Thomas T., Horsham, Pa. Hay-elevating fork (Extension)	May 13, 1868.
82,843	Jauriet, Charles F. assignor to self and A. I. Ambler, Chicago, Ill. Steam generator	Oct. 6, 1868.
77,047	Jauss, David F., Harrisburg, Pa. Chimney cowl	Apr. 21, 1868.
74,693	Jay, James M., Canton, Ohio. Machine for cutting glaziers' points	Feb. 18, 1868.
81,172	Jeager, Bartholomew A., Bower's Station, Pa. Composition for preserving wood.	Aug. 18, 1868.
74,828	Jefferies, C. A., and E. F. Olds, Dexter, Mich. Truss	Feb. 25, 1868.
83,636	Jeffers, Aaron P. M., Allegan, Mich. Tool-holder for grinding	Nov. 3, 1868.
83,172	Jeffers, Albert, Lynn, Mass. Machine for molding, rounding, and channeling soles of boots and shoes	Oct. 20, 1868.
74,370	Jeffers, Milton C., New York, N.Y. Combined fodder cutter and corn-husking machine	Feb. 11, 1868.
83,857	Jeffery, William W., Greenview, and Cyrus Snyder, Middletown, Ill. Automatic car coupling	Nov. 10, 1868.
3,004	Jefts, Willard, Battle Creek, Mich. Leg of a table (Design)	Apr. 21, 1868.
80,183	Jelley, George, assignor to Charles W. Griffiths, Roxbury, Mass. Knitted fabric.	July 21, 1868.
74,694	Jencks, George L., assignor to the Florence Sewing Machine Company, Florence, Mass. Sewing machine	Feb. 18, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,124	Jenkins, Benjamin A., La Crosse, Wis. Iron window shutter	Nov. 17, 1868.
73,811	Jenkins, Charles R., Philadelphia, Pa. Curtain fixture	Jan. 28, 1868.
76,772	Jenkins, Edward T., Ravenswood, N. Y. Device for closing the mouths of jars, cans, &c. (Antedated April 7, 1868)	Apr. 14, 1868.
	Jenkins, Jabez. (*See* Tongue, Samuel J., assignor.)	
73,900	Jenkins, James D., Charlestown, Mass. Carbureted air-lamp	Jan. 28, 1868.
	Jenkins, J. W. (*See* Bullard, E. W., assignor.)	
82,844	Jenkins, Nathaniel, Boston, Mass. Steam globe valve	Oct. 6, 1868.
83,637	Same.....Composition for the soles and heels of boots and shoes	Nov. 3, 1868.
75,022	Jenkins, Nicholas, assignor to self, George Browne and Charles F. Bliss, New York, N. Y. Slide for extension tables. (Antedated Feb. 20, 1868)	Mar. 3, 1868.
84,493	Jenkins, William F., assignor to self and James M. Myers, Indianapolis, Ind. Wash boiler	Dec. 1, 1868.
80,548	Jenkinson, George B., Newark, N. J. Trunk-caster frame	Aug. 4, 1868.
83,285	Same.....Trunk handle	Oct. 20, 1868.
74,760	Jenks, Barton H., Bridesburg, Pa. Breech-loading fire-arm	Feb. 25, 1868.
84,423	Same.....Loom	Nov. 24, 1868.
84,424	Same.....Reeling machinery. (Antedated Nov. 14, 1868)	Nov. 24, 1868.
	Jenks, Barton H. (*See* Senior, Mathew, assignor) .....(Reissue.)	
84,630	Jenks, George A., assignor to self and James Maguire, Chicago, Ill. Butt hinge	Dec. 1, 1868.
77,195	Jenkyn, Thomas, assignor to Bartlett Burr, Thetford Center, Vt. Sawing machine	Apr. 28, 1868.
82,322	Jenness, J. Rienzi, Norwich, Conn. Heating apparatus	Sept. 22, 1868.
	Jenness, Richard S., *et al.* (*See* Wright, Horace H. W., assignor.)	
81,173	Jennings, Aaron, West Cairo, Ohio. Shovel plow	Aug. 18, 1868.
73,725	Jennings, Asa A., Webster, N. Y. Dumping cart	Jan. 28, 1868.
82,526	Jennings, Augustus and Isaac, Fairfield, Conn. Paper pail, &c	Sept. 29, 1868.
81,510	Jennings, A. F., Sherman, N. Y. Abdominal supporter	Aug. 25, 1868.
	Jenkins, A. F., & Company. (*See* Clifford, William, assignor.)	
82,720	Jennings, E., jr., New York, N. Y. Suspender and shoulder-brace combined	Oct. 6, 1868.
83,387	Same.....Shoulder-brace and suspender	Oct. 27, 1868.
79,659	Jennings, Isaac, Fairfield, Conn. Paper-making machine	July 7, 1868.
80,631	Jennings, Lewis, Brooklyn, N. Y. Artesian pump. (Antedated July 25, 1868)	Aug. 4, 1868.
78,744	Jennings, Lyman, Winchendon, Mass. Shingle machine	June 9, 1868.
73,978	Jennings, Martin V., Centralia, Mo. Washing machine	Feb. 4, 1868.
73,337	Jennings, Ralph S., Philadelphia, Pa. Card and cribbage board	Jan. 14, 1868.
3,086	Same.....New York, N. Y. Medallion scarf ring .....(Design)	June 30, 1868.
3,087	Same.....same .....(Design)	June 30, 1868.
3,133	Same.....Shirt collar.....(Design)	July 28, 1868.
3,134	Same.....Shirt cuff.....(Design)	July 28, 1868
3,135	Same.....Toy.....(Design)	July 28, 1868.
3,149	Same.....Scarf ring.....(Design)	Aug. 4, 1868.
3,150	Same.....same .....(Design)	Aug. 4, 1868.
84,829	Jenny, Nicholas, jr., Pittsburg, Pa. Carriage loop and billet cover	Dec. 8, 1868.
83,969	Jepson, Godfrey, assignor to self and Thomas F. Bryan, Chelsea, Mass. Double-walled pitcher	Nov. 10, 1868.
	Jerauld, Henry C. (*See* Oothoudt, Josiah, assignor.)	
2,839	Jerome, Charles T., Minneapolis, Minn. Fire annihilator.....(Reissue)	July 14, 1868.
3,208	Jessop, Joseph H., Cambridge, Mass. Trade mark.....(Design)	Sept. 22, 1868.
85,387	Jessop, J. W., Harveysburg, Ohio. Cultivator	Dec. 29, 1868.
81,906	Jessup, Gilbert, Shortsville, N. Y. Cotton-seed planter. (Antedated Aug. 27, 1868)	Sept. 8, 1868.
74,371	Jewell, C. S., Black's Mills, N. J. Weeding implement	Feb. 11, 1868.
79,835	Jewell, J. Grey, Washington. D. C. Window-sash stop	July 14, 1868.
	Jewell, Marshall. (*See* Babcock, Holland, assignor).....(Reissue.)	
	Jewell, Wilson, and Joseph White. (*See* Cassiday, Charles, assignor.)	
78,210	Jewett, David, assignor to self and Albert Leach, Lynn, Mass. Axle box for railroad cars	May 26, 1868.
78,458	Jewett, Edward, Rindge, N. H. Veneer-cutting machine (Antedated May 18, 1868)	June 2, 1868.
78,877	Jewett, F. A., Shrewsbury, Mass. Churn	June 16, 1868.
77,492	Jewett, Jasper S., Ottawa, Ill. Fence gate	May 5, 1868.
81,640	Same .....same	Sept. 1, 1868.
74,227	Jewett, Sewell E., Haverhill, Mass. Operating window shutters	Feb. 11, 1868.
79,660	Jillson, C., Worcester, Mass. Mold for making strawberry ripeners	July 7, 1868.
77,620	Jincks, Melvin, Dansville, N. Y. Lamp burner	May 5, 1868.
77,984	Same.....Match safe	May 19, 1868.
	Jobes, William, *et al.* (*See* Peck, Walter, assignor.)	
85,450	Jocelyn, A. H., New York, N. Y. Binding book	Dec. 29, 1868.
82,527	Joeckel, William H., New York, N. Y. Reversible railway chair	Sept. 29, 1868.
76,773	Johns, Henry W., New York, N. Y. Compound for roofing and other purposes	Apr. 14, 1868.
81,641	Same.....Fabric for roofing and other purposes	Sept. 1, 1868.
82,845	Johnson, Abijah, West Newton, Ind. Saw set	Oct. 6, 1868.
84,551	Johnson, A. B., Washington, Ind. Horse rake	Dec. 1, 1868.
77,493	Johnson, Albert H., Hartford, Conn. Bosom pad	May 5, 1868.
81,786	Johnson, Albert W., New York, N. Y. Whip holder	Sept. 1, 1868.
81,642	Johnson, Alfred S., assignor to self and Enoch Van Wie, Waupun, Wis. Carriage coupling	Sept. 1, 1868.
83,388	Johnson, Alfred S., assignor to self and Lyman B. Balcon, Waupun, Wis. Bee-hive protector	Oct. 27, 1868.
85,229	Johnson, Alonzo, assignor to Sylvester Bissell and Andrew B. West, Springfield, Mass. Calculating apparatus	Dec. 22, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Johnson, Alonzo, and James A. Loomis. (*See* Loomis & Johnson.)	
82,323	Johnson, Asa, Brooklyn, N. Y. Necktie. (Antedated Sept. 11, 1868)	Sept. 22, 1868.
79,574	Johnson, C. A., Des Moines, Iowa. Culinary vessel	July 7, 1868.
	Johnson, Charles D. (*See* Mandeville, E. W., assignor.)	
78,745	Johnson, Chester L., Utica, N. Y. Top	June 9, 1868.
82,958	Johnson, Daniel L., Yorkville, Mich. Flour dispenser	Oct. 13, 1868.
74,761	Johnson, Daniel W., Bloomsburg, Pa. Whiffletree	Feb. 25, 1868.
76,774	Johnson, Erastus, Wilkins, Pa. Lubricator	Apr. 14, 1868.
78,746	Johnson, F. B., De Witt, Iowa. Vise	June 9, 1868.
81,907	Johnson, Frank G., Port Richmond, N. Y. Watch, regulating adjustment	Sept. 8, 1868.
	Johnson, F. I., and H. J. Case. (*See* Case & Johnson.)	
82,418	Johnson, Frederick L., Wallingford, Conn. Combined latch and lock	Sept. 22, 1868.
	Johnson, George, and Henry De Bus. (*See* De Bus & Johnson.)	
75,921	Johnson, G. A., Oxford, Conn. Dress trimming	Mar. 24, 1868.
81,375	Johnson, George F., Marshall, Iowa. Corn sheller	Aug. 25, 1868.
	Johnson, Henry, *et al.* (*See* Jones, J. M., assignor.)	
79,127	Johnson, H. C., assignor to self and C. H. Johnson, Delavan, Wis. Stove-pipe shelf	June 23, 1868.
77,196	Johnson, Isaac D., Kennett Square, Pa. Check brace for carriages	Apr. 28, 1868.
3,067	Same.....same.....(Reissue)	Aug. 4, 1868.
	Johnson, Isaac G., *et al.* (*See* Cahill, George, assignor.)	
	Johnson, I. G., and J. R. Lawrence. (*See* Lawrence & Johnson.)	
76,328	Johnson, James B., and William H. Birch, San Francisco, Cal. Friction clutch	Apr. 7, 1868.
83,970	Johnson, James L., and J. Wilson Foust, Evansburg, Pa. Hand spinning machine	Nov. 10, 1868.
82,004	Johnson, James M., and J. Herig, Cleveland, Ohio Mortising machine	Sept. 8, 1868.
73,014	Johnson, Jeremiah F., New York, N. Y. Fastening of jar covers	Jan. 7, 1868.
76,197	Johnson, Jesse, West Fallowfield Township, Pa. Bolt cutter	Mar. 31, 1868.
79,277	Johnson, Jesse B., assignor to self, Thomas E. and Benjamin F. Johnson, Indianapolis, Ind. Grain drier	Mar. 10, 1868.
81,787	Johnson, Jesse F., Monrovia, Ind. Harness makers' clamp	Sept. 1, 1868.
75,550	Johnson, Job. Brooklyn, N. Y. Oyster tongs	Mar. 17, 1868.
	Same.....(*See* Ingersoll, Simon, assignor.)	
73,901	Johnson, John, Barrington, N. Y. Device for sharpening horseshoe calks	Jan. 28, 1868.
76,329	Johnson, John, Saco, Maine. Heating apparatus	Apr. 7, 1868.
76,463	Same.....Mode of obtaining heat	Apr. 7, 1868.
84,948	Same.....Device for pumping, &c	Dec. 15, 1868.
85,176	Johnson, John, assignor to the New England Steam Heating Company, Saco, Maine. Steam heater	Dec. 22, 1868.
85,177	Same.....same	Dec. 22, 1868.
3,045	Johnson, John, New York, N. Y. Steam-valve case.....(Design)	May 12, 1868.
79,836	Johnson, John, Atkinson, Ill. Stove-pipe damper	July 14, 1868.
	Johnson, John. (*See* McFarland, David, assignor.)	
78,747	Johnson, John, assignor to self and N. A. Brickett, Boston, Mass. Machine for enameling moldings	June 9, 1868.
73,902	Johnson, John B., Laurel, Ind. Car coupling	Jan. 28, 1868.
73,726	Johnson, John C., Philadelphia, Pa. Soda fountain	Jan. 28, 1868.
77,290	Johnson, John C., Louisville, Ky. Crystal fountain. (Antedated April 17, 1868)	Apr. 28, 1868.
75,428	Johnson, Joseph B., Lynn, Mass. Machine for shaping the sole of a shoe	Mar. 10, 1868.
80,549	Johnson, J. U., Springfield, Mass. Boot protector. (Antedated July 24, 1868)	Aug. 4, 1868.
81,376	Johnson, L. A., New York, N. Y. Guide for scroll saws	Aug. 25, 1868.
82,721	Johnson, Luman F., Buffalo, N. Y. Furnace door	Oct. 6, 1868.
76,464	Johnson, Lyman H., assignor to self and Chauncey Johnson, Branford, Conn. Corn husker	Apr. 7, 1868.
79,473	Johnson, Moses, Three Rivers, Mich. Potato digger	June 30, 1868.
85,451	Same.....Plow	Dec. 29, 1868.
73,727	Johnson Moses A., Lowell, Mass. Felted fabric	Jan. 28, 1868.
85,100	Johnson, Nathan, Decatur, Mich. Water wheel	Dec. 22, 1868.
73,979	Johnson, Nathan S., Maquoketa, Iowa. Corn cultivator	Feb. 4, 1868.
73,338	Johnson, Nelson, Jasper, N. Y. Swage for saw teeth	Jan. 14, 1868.
80,632	Same.....Head block for saw mills	Aug. 4, 1868.
75,167	Johnson, Niels, Berlin, Wis. Machine for boring hubs	Mar. 3, 1868.
82,528	Johnson, P. C., and Edwin Froggott, Central City, Col. Construction of horse-shoes	Sept. 29, 1868.
73,812	Johnson, Reuben, Danbury, Conn. Hat body	Jan. 28, 1868.
79,661	Johnson, Richard P., and Eli J. Sumner, Wabash, Ind. Lumber dryer	July 7, 1868.
81,377	Johnson, S. M., Lockport, N. Y. Sad-iron heater	Aug. 25, 1868.
	Johnson, Thomas. (*See* Cole, Charles L., assignor.)	
82,120	Johnson, Thomas, assignor to self and James S. Hutchinson, Tewkesbury, Mass. Composition for sizing or dressing warps	Sept. 22, 1868.
80,963	Johnson, Thomas Richard, Montreal, Canada. Ventilating hats	Aug. 11, 1868.
81,643	Johnson, Thomas W., New York, N. Y. Apparatus for concentrating extracts	Sept. 1, 1868.
82,121	Same.....Extracting tan bark	Sept. 15, 1868.
83,389	Same.....Apparatus for making extracts from tan bark	Oct. 27, 1868.
78,670	Johnson, Timothy W., Granger, Ohio. Farm gate	June 9, 1868.
	Johnson, Warren, and Thomas H. White. (*See* McNeil, Wm. S., assignor.)	
84,192	Johnson, William, Milwaukee, Wis. Permutation lock	Nov. 17, 1868.
85,309	Johnson, William, Philadelphia, Pa. Cock for water pipes	Dec. 29, 1868.
77,985	Johnson, William H., Springfield, Mass. Cutting machine	May 19, 1868.
80,744	Johnson, William H., Philadelphia, Pa. Socket for tool handles	Aug. 4, 1868.
83,173	Same.....Screw socket for brush handles	Oct. 20, 1868.
	Johnson, William H. *et al.* (*See* Dailey, Johnson & DuBois.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,964	Johnson, William J., New Orleans, La. Car brake and starter	Aug. 11, 1868.
73,530	Johnson, William S., Henderson, Ky. Buggy top	Jan. 21, 1868.
73,339	Johnson, W. W., Nashville, Tenn. Machine for pointing pickets	Jan. 14, 1868.
81,644	Johnston, Charles W., Neponset, Ill. Tinners' fire pot	Sept. 1, 1868.
	Johnston, F. E., *et al.* (*See* Bowdle, Lawder & Johnston.)	
	Johnston, James, and Edmund P. McCarthy. (*See* McCarthy & Johnston.)	
	Johnston, John S. (*See* Torrey, J. W., assignor.)	
79,575	Johnston, Samuel Syracuse, N. Y. Harvester	July 7, 1868.
	Same.....(*See* Shaw & Manz, assignors) .....(Reissue.)	
	Same.....(*See* Goodwin, Wm. F., assignor.)	
2,951	Johnston, Samuel, assignor through mesne assignments to himself, Buffalo, N. Y. Combined rake and reel for harvesters .....(Reissue.)	May 26, 1868.
75,025	Johnston, William, Appleton, Wis. Bedstead fastening	Mar. 3, 1868.
79,474	Same.....Clothes dryer	June 30, 1868.
83,286	Johnston, William, Cincinnati, Ohio. Window blind	Oct. 20, 1868.
84,949	Johnston, William, Appleton, Wis. Bedstead fastening	Dec. 15, 1868.
	Johnston, William, and J. H. Moore. (*See* Moore & Johnston.)	
84,193	Johnston, William, and J. D. Flansburgh, Philadelphia, Pa. Apparatus for roasting coffee	Nov. 17, 1868.
80,965	Johnstone, George, Philadelphia, Pa. Knitting machine. (Antedated Aug. 1, 1868)	Aug. 11, 1868.
	Joline, David, and John W. Russell. (*See* Russell & Joline.)	
80,353	Jonas, Richard, New York, N. Y. Ointment for horses, cattle, &c	July 28, 1868.
77,737	Jones, Alvarado, assignor to self and A. A. Sage, Westford, Wis. Harrow teeth	May 12, 1868.
	Jones, Benjamin J., *et al.* (*See* Sweet, Eli, assignor.)	
	Jones, Charles S. (*See* Hart, Wm. C. assignor.)	
73,340	Jones, Daniel, San Francisco, Cal. Axle for wagons	Jan. 14, 1868.
77,621	Jones, David A., Springfield, Mass. Tweezers, watch key, &c. (Antedated April 22, 1868)	May 5, 1868.
73,609	Jones, David D., Scranton, Pa. Clothes pin	Jan. 21, 1868.
83,971	Jones, Edgar A., and Julius A. Bidwell, Sturges, Mich. Valve for melodeons	Nov. 10, 1868.
	Jones, Elcazer, and Collins Potter. (*See* Potter & Jones.)	
	Jones, E. B., *et al.* (*See* Spencer, A. C., assignor.)	
77,048	Jones, Elijah O., Brandon, Mich. Land roller	Apr. 21, 1868.
	Jones, Florentine A. (*See* Elson, Julius, assignor.)	
76,082	Jones, Frederick J., assignor to self and Adolph Dick, Detroit, Mich. Belt hook	Mar. 31, 1868.
78,805	Jones, George, New Haven, Conn. Sprinkler and dredge	June 9, 1868.
3,076	Same.....Coffee urn ..... (Design)	June 30, 1868.
84,830	Same.....same	Dec. 8, 1868.
74,695	Jones, George A., New York, N. Y. Train for lamps	Feb. 18, 1868.
	Jones, George A., and Robert Hitchcock. (*See* Hitchcock & Jones.)	
83,972	Jones, G. D., Brooklyn, E. D., N. Y. Machine for cutting sugar into blocks	Nov. 10, 1868.
	Jones, George H., and Henry C. Berlin. (*See* Fry, Wm. T., assignor.)	
	Same.....same.	
77,383	Jones, George L., Chicopee, Mass. Bread cutter	Apr. 28, 1868.
82,324	Jones, George Newton, Oshkosh, Wis. Car brake	Sept. 22, 1868.
	Jones, George W., and Nelson Peterson. (*See* Peterson & Jones.)	
	Jones, Herbert, and N. B. Hall. (*See* Hall & Jones.)	
80,825	Jones, Horace C., Dowagiac, Mich. Basket	Aug. 11, 1868.
79,475	Jones, Horace K., Kensington, Conn. Balancing polishing wheels	June 30, 1868.
79,984	Same.....Attachment for balancing polishing wheels	July 14, 1868.
	Jones, H. M., *et al.* (*See* Cody, Bartlett & Jones.)	
74,096	Jones, Isaac B., Xenia, Ohio. Sawing machine	Feb. 4, 1868.
82,846	Same.....Combined ditching and boring machine	Oct. 6, 1868.
76,775	Jones, James W., Cumberland, Md. Apparatus for making extracts from bark and other materials	Apr. 14, 1868.
82,226	Jones, Jenkins, and T. G. Eiswald, Providence, R. I. Railway snow plow	Sept. 15, 1868.
74,372	Jones, John, Newark, N. J. Smoothing iron	Feb. 11, 1868.
73,531	Jones, John A., assignor to self and E. A. F. Mars, Baltimore, Md. Roofing compound	Jan. 21, 1868.
78,806	Jones, John Allcock, England. Manufacture of iron and steel	June 9, 1868.
81,908	Same.....same	Sept. 8, 1868.
	Jones, John H., *et al.* (*See* Sloan, John, assignor.)	
82,529	Jones, Joseph A., assignor to self and John Donaldson, Baltimore, Md. Roofing compound	Sept. 29, 1868.
82,530	Jones, J. Blackburn, Sparta, Ill. Carriage wheel	Sept. 29, 1868.
80,966	Jones, Mrs. J. D., Jersey City, N. J. Sieve	Aug. 11, 1868.
85,388	Jones, J. E., Wiretown, N. J. Elastic lanyard	Dec. 29, 1868.
80,865	Jones, J. M., assignor to self, Henry Johnson and George M. Bowman, Palmyra, N. Y. Printing press	Aug. 11, 1868.
75,023	Jones, J. T., assignor to the Singer Manufacturing Company, New York, N. Y. Friction driver	Mar. 3, 1868.
75,024	Same.....same	Mar. 3, 1868.
75,764	Jones, J. W. A., Memphis, Tenn. Street-railway scraper	Mar. 24, 1868.
85,010	Jones, Lewis, Funk's Grove, Ill. Pulverizer, leveler, and marker	Dec. 15, 1868.
75,922	Jones, Marcus A., Frankfort, Ky. Bread-making machine	Mar. 24, 1868.
77,494	Jones, Martha, Amelia County, Va. Corn husker, sheller, &c	May 5, 1868.
	Jones, Morgan. (*See* Snyder, Edward, assignor.)	
73,341	Jones, Moses J., Fredonia, N. Y. Saw frame	Jan. 14, 1868.
80,967	Jones, Norman C., New York, N. Y. Bale label	Aug. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,903	Jones, Phineas, Newark, N. J. Clip and ferrule for joints on felloes	Jan. 28, 1868.
74,373	Same.....Rein holder	Feb. 11, 1868.
76,198	Same.....Thill coupling	Mar. 31, 1868.
79,763	Jones, Robert H., San Francisco, Cal. Fireman's extension ladder	July 7, 1868.
82,122	Jones, Mrs. R. L., Sacramento, Cal. Composition for making designs upon fabrics. (Antedated May 6, 1868)	Sept. 15, 1868.
82,531	Jones, Samuel W., Bluffton, Ind. Corn planter	Sept. 29, 1868.
83,504	Jones, T. B., Radnor, Ohio. Fruit box	Oct. 27, 1868.
74,374	Jones, Thomas J., Scranton, Pa. Puddling furnace	Feb. 11, 1868.
74,543	Jones, Thomas J., Rochester, Mich. Press for packing fruit	Feb. 18, 1868.
74,544	Jones, T. J., assignor to self and Lorenzo D. Gillett, Rochester, Mich. Neck yoke	Feb. 18, 1868.
76,776	Jones, Thomas L., Natchez, Miss. Slide valve of combined high and low pressure engines	Apr. 14, 1868.
79,230	Jones, William, Chelsea, Mass. Gas heater	June 23, 1868.
84,425	Jones, W. Ashley, Dubuque, Iowa, and J. L. Sherman, Cassville, Wis. Steam-engine water heater	Nov. 24, 1868.
78,671	Jones, William C., Orangeville, Ohio. Sheep-shearing table	June 9, 1868.
79,128	Jones, William H., Boston, Mass. Quarter boot for horses	June 23, 1868.
80,745	Jones, W. H. H., and E. S. Harris, Morrison, Ill. Terret	Aug. 4, 1868.
3,191	Jones, W. M., and S. E. Taylor, assignors through mesne assignments to W. M. Jones and D. W. Hall, Horicon, Wis. Seeding machine.....(Division B, reissue)	Nov. 10, 1868.
3,197	Same.....same.....(Division A, reissue)	Nov. 17, 1868.
73,102	Jones, William M., San Francisco, Cal. Device for sharpening horseshoe calks	Jan. 7, 1868.
	Jones, W. N., *et al.* (*See* Snyder & Jones.)	
73,532	Jones, W. O., Portland, Maine. Combined rule and square	Jan. 21, 1868.
80,968	Same.....Hoisting gear	Aug. 11, 1868.
	Jordan, Charles H., and William McKee. (*See* McKee & Jordan.)	
79,355	Jordan, D. P., Chicago, Ill. Letter box	June 30, 1868.
	Jordan, George H., and Joseph W. Bradly. (*See* Bradly & Jordan.)	
	Jordan, Horace N. (*See* Howard, C. H., assignor.)	
79,356	Jordan, John B., Aurora, Wis. Cleaning and boring device	June 30, 1868.
85,310	Jordan, John W., Lexington, Va. Butt hinge	Dec. 29, 1868.
85,011	Jordan, Joseph R., and James Campbell, West Alexandria, Ohio. Combined corn crib and threshing floor	Dec. 15, 1868.
73,610	Jordan, Orlan L., Dowagiac, Mich. Concrete building-block press	Jan. 21, 1868.
3,272	Jordan, Peter A., assignor to Mackellar, Smiths & Jordan, Philadelphia, Pa. Printers' type.....(Design)	Dec. 1, 1868.
83,505	Jordan, Thomas B., assignor to B. H. Bartol, England. Steam generator	Oct. 27, 1868.
76,465	Jordan, William, Galena, Ill. Stilt skate	Apr. 7, 1868.
81,788	Jordan, William A., New Orleans, La. Harness	Sept. 1, 1868.
74,829	Jorey, James, Westville, Conn. Horseshoe	Feb. 25, 1868.
79,231	Joseph, Benjamin, assignor to self and William McNiece, Philadelphia, Pa. Pessary	June 23, 1868.
77,738	Joslin, Blinn D., and Reuben A. Newhall, North Brownville, Mich. Bed bottom	May 12, 1868.
79,129	Joslin, Gilman, Boston, Mass. Elevator	June 23, 1868.
3,112	Joslin, H. W., assignor through mesne assignments to J. J. Fields and A. H. King, New York, N. Y. Manufacture of rubber-coated leather....(Reissue)	Sept. 8, 1868.
74,545	Joslin, Rufus, Providence, R. I. Picker for looms	Feb. 18, 1868.
84,631	Joslin, William C., Putnam, Conn. Machine for reducing leather	Dec. 1, 1868.
76,199	Same.....Machine for rolling cots in drawing rollers	Mar. 31, 1868.
	Journey, John K. (*See* Spies, A. B., assignor.)	
80,550	Joy, David, assignor through mesne assignments to J. Vaughn Merrick, W. H. Merrick, and John E. Cope, Great Britain. Steam hammer	Aug. 4, 1868.
83,638	Joyce, Eliza, New York, N. Y. Low-water indicator	Nov. 3, 1868.
81,378	Joyce, J. L., New Haven, Conn. Button boot	Aug. 25, 1868.
75,765	Joyce, J. O., Dayton, Ohio. Water wheel	Mar. 24, 1868.
83,858	Same.....Pump	Nov. 10, 1868.
3,190	Same.....Rotary pump.....(Reissue)	Nov. 10, 1868.
84,697	Same.....Device for cutting out sections of annular cylinders	Dec. 8, 1868.
73,980	Jubb, W. H., Norwalk, Conn. Compound for destroying burrs in wool	Feb. 4, 1868.
	Jubb, William H., and William Vine. (*See* Vine & Jubb.)	
	Judd, E. M. (*See* Manville, E. J., assignor.)	
3,136	Judd, E. M., and Rodney L. Smith, assignors to Turner, Seymour & Judds. Wolcottville, Conn. Twine holder.....(Design)	July 28, 1868.
	Judd, Frank S., *et al.* (*See* Schartau, Eilert O., assignor.)	
	Judd, Jesse L., and Walter Forshee. (*See* Forshee & Judd.)	
75,923	Judd, Morton, New Haven, Conn. Sash and door button	Mar. 24, 1868.
73,342	Judge, Arthur L., Baltimore, Md. Expanding wheel hub	Jan. 14, 1868.
75,766	Judge, Edward S., Baltimore Md. Mode of producing an extra surface on papier maché	Mar. 24, 1868.
80,184	Judson, Agur, Newark, N. J. Sleeping berth for railroad cars	July 21, 1868.
81,645	Judson, Anson, Brooklyn, N. Y. Lamp	Sept. 1, 1868.
84,698	Same.....Lathe chuck	Dec. 8, 1868.
81,174	Judson, Frederick, Castleton, N. Y. Wash boiler	Aug. 18, 1868.
81,646	Same.....Machine for grinding reaper knives	Sept. 1, 1868.
84,831	Judson, Henry P., Bethlehem, Conn. Ox-bow pin	Dec. 8, 1868.
	Judson, R., and G. C. Smith. (*See* Smith & Judson.)	
76,466	Judson, Robert F., Kalamazoo, Mich. Draft equalizer for doubletrees	Apr. 7, 1868.
75,924	Judson, Roswell, and William H. Lynch, Matteawan, N. Y. Fastening wearing apparel, shoes, &c	Mar. 24, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75,683	Judson, Thomas S., assignor to self and Henry A. Alden, Matteawan, N. Y. Tie strap	Mar. 17, 1868.
	Judson, Whitcomb, and William H. Prescott. (*See* Prescott & Judson.)	
75,278	Juelson, Arne D. Wooster, Ohio. Rocker for child's carriage	Mar. 10, 1868.
80,285	Julien, Henri, Ottawa, Canada. Address-printing machine	July 28, 1868.
83,287	Julien, John, assignor to self and John F. Herr, Christianburg, Ohio. Whip socket	Oct. 20, 1868.
84,359	Jung, J. George, Newark, N. J. Method of constructing chains	Nov. 24, 1868.
82,325	Jürgens, Jürgen L., New Orleans, La. Fire escape	Sept. 22, 1868.
83,506	Justi, J. A. W., Savannah, Ga. Smoke stack for locomotives	Oct. 27, 1868.
	Justice, P. S. (*See* Shaw, Thomas, assignor.)	
	Same.....same.	
	Kaempfer, S. O., *et al.* (*See* Palmer, Harvey D., assignor.)	
78,525	Kaestner, Charles, assignor to self and Jacob Becker, Chicago, Ill. Barbers' chair	June 2, 1868.
75,279	Kafer, Peter M., Trenton, N. J. Tube for steam generators	Mar. 10, 1868.
73,015	Kafer, P. M., and J. M. De Lacy, Trenton, N. J. Water heater for fire engines	Jan. 7, 1868.
84,552	Kaiser, A. C., Vienna, Mo. Knife cleaner	Dec. 1, 1868.
84,280	Kaiser, Charles, New York, N. Y. Rotary steam engine	Nov. 24, 1868.
82,532	Kaiser, Frank, Buffalo, N. Y. Grinding mill	Sept. 29, 1868.
78,097	Kaiser, Gottlob, New York, N. Y. Permutation lock	May 19, 1868.
78,596	Kaiser, Gottlob, assignor to self and Vossnack & Steins, New York, N. Y. Still for spirits	June 2, 1868.
	Kamm, Jacob J. (*See* Willson, H. F., assignor.)	
73,728	Kane, Charles, Pittsburg, Pa. Die for heading bolts. (Antedated Jan. 16, 1868)	Jan. 28, 1868.
81,647	Kane, Daniel, Tivoli, Iowa. Threshing machine	Sept. 1, 1868.
	Karcher, Edouard, and C. M. T. Du Motay. (*See* Du Motay & Karcher.)	
	Karnes, A. (*See* Copp, Monroe M., assignor.)	
74,830	Kassing, Henry, New York, N. Y. Machine for cutting veneers	Feb. 25, 1868.
77,291	Kasson, Amasa C., assignor to self and Nelson C. Gridley, Milwaukee, Wis. Tea and coffee pot	Apr. 28, 1868.
84,194	Same.....Culinary vessel	Nov. 17, 1868.
85,230	Same.....Bushing for tool handles	Dec. 22, 1868.
3,238	Same.....Tea and coffee pot.....(Reissue)	Dec. 22, 1868.
74,228	Kastendike, J. Louis, Albany, N. Y. Cooking stove	Feb. 11, 1868.
79,357	Kathan, F. L., and E. D. Rummer, Roscoe, Ill. Boot crimp	June 30, 1868.
3,194	Kauffman, Ernest, assignor to Reed & Barton, Taunton, Mass. Ice pitcher. (Reissue)	Nov. 17, 1868.
	Kauffman, J. J. (*See* Arter, David, assignor.)	
73,611	Kaufman, Daniel, Boiling Springs, Pa. Fence	Jan. 21, 1868.
	Kaufman, J. A. and G. L. Dulaney. (*See* Dulaney & Kaufman.)	
83,973	Kaufman, Simon, Fairbury, Ill. Stay for collars	Nov. 10, 1868.
82,005	Kaufman, Ernest, and Anthony Weber, assignors to Ernest Kaufman, Philadelphia, Pa. Butter cooler	Sept. 8, 1868.
73,533	Kaulbeck, Charles, assignor to self and Watson W. Roberts, Boston, Mass. Manufacture of hinge hooks	Jan. 21, 1868.
83,859	Kay, Benjamin D. and Henry E., Fall River, Mass. Adjustable box for arbors, &c	Nov. 10, 1868.
83,507	Kay, James, Salem, Ind. Wheel plow	Oct. 27, 1868.
82,123	Kaye, John, Louisville, Ky. Hemp break	Sept. 15, 1868.
84,494	Kaylor, Edward, Perrysville, Pa. Machine for making nuts	Dec. 1, 1868.
	Kaylor, George W. (*See* McAnley, Charles D., assignor.)	
74,375	Kazenmayer, Albert, and Louis Valois, Newark, N. J. Burglar alarm	Feb. 11, 1868.
	Kear, George W., and John K. Sax. (*See* Sax & Kear.)	
	Kearney, James. (*See* Thurston, Thomas E., assignor.)	
82,326	Kearney, William, Union Township, N. J. Hydrant	Sept. 22, 1868.
75,925	Keasor, John L., Laconia, N. H. Gang plow	Mar. 24, 1868.
74,229	Keats, William and John, England. Mode in the manufacture of boots and shoes (Patented in England April 14, 1863)	Feb. 11, 1868.
79,130	Keck, Henry, Canaan, Ohio. Grain and hay elevator	June 23, 1868.
84,883	Keefer, Michael, Millstone Point, Md. Rock drill	Dec. 15, 1868.
82,959	Keeler, G. W., New Haven, Ohio. Plow	Oct. 13, 1868.
74,696	Keeler, J. F., Pittsburg, Pa. Platform scale	Feb. 18, 1868.
78,098	Same.....Scale beam	May 19, 1868.
78,748	Same.....Hollow-headed scale beam	June 9, 1868.
3,032	Same.....Platform scale.....(Reissue)	July 14, 1868.
77,197	Keeler, Timothy, and George S. Avery, Danbury, Conn. Variable eccentric	Apr. 28, 1868.
78,291	Keeler, Truman P., Worcester, Mass. Adjustable hammer and drop	May 26, 1868.
74,546	Keen, Samuel, East Bridgewater, Mass. Butter worker	Feb. 18, 1868.
79,576	Keeney, Harris, Danville, and Charles H. See, New Florence, Mo. Corn planter	July 7, 1868.
	Keeny Milton. (*See* Wickham, Horace J., assignor.)	
73,448	Keep, James M., New York, N. Y. Spring pen rack.(Antedated July 22, 1867)	Jan. 21, 1868.
81,648	Keep, William H., Stockton, Cal. Pump	Sept. 1, 1868.
77,886	Keep, William J., Buffalo, N. Y. Shield for smoothing irons	May 12, 1868.
	Keferstein, E. J. (*See* Lieber, Karl, assignor.)	
75,684	Keffer, Peter, assignor to self, William and Isaac W. Levan, Reading, Pa. Machine for stretching hat bodies	Mar. 17, 1868.
83,598	Keffer, Peter, assignor to self and E. G. Fishburn, Reading, Pa. Car brake	Oct. 27, 1868.
80,185	Keil, William, Hastings, Minn. Game table	July 21, 1868.
73,449	Keiler, Levi, Catawissa, Pa. Calculating machine. (Antedated Jan. 6, 1868)	Jan. 21, 1868.
79,985	Keim, William J., New York, N. Y. Spiral or winding stairs	July 14, 1868.
78,211	Keith, Arza B., North Bridgewater, Mass. Machine for cutting heel seats	May 26, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,343	Keith, Edmund, Buffalo, N. Y. Shingle machine	Jan. 14, 1868.
78,672	Keith, Eli, Wabash, Ind., and Alfred A. Eylar, Pontiac, Ill. Composition for tanning	June 9, 1868.
78,212	Keith, E. H., Bridgewater, Mass. Machine for molding wood screws	May 26, 1868.
	Keizer, Lewis R., *et al.* (*See* Murrill, James H., assignor.)	
78,099	Keller, C. F., Nevada, Ohio. Machine for taking the toll from grain in grist mills	May 19, 1868.
79,476	Keller, Isaac, Randolph, Ohio. Horse-power	June 30, 1868.
83,509	Keller, Jacob H. B., Chambersburg, Pa. Cultivator	Oct. 27, 1868.
73,534	Keller, Peter, New York, N. Y. Gas check	Jan. 21, 1868.
	Keller, Peter P., *et al.* (*See* Cahill, George, assignor.)	
75,551	Keller, Sebastian, Elizabethtown, Pa. Portable fence	Mar. 17, 1868.
79,232	Kellett, Robert James, San Francisco, Cal. Ticket punch	June 23, 1868.
84,195	Kelley, Edward G., New York, N. Y. Petroleum still	Nov. 17, 1868.
82,847	Kelley, Henry H., Philadelphia, Pa. Sash fastener	Oct. 6, 1868.
82,960	Kelley, J. B., and N. P. Kingsley, Brandon, Vt. Spring-bed bottom	Oct. 13, 1868.
	Kelley, James M., *et al.* (*See* Frey, F. E., assignor.)	
77,049	Kelley, J. W., Cleveland, Ohio. Mode for attaching whip sockets	Apr. 21, 1868.
80,551	Same.....Whiffletree	Aug. 4, 1868.
81,909	Kelley, Thomas B., Dundee, Ill. Ice boat	Sept. 8, 1868.
78,673	Kelley, Zeno, New Bedford, Mass. Bomb lance for killing whales	June 9, 1868.
	Kellogg, A. W. (*See* Sherman, Edwin F., assignor.)	
74,376	Kellogg, Charles, Detroit, Mich. Apparatus for boring links	Feb. 11, 1868.
74,377	Same.....Machine for forming eyes on metal rods	Feb. 11, 1868.
84,426	Kellogg, C. A., Elyria, Ohio. Corn planter	Nov. 24, 1868.
83,068	Kellogg, C. H. B., Tontogany, Ohio. Horse hay fork	Oct. 13, 1868.
75,429	Kellogg, Daniel, Jackson, Mich. Gas heater	Mar. 10, 1868.
84,832	Same.....Ypsilanti, Mich. Clothes boiler	Dec. 8, 1868.
73,981	Kellogg, E. H., Mukwonago, Wis. Flour bolt	Feb. 4, 1868.
80,490	Kellogg, Henry, New Haven, Conn. Hat. (Antedated July 14, 1868)	July 28, 1868.
78,749	Kellogg, J. Dwight, jr., Northampton, Mass. Churn dasher	June 9, 1868.
84,360	Kellogg, Lucien H., Monroe, Ohio. Horseshoe	Nov. 24, 1868.
77,887	Kellogg, Miner K., Baltimore, Md. Postage and revenue stamp	May 12, 1868.
74,378	Kellogg, Theodore D., New York, N. Y. Method of preserving bait for fishing	Feb. 11, 1868.
84,196	Same.....Refrigerator	Nov. 17, 1868.
81,511	Kells, Philip H., Adrian, Mich. Brick machine	Aug. 25, 1868.
81,789	Kellum, William C., San Francisco, Cal. Escapement	Sept. 1, 1868.
81,910	Same.....same	Sept. 8, 1868.
83,775	Same.....Clock escapement	Nov. 3, 1868.
83,776	Same.....same	Nov. 3, 1868.
	Kelly, A. J. (*See* Folmer, John F., assignor.)	
	Kelly, D. and C. (*See* Deakin, John, assignor.)	
	Kelly, D. A., *et al.* (*See* Smith, Kelly & Murdock.)	
74,547	Kelly, John, San Francisco, Cal. Construction of sea walls	Feb. 18, 1868.
	Kelly, John C., and Thomas Kerr. (*See* Kerr & Kelly.)	
	Kelly, John D., and George G. Hood. (*See* Hood & Kelly.)	
82,722	Kelly, John Stafford, New York, N. Y. Washing machine	Oct. 6, 1868.
76,777	Kelly, Lewis L., Delaware Station, Ind. Machine for tanning	Apr. 14, 1868.
74,379	Kelly, Michael, New York, N. Y. Fence	Feb. 11, 1868.
83,510	Kelly, Michael, St. Charles, Mo. Railroad switch	Oct. 27, 1868.
84,052	Kelly, Michael, assignor to self, William Lalor and James Slammon, New York, N. Y. Metallic fence	Nov. 17, 1868.
	Kelly, O. S., *et al.* (*See* Whiteley, Fassler & Kelly.)	
84,495	Kelly, Robert C., West Meriden, Conn. Coat support	Dec. 1, 1868.
	Kelsey, George R. (*See* Hartwig, Charles F., assignor.)	
80,633	Kelshaw, John, Lafayette, Ind. Steam generator	Aug. 4, 1868.
83,288	Kenaga, Samuel C., Kankakee City, Ill. Dumping platform	Oct. 20, 1868.
77,986	Kendall, Adoniram, Buffalo, N. Y. Cut-off valve gear	May 19, 1868.
73,904	Kendall, A. S., Guilford, Maine. Horse rake	Jan. 28, 1868.
79,131	Kendall, Jonas, South Framingham, and Addison Hathaway, Lenox, Mass., assignors to Andrew T. Serven. Machine for grinding glass plates, &c	June 23, 1868.
79,132	Same.....Machine for polishing glass	June 23, 1868.
	Kendall, J. B. (*See* Frost, Thomas W., assignor.)	
3,053	Kendall, Joseph W., Philadelphia, Pa. Foot for tubs, buckets, &c...(Reissue)	July 28, 1868.
76,467	Kendall, Joshua T., Concord, N. H. Machine for boring wagon hubs	Apr. 7, 1868.
83,860	Kendall, Richard A. and Thomas, Mineral Point, Wis. Railway-track cleaner	Nov. 10, 1868.
	Kendig, B. E., *et al.* (*See* Grebinger, Henry B., assignor.)	
73,344	Kendig, Christian, Safe Harbor, Pa. Clamp for filing saws. (Antedated Jan. 2, 1868)	Jan. 14, 1868.
75,926	Kendrick, Andrew W., Laconia, N. H. Bed bottom	Mar. 24, 1868.
80,354	Kendrick, Peter, Trenton, N. J. Machine for flattening and bending chain links	July 28, 1868.
82,124	Same.....Device for blocking chains	Sept. 15, 1868.
85,389	Kendricken, Paul H., Boston, Mass. Valve for steam and other enginery	Dec. 29, 1868.
	Keneagy, Samuel. (*See* Hart, Francis P., assignor.)	
	Kenfield, Montgomery, and William Nash. (*See* Nash & Kenfield.)	
82,125	Kennard, Thomas S., Exeter, N. H. Invalid rest	Sept. 15, 1868.
80,412	Kennedy, De Laney, New York, N. Y. Hay spreader	July 28, 1868.
74,097	Kennedy, De Laney, assignor to Henry J. Kennedy, New York, N. Y. Chain saw	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Kennedy, George. (*See* Waldie, James, assignor.)	
73,186	Kennedy, George, assignor to self and A. J. Tompkins, Clarksville, Iowa. Pad crimp press	Jan. 7, 1868.
	Kennedy, James E. and John H. (*See* Jacobs, Thomas, assignor.)	
	Kennedy, John, and John Schuessler. (*See* Schuessler & Kennedy.)	
84,496	Kennedy, John, Chicago, Ill. Hoisting machine	Dec. 1, 1868.
82,622	Kennedy, John C., Chicago, Ill. Soda fountain	Sept. 29, 1868.
82,848	Same.....Stove-pipe damper	Oct. 6, 1868.
77,888	Kennedy, John E., New Orleans, La. Screw propeller	May 12, 1868.
84,950	Kennedy, J. M., Vicksburg, Miss. Revolving inkstand	Dec. 15, 1868
2,916	Kennedy, Patrick, New York, N. Y. Cement for fixing door knobs..(Reissue)..	Apr. 14, 1868.
83,712	Kennedy, S. H., Hydetown, Pa. Machine for forming sheet-metal pans	Nov. 3, 1868.
	Kennedy, Thomas. (*See* Munger, W. T., assignor.)	
	Same.....(*See* Hall & Jones, assignors.)	
82,227	Kennedy, Timothy, Mt. Carmel, Conn. Belt fastening	Sept. 15, 1868.
80,186	Kennedy, William, New London, Pa. Water wheel	July 21, 1868.
81,175	Kenny, George, Nashua, N. H. Carriage wheel	Aug. 18, 1868.
83,639	Kent, Edward H., Portland, Oregon. Rotary spading machine	Nov. 3, 1868.
80,969	Kent, Munson F., West Union, Iowa. Gate	Aug. 11, 1868.
84,281	Kent, R. H., Middlebury, Ohio. Cloth-measuring apparatus	Nov. 24, 1868.
	Kent, William, and L. C. Winterburn. (*See* Winterburn & Kent.)	
74,831	Kenyon, O. A., McGregor, Iowa. Wagon lock	Feb. 25, 1868.
	Kenyon, Warren. (*See* Mott, Abil, assignor.)	
74,697	Kenyon, William, jr., assignor to self and Henry K. Kenyon, Steubenville, Ohio. Pipe tongs	Feb. 18, 1868.
73,345	Kephart, H. A., Fletcher, Ohio. Stream or river fence	Jan. 14, 1868.
77,384	Same.....Flood gate	Apr. 28, 1868.
78,526	Kepler, Joseph, Crawfordsville, Ind. Churn	June 2, 1868.
74,548	Kerns, John, assignor to self, D. M. Sluss, and D. M. Slusser, Louisville, Ohio. Extension ladder	Feb. 18, 1868.
	Kerper, G. B., *et al.* (*See* Strevell, Kerper & Wells.)	
85,101	Kerr, Edwin R., assignor to self and James L. Platt, Kewanee, Ill. Wood and coal dumping apparatus	Dec. 22, 1868.
78,807	Kerr, John and Dayton C., assignors to selves and S. H. Miller, Ames, Iowa. Slide snap for harness	June 9, 1868.
77,889	Kerr, Osear C., Philadelphia, Pa. Sewing machine. (Antedated May 4, 1868)..	May 12, 1868.
74,832	Kerr, Peter, England. Machine for polishing thread	Feb. 25, 1868.
76,923	Kerr, Richard, Boston, Mass. Fumigator. (Antedated April 14, 1868)	Apr. 21, 1868.
80,970	Kerr, Thomas, York, Pa. Fanning and rocking chair	Aug. 11, 1868.
76,330	Kerr, Thomas, and John C. Kelly, Edinburg, Ind. Device for holding cans while being soldered	Apr. 7, 1868.
85,311	Kerr, William, jr., and J. A. Robbins, Boston, Mass. Fountain comb	Dec. 29, 1868.
80,826	Kershaw, John, Paterson, N. J. Machine for cleaning cotton	Aug. 11, 1868.
77,050	Kershner, D. A., Elliottstown, Ill. Corn planter	Apr. 21, 1868.
78,377	Kessler, P. F., and John Carlisle, Dayton, Ohio. Steam heater	May 26, 1868.
80,634	Kester, William, Cherryville, Pa. Machine for grinding and polishing school slates	Aug. 4, 1868.
81,093	Kestler, John A., Chicago, Ill. Lubricating oil	Aug. 18, 1868.
76,468	Ketcham, W. Jay, assignor to self and George S. Prindle, Washington, D. C. Retainer for neckties	Apr. 7, 1868.
3,033	Ketchum, William F., deceased, by Louisa R. Ketchum, executrix, Buffalo, N. Y. Grass and grain cutting machine.....(Division A, reissue)..	July 14, 1868.
3,034	Same.....same.....(Division B, reissue)..	July 14, 1868.
75,767	Keyes, Eben W., Boston, Mass. Torpedo toy gun	Mar. 24, 1868.
	Keyser, Francis, *et al.* (*See* Lazell, Edwin, E., assignor.)	
80,971	Keyser, John H., New York, N. Y. Combined foot rest, grate, and fire-brick base	Aug. 11, 1868.
81,176	Same.....Mode of attaching mica to stove plates	Aug. 18, 1868.
82,228	Same.....Illuminating damper	Sept. 15, 1868.
82,327	Same.....Stove	Sept. 22, 1868.
82,723	Same.....Drum for hot-air furnaces	Oct. 6, 1868.
	Same.....(*See* Macy, Egbert, assignor.)	
	Kiburz, W., and J. Klinkhardt. (*See* Klinkhardt & Kiburz.)	
	Kid, Charlton B., and William C. Selden. (*See* Selden & Kid.)	
77,292	Kidd, I. J., Young's Settlement, Texas. Cotton scraper	Apr. 28, 1868.
77,293	Same.....Cotton chopper	Apr. 28, 1868.
81,911	Same.....Corn planter. (Antedated Aug. 28, 1868)	Sept. 8, 1868.
83,289	Kidd, Joshua, New York, N. Y. Apparatus for carbureting gas	Oct. 20, 1868.
83,390	Kidder, Daniel, Franklin, N. H. Knitting machine	Oct. 27, 1868.
	Kidder, G. G., and Andrew B. Uline. (*See* Moore, Jasper P., assignor.)	
	Same.....(*See* Mann & Terry, assignors.)	
79,477	Kidney, G. H., Cleveland, Ohio. Washing machine	June 30, 1868.
82,419	Kidwell, John L., Washington, D. C. Roofing cement	Sept. 22, 1868.
	Same.....(*See* Beschof, Gustav, jr., assignor.)	
83,582	Kidwell, John W., Washington, D. C. Extracting gold and silver from their ores	Oct. 27, 1868.
	Kiess, Samuel, and Gustavus Reneky. (*See* Reneky & Kiess.)	
81,379	Kihn, Carl, New York, N. Y. Treadle for sewing machines	Aug. 25, 1868.
81,277	Kilby, A. S., Huntington, Ind. Apparatus for printing photographs	Aug. 18, 1868.
84,427	Kilgore, J. C., Philadelphia, Pa. Steam generator	Nov. 24, 1868.
74,380	Killam, Henry, New Haven, Conn. Cross strap for carriages	Feb. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80, 075	Kilner. James Maze, England. Apparatus for towing vessels. (Patented in England April 4, 1867)	July 21, 1868.
	Kilvert, William H. (*See* Bailey, Benj. A., assignor.)	
73, 729	Kimball, Charles H., Quincy, Mass. Casket for preservation of corpses	Jan. 28, 1868.
2, 952	Kimball, Charles P., Portland, Maine. Exterior of the body of a sleigh. (Design)	Mar. 17, 1868.
79, 837	Same.....Car seat	July 14, 1868.
73, 535	Kimball, E. W., Hudson, N. Y. Bottom for coal hods	Jan. 21, 1868.
	Kimball, George G., *et al.* (*See* Fowler, David W., assignor.)	
75, 026	Kimball, George P., San Francisco, Cal. Construction of vehicles	Mar. 3, 1868.
84, 699	Kimball, Handley B., Charlotte, Mich. Mode of applying crystal frosting to glass	Dec. 8, 1868.
	Kimball, Handley B., and Alonzo M. Cheney. (*See* Cheney & Kimball.)	
	Kimball, H. N., *et al.* (*See* Utley, Kimball & Reynolds.)	
	Kimball, L. M. (*See* Gleason, Christopher C., assignor.)	
80, 972	Kimball, L. W., Pittsford, Vt. Door panel	Aug. 11, 1868.
85, 312	Same.....Moldings, cornices, and the like, from paper	Dec. 29, 1868.
	Kimball, Matthew H., and James Garvey. (*See* Garvey & Kimball.)	
	Same.....same.	
83, 174	Kimble, Samuel D., Allegheny City, Pa. Carriage brake	Oct. 20, 1868.
84, 553	Kime, Henry, Marshalltown, Iowa. Calk sharpener	Dec. 1, 1868.
76, 083	Kime, Samuel, McVeyton, Pa. Shaft bearing or mill-stone bush	Mar. 31, 1868.
74, 833	Kindig, Daniel, Newville, Pa. Composition for cleaning mill stones	Feb. 25, 1868.
80, 635	Kindleberger, T. J., Eaton, Ohio. Water wheel	Aug. 4, 1868.
85, 452	Kinert, William E., Bluffton, Ind. Churn	Dec. 29, 1868.
	Kinert, William E., and Snyder Filson. (*See* Filson & Kinert.)	
	King, A. H., and J. J. Fields. (*See* Joslin, H. W., assignor.)	
	King, A. W. (*See* Hodges, J. W., assignor.)	
78, 972	King, Charles, New York, N. Y. Timepiece	June 16, 1868.
81, 570	King, Charles B., Gallatin, Tenn. Potato slicer	Aug. 25, 1868.
84, 282	King, Chester, East Cleveland Ohio. Water elevator	Nov. 24, 1868.
	King, Dexter S. (*See* Harlow, Charles F., assignor.)	
73, 252	King, Ferdinand, assignor to self and Charles W. Neudecker, Richmond, Va. Generating illuminating gas	Jan. 14, 1868.
74, 230	Same.....Gas generator	Feb. 11, 1868.
79, 838	King, Francis L., Worcester, Mass. Machine for dressing stone	July 14, 1868.
80, 286	Same.....same.	July 28, 1868.
2, 925	King, Gamaliel, assignor through mesne assignments to Charles C. Pratt, Westfield, Mass. Covering whips.....(Division 1, reissue)	May 12, 1868.
2, 926	Same.....same.....(Division 2, reissue)	May 12, 1868.
81, 790	King, George, and Lyndhurst T. Shope, Frederick City, Md. Seeding machine	Sept. 1, 1868.
3, 000	King, George E., New York, N. Y. Fluting machine....(Division A, reissue)	June 23, 1868.
3, 001	Same.....Fluted puffing.....(Division B, reissue)	June 23, 1868.
77, 198	King, Gideon, Eminence, Ky. Hog-scalding tank	Apr. 28, 1868.
81, 278	King, G. W., Saratoga Springs, N. Y. Vagina injector	Aug. 18, 1868.
84, 197	King, George W., Georgetown, D. C. Telegraph instrument	Nov. 17, 1868.
78, 292	King, Henry, assignor to self and Francis Stappers, Waterbury, Conn. Grate bar	May 26, 1868.
82, 006	King, H. A., Nevada, Ohio. Beehive	Sept. 8, 1868.
	King, Henry C. (*See* Clime, John C., assignor.)	
75, 552	King, Henry N., Adrian, Mich. Adjustable jaw for vises	Mar. 17, 1868.
83, 861	King, Isaac, Germantown, Ohio. Beehive	Nov. 10, 1868.
74, 549	King, Jacob, assignor to self, James Hamilton, and B. Stokely, Indianapolis, Ind. Ditching machine	Feb. 18, 1868.
85, 012	King, James M., Quincy, Minn. Apparatus for tightening belts	Dec. 15, 1868.
82, 849	King, John F. H., Port Richmond, N. Y. Signal flag for vessels. (Antedated Sept. 25, 1868)	Oct. 6, 1868.
82, 229	King, John H., Smithfield, Ind. Gate	Sept. 15, 1868.
75, 927	King, Julius, Hoboken, N. J. Piston packing	Mar. 24, 1868.
83, 290	King, Lewis, Oriskany Falls, N. Y. Weeding hoe	Oct. 20, 1868.
	King, Martin, and Warren W. White. (*See* White & King.)	
77, 051	King, M. A., New York, N. Y. Muff	Apr. 21, 1868.
77, 622	King, P. W., Lowville, N. Y. Animal trap	May 5, 1868.
82, 126	King, Robert, J., Lancaster City, Pa. Oscillating steam engine	Sept. 8, 1868.
76, 469	King, Samuel M., Lancaster, Pa. Sawing machine	Apr. 7, 1868.
77, 495	King, Samuel U., Windsor, Vt. Wood-turning lathe	May 5, 1868.
85, 102	King, Simeon H., Tunbridge, Vt. Leather-cutting machine	Dec. 22, 1868.
78, 808	King, Walter, Richmond, Mo. Horse-power. (Antedated May 27, 1868)	June 9, 1868.
81, 791	King, Watson, Springfield, Ill. Hay rake	Sept. 1, 1868.
3, 136	King, Watson, assignor to James La Fayette King and William W. Watson, Springfield, Ill. Horse rake.....(Reissue)	Sept. 22, 1868.
75, 928	King, William, New York, N. Y. Fur collar	Mar. 24, 1868.
79, 839	Kingman, B. F., and N. V. B. Shepard, Chicago, Ill. Spring-bed bottom	July 14, 1868.
	Kingsley, N. P., and J. B. Kelley. (*See* Kelley & Kingsley.)	
80, 973	Kington, Francis A., Mendon, Ill. Wagon lock	Aug. 11, 1868.
79, 478	Kington, William N., Bowensburg, Ill. Saw clamp	June 30, 1868.
77, 890	Kinman, Ira, assignor to Sarah Kinman, Freeport, Ill. Curtain fixture	May 12, 1868.
85, 103	Kinney, C. A., and Charles Parker, Corry, Pa. Shingle machine	Dec. 22, 1868.
75, 430	Kinney, George, Bristol, Ind. Horse hay fork	Mar. 10, 1868.
	Kinney, Israel. (*See* Mercier, John, assignor.)	
80, 827	Kinney, Israel, assignor to Edward McGivern and John Webber, Detroit, Mich. Wagon seat	Aug. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,470	Kinsel, Charles M., Columbus, Ga. Bracelet	Apr. 7, 1868.
84,063	Kinsey, Henry, F. W. Kissell, J. E. and J. M. Smith, Ligonier, Pa. Hay cutter	Nov. 17, 1868.
	Kinsley, Rhodolphus, Springfield, Mass. Tobacco press. (Disclaimer; filed July 6, 1868.)	
	Kinsman, John. (*See* Melcher, George B., assignor.)	
77,052	Kint, Daniel, Hasleton, Iowa. Combined seeder, cultivator, and harrow	Apr. 21, 1868.
76,200	Kintz, George W., West Henrietta, N. Y. Potato digger	Mar. 31, 1868.
76,924	Same.....Washing and wringing machine	Apr. 21, 1868.
	Kinyon, Alonzo. (*See* Parker, Joseph, assignor.)	
81,177	Kinzer, George W., Lindon Station, Ohio. Combined planter and cultivator	Aug. 18, 1868.
80,974	Kinzer, Jacob, Pittsburg, Pa. Reversible latch	Aug. 11, 1868.
81,649	Kipp, A., jr., Sing Sing, N. Y. Steam and fire regulator	Sept. 1, 1868.
82,007	Same.....Rotary steam engine	Sept. 8, 1868.
82,008	Kirby, Thomas B., Flowerfield, Mich. Animal trap	Sept. 8, 1868.
3,198	Kirby, William A., Auburn, N. Y. Harvesting machine..(Division A, reissue)	Nov. 17, 1868.
3,199	Same.....same.....(Division B, reissue)	Nov. 17, 1868.
84,833	Same.....Harvester rake	Dec. 8, 1868.
76,084	Kirchfeld, J., and F. Heyl, Riegelsville, Pa. Match box	Mar. 31, 1868.
76,925	Kirchhof, Charles, Newark, N. J. Blast gun	Apr. 21, 1868.
75,768	Kirchner, Nicolaus, Philadelphia, Pa. Device for fastening shoes	Mar. 24, 1868.
84,428	Kirk, Alexander C., Scotland. Blowing engine	Nov. 24, 1868.
78,878	Kirk, Arthur, Allegheny City, Pa. Distilling petroleum. (Antedated Feb. 10, 1868)	June 16, 1868.
73,813	Kirk, George B., Newark, N. J. Pipe and bolt cutter	Jan. 28, 1868.
74,096	Kirk, Henry H., Springfield, Tenn. Distillery	Feb. 4, 1868.
85,313	Kirk, Joseph S., Pittsburg, Pa. Food for animals	Dec. 29, 1868.
76,201	Kirk, S. W., Coatesville, Pa. Lock nut	Mar. 31, 1868.
	Kirk, Thomas A., and Joseph B. Spurgin. (*See* Spurgin & Kirk.)	
74,381	Kirk, W. A. L., Hamilton, Ohio. Workmen's time register	Feb. 11, 1868.
82,328	Same.....Head block	Sept. 22, 1868.
84,361	Kirk, W. A. L., assignor to Owens, Lane, Dyer & Company, Hamilton, Ohio. Swage for saws	Nov. 24, 1868.
75,168	Kirkham, E. H., Boston, Mass. Clothes sprinkler	Mar. 3, 1868.
74,916	Kirkham, George B., New York, N. Y. Strap holder	Feb. 25, 1868.
78,100	Kirkham, Michael, Eminence, Ind. Shield plow	May 19, 1868.
76,778	Kirkland, William P., assignor to self, John L. and Edgar M. Murphy, San Francisco, Cal. Drain and water pipe	Apr. 14, 1868.
82,329	Kirkley, James, assignor to self and Hugh Gray, Chicago, Ill. Car-brake attachment	Sept. 22, 1868.
79,133	Kirkpatrick, Alexander, Newark, N. J. Implement for shielding plants from a hoe	June 23, 1868.
74,698	Kirkpatrick, John D., Urbana, Ohio. Filtering burning fluid	Jan. 18, 1868.
77,891	Same.....Preventing hogs from rooting	May 12, 1868.
	Kirkpatrick, Thomas S. G. (*See* De Gerbeth, Francois Louis, assignor.)	
78,459	Kirtland, George, assignor to S. Smith, New Haven, Conn. Lightning rod	June 2, 1868.
3,246	Kissam, John W., New York, N. Y. Scale dish.....(Design)	Nov. 17, 1868.
	Kissell, F. W., *et al.* (*See* Kinsey, Kissell & Smith.)	
80,636	Kistler, W. F., assignor to self and George W. Gillette, Chicago, Ill. Cooking stove	Aug. 4, 1868.
84,362	Kitchen, A. F., Shelton Depot, S. C. Door fastening and alarm	Nov. 24, 1868.
84,283	Kitchen, George H., New York, and Scotto C. Nash, Brooklyn, N. Y. Portable gas apparatus	Nov. 24, 1868.
73,187	Kitchen, J. M. W., New York, N. Y. Fruit jar	Jan. 7, 1868.
	Kitchen, W. W. (*See* Beaty, George, assignor.)	
75,169	Kitson, Richard, Lowell, Mass. Brake for cotton lappers	Mar. 3, 1868.
76,926	Same.....Screen cylinder for cotton pickers	Apr. 21, 1868.
80,975	Same.....Screen for machines for treating cotton	Aug. 11, 1868.
82,009	Kittredge, Edmund W., Cincinnati, Ohio. Paving roller	Sept. 8, 1868.
85,453	Kivett, John and George, Covington, Ky. Method of laying and spreading composition roofing and pavement	Dec. 29, 1868.
82,230	Klee, John, Dayton, Ohio. Bottle stopper	Sept. 15, 1868.
78,973	Klee, Leopold, assignor to self and Charles T. Herrosee, Pittsburg, Pa. Mash tub	June 16, 1868.
3,068	Kleemann, Carl A., Prussia. Lamp.....(Reissue)	Aug. 4, 1868.
	Klein, August. (*See* Neumeyer, Gustav Adolph, assignor.)	
74,917	Klein, Charles, Albany, N. Y. Folding cradle	Feb. 25, 1868.
	Klein, Eugene, and Maurice H. Jacobi. (*See* Jacobi & Klein.)	
77,623	Klein, Jacob, Williamsburg, N. Y. Permutation lock	May 5, 1868.
	Klein, John. (*See* Fiedler, Moritz, assignor.)	
75,170	Klein, John L., New York, N. Y. Manufacture of soap	Mar. 3, 1868.
79,358	Same.....Making soap	June 30, 1868.
74,834	Klemm, William, and R. Dittrich, Pittsburg, Pa. Bolt-making machine	Feb. 25, 1868.
79,074	Kleppinger, Joseph H., Cherryville, Pa. Horse-power	June 23, 1868.
84,125	Klepzig, John, San Francisco, Cal. Lemon squeezer	Nov. 17, 1868.
83,640	Kletzker, Albert J., St. Louis, Mo. Paper fastener	Nov. 3, 1868.
73,450	Kline, Calvin, assignor to self and R. L. Peabody, Brooklyn, N. Y. Stuffing box for valve stems, &c	Jan. 21, 1868.
77,892	Kline, E. I., Kirkville, Iowa. Beehive	May 12, 1868.
84,363	Kline, John, Rochester, N. Y. Cover for circular vessels	Nov. 24, 1868.
79,233	Kling, Isaac, Seymour, Ind. Billiard register	June 23, 1868.
80,746	Klinglesmith, John F., Hardin County, Ky. Hand corn planter	Aug. 4, 1868.
84,284	Klinkhardt, J., and W. Kiburz, assignors to selves and Paul Oehler, St. Louis, Mo. Brick machine	Nov. 24, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75, 769	Kloman, Andrew, Pittsburg, Pa. Pile for girder irons	Mar. 24, 1868.
75, 770	Same.....Making piles for girder beams	Mar. 24, 1868.
	Same.....(*See* Thomas, Loopold, assignor.)	
	Same.....same	
83, 974	Knaggs, Walter, Clarendon, Jamaica. Manufacture of sugar. (Antedated Nov. 7, 1868)	Nov. 10, 1868.
73, 905	Knapp, A. H., Newton Center, Mass. Spring for bed bottoms, chairs, &c	Jan. 28, 1868.
	Knapp, Aaron W. (*See* Moore, Halsey, assignor.)	
77, 294	Knapp, Henry F., New York, N. Y. Collar machine	Apr. 28, 1868.
	Knapp, John C., *et al.* (*See* Obrecht, Henry, assignor.)	
73, 612	Knauer, Christian F., Pittsburgh, Pa. Curtain fixture	Jan. 21, 1868.
83, 641	Kneedler, John D., assignor to self and Thomas S. Davis, Collinsville, Ill. Gang plow	Nov. 3, 1868.
80, 287	Kneeland, William C., Brooklyn, N. Y. Manufacture of cigars	July 28, 1868.
82, 850	Kneip, George, New York, N. Y. Fountain pen	Oct. 6, 1868.
76, 202	Knell, George, Moorestown, N. J. Chair and lounge	Mar. 31, 1868.
83, 975	Knepley, Jacob M., Jersey Shore, Pa. Harvester	Nov. 10, 1868.
77, 385	Knick, James L., Lexington, Ill. Implement for extracting hedge plants and weeds	Apr. 28, 1868.
	Knight, D. S., and L. J. Smith. (*See* Smith & Knight.)	
	Knight, Henry, *et al.* (*See* Lockhart, Roberts & Knight.)	
79, 480	Knight, James, Philadelphia, Pa. Indicator for street-railway cars	June 30, 1868.
80, 288	Knight, J. A., Durham, Maine. Fruit picker	July 28, 1868.
	Knight, J. B., and C. S. Hunt. (*See* Hunt & Knight.)	
	Same.....same.	
	Knisely, A. J., and M. Nye. (*See* Nye & Knisely.)	
75, 771	Knisely, Christian, Chicago, Ill. Burglar alarm	Mar. 24, 1868.
76, 203	Knobel, Andrew, Monroe, Wis. Hot-air furnace	Mar. 31, 1868.
76, 204	Same.....Coal stove	Mar. 31, 1868.
79, 481	Knoblock, Ph., Wyandotte, Kansas. Car coupling	June 30, 1868.
74, 382	Knoch, William, Allegheny City, Pa. Axle for vehicles	Feb. 11, 1868.
82, 961	Knorr, Jacob F., assignor to Frank K. Hipple, Philadelphia, Pa. Harness saddle tree. (Antedated Oct. 3, 1868)	Oct. 13, 1868.
83, 862	Knott, Richard, Suisun, Cal. Horse-power fastener	Nov. 10, 1868.
77, 739	Knowles, George G., Wakefield, R. I. Hay spreader	May 12, 1868.
	Knowles, H. M., *et al.* (*See* Lecompte, S. D., assignor.)	
79, 986	Knowles, L. J., Warren, Mass. Belt shipper for looms	July 14, 1868.
81, 279	Knowles, M. M., Elmira, N. Y. Extension ladder	Aug. 18, 1868.
84, 554	Knowles, Martin V. B., Wakefield, R. I. Chalk-line reel	Dec. 1, 1868.
74, 550	Knowles, Thomas, Robert, and Samuel, Jersey City, N. J. Harvester cutter	Feb. 18, 1868.
80, 187	Knowles, William, Rockville, Ind. Shawl pin	July 21, 1868.
83, 511	Knowles, Wilson W., Plantsville, Conn. Thill coupling. (Antedated Oct. 17, 1868)	Oct. 27, 1868.
79, 840	Knowlson, A. M., Troy, N. Y. Suppository machine	July 14, 1868.
75, 027	Knowlton, A. A., St. Albans, Vt. Mold for artificial teeth	Mar. 3, 1868.
75, 431	Same.....same	Mar. 10, 1868.
81, 792	Knowlton, Charles H., assignor to Furbush & Gage, Camden, N. J. Cam for operating shuttle boxes	Sept. 1, 1868.
76, 779	Knowlton, Dallas, Liberty, Maine. Stove-pipe drum	Apr. 14, 1868.
73, 906	Knowlton, Ernest J., Ann Arbor, Mich. Bath tub	Jan. 28, 1868.
	Knowlton, George H. (*See* Thompson & Burbank, assignors.)	
83, 713	Knowlton, Henry C., Gardner, Mass. Chair seat	Nov. 3, 1868.
3, 263	Same.....Chair-seat bow.....(Design)	Nov. 24, 1868.
73, 251	Knowlton, H. W., Saratoga Springs, N. Y. Machine for husking corn. (Antedated Jan. 1, 1868)	Jan. 14, 1868.
73, 536	Knowlton, John L., Philadelphia, Pa. Circular-saw mill	Jan. 21, 1868.
76, 471	Same.....Saw mill	Apr. 7, 1868.
2, 840	Knox, C. H., Mt. Pleasant, Iowa. Clothes wringer.....(Reissue)	Jan. 14, 1868.
	Knox, John, and Joseph Collins. (*See* Collins & Knox.)	
	Knox, Samuel A. (*See* Sessions, Francis E., assignor.)	
	Knox, William, and William C. McGill. (*See* McGill & Knox.)	
84, 555	Koberle, Joseph, St. Louis, Mo. Button	Dec. 1, 1868.
77, 624	Koch, August, Baltimore, Md. Cooler and refrigerator	May 5, 1868.
75, 553	Koch, John, Brookline, Mass. Furniture drawer and fastening	Mar. 17, 1868.
81, 650	Koch, John, and David Seachrist, Columbiana, Ohio. Hames fastener	Sept. 1, 1868.
77, 893	Koehler, Joseph, New York, N. Y. Fishing apparatus	May 12, 1868.
74, 383	Koeller, Hermann, and William Uecke, Camp Point, Ill. Hand seed planter	Feb. 11, 1868.
73, 188	Koenig, Gottlieb, Plymouth, Mich. Spring-bed bottom	Jan. 7, 1868.
74, 699	Koenig, Gottlieb, and George Otto, Plymouth, Mich. Potato digger	Feb. 18, 1868.
78, 293	Koffend, John, Appleton, Wis. Plow	May 26, 1868.
76, 472	Kohl, W. M., Cincinnati, Ohio. Stereoscope	Apr. 7, 1868.
84, 700	Kohler, Christian, Galena, Ill. Car coupling	Dec. 8, 1868.
76, 927	Kohler, John, New York, N. Y. Lifting jack	Apr. 21, 1868.
79, 577	Kohler, Joseph, Cincinnati, Ohio. Animal trap	July 7, 1868
	Kohn, Tobias. (*See* Trapp, Wm. W., assignor.)	
	Same.....same.	
	Same.....(*See* Wegman, Franz R., assignor.)	
76, 780	Kohout, Jacob E., Brooklyn, N. Y. Padlock	Apr. 14, 1868.
76, 473	Komp, A., New York, N. Y. Machine for attaching spangles to hoops of skirts	Apr. 7, 1868.
79, 482	Same.....Eyeleting machine	June 30, 1868.
82, 127	Koon, M. A. Catskill, N. Y. Adjustable carriage pole	Sept. 15, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,199	Koplin, William, New Castle, Pa. Spike machine	Apr. 28, 1868.
82,231	Kopp, Julius, Hoboken, N. J. Attachment for gas burners	Sept. 15, 1868.
	Kostenbander, Daniel. (*See* Hoagland, Samuel M., assignor.)	
77,496	Krafft, Hack, Mulberry, Pa. Horse hay fork	May 5, 1868.
82,232	Kraft, B. F., Reading, Pa. Faucet	Sept. 15, 1868.
79,234	Kraft, Frederick A., Philadelphia, Pa. Zincing iron	June 23, 1868.
74,551	Kramer, Charles F., Mondovia, Wis. Settee, bed, and table	Feb. 18, 1868.
	Kramer, Christian. (*See* Heckart, George W., assignor.)	
	Same.....same.	
81,178	Kramer, Frederick, St. Louis, Mo. Sash fastener	Aug. 18, 1868.
76,205	Kraus, Frederick, Philadelphia, Pa. Hollow auger	Mar. 31, 1868.
77,295	Krausch, C. W. Theodore, Philadelphia, Pa. Belt coupling. (Antedated April 21, 1868)	Apr. 28, 1868.
	Krausse, E. B., and William M. Page. (*See* Page & Krausse.)	
79,764	Krant, Henry, St. Louis, Mo. Apparatus for atomizing liquids	July 7, 1868.
	Kreamer, J., and D. M. Swartz. (*See* Swartz & Kreamer) .....(Reissue.)	
77,819	Krebs, Charles, West Springfield, Mass. Countersink	May 12, 1868.
81,793	Kreischer, Balthasar, New York, N. Y. Burning kiln	Sept. 1, 1868.
	Same.....(*See* Christiansen, John, assignor.)	
	Kreps, Henry, and Charles O'Bryan. (*See* O'Bryan & Kreps).....(Reissue.)	
84,285	Krick, Francis, assignor to self and Eli Sinks, Fidelity, Ohio. Lifting jack	Nov. 24, 1868.
82,128	Kriebel, Andrew, Hereford, Pa. Lifting machine	Sept. 15, 1868.
78,101	Kriechbaum, John G., Youngstown, Ohio. Safe-door lock	May 19, 1868.
85,454	Krieg, Julius, New York, N. Y. Piano-stool screw	Dec. 29, 1868.
84,198	Krigbaum, Giles, D. A., Zanesville, Ohio. Apparatus for holding sheep	Nov. 17, 1868.
81,380	Kritch, Jacob, Cleveland, Ohio. Die for making clevis blanks	Aug. 25, 1868.
79,578	Kroeger, William, Allegheny City, Pa. Spring. (Antedated June 24, 1868)	July 7, 1868.
81,512	Kroger, A. E., Norwalk, Conn. Horseshoe	Aug. 25, 1868.
76,331	Krom, Stephen R., New York, N. Y. Apparatus for separating ores and minerals	Apr. 7, 1868.
80,747	Same.....Apparatus for concentrating ores and minerals	Aug. 4, 1868.
81,794	Same.....Machine for separating ores. (Antedated Aug. 5, 1868)	Sept. 1, 1868.
3,182	Same.....same .....(Reissue)	Nov. 3, 1868.
2,919	Kronig, Carl, assignor to Theodoro A. Havemeyer, J. Lawrence Elder, and Charles F. Loosey, New York, N. Y. Manufacture of sugar molds and other articles .....(Reissue)	Apr. 14, 1868.
83,714	Kruger, Charles Ernest, New York, N. Y. Photographic rest	Nov. 3, 1868.
76,637	Krumm, Martin, jr., Columbus, Ohio. Construction of fence posts	Apr. 14, 1868.
81,651	Kruse, Lois, Sabula, Iowa. Holdback	Sept. 1, 1868.
77,987	Kuehn, Carl, assignor to Joseph R. Von Wessely, Austria. Mode of utilizing tin scrap or waste	May 19, 1868.
81,912	Kuhn, James, Mt. Pleasant, Pa. Face tester for mill stones	Sept. 8, 1868.
84,884	Kuhnle, Charles F., Washington, D. C. Dovetailing machine	Dec. 15, 1868.
85,455	Kuhns, B., Dayton, Ohio. Seed planter	Dec. 29, 1868.
	Kune, Julian, and G. A. Mariner. (*See* Mariner & Kune.)	
81,381	Kuneman, Jacob, Canton, Ohio. Joiners' clamp	Aug. 25, 1868.
81,795	Kupfer, Carl, assignor to self and Kund J. Fleischer, Madison, Wis. Plane for cutting blind slats	Sept. 1, 1868.
83,175	Kurtz, Jesse B., Davisburg, Pa. Horse hay fork	Oct. 20, 1868.
84,497	Kustel, Guido, San Francisco, Cal. Mode of working gold and silver ore	Dec. 1, 1868.
84,951	Kuttner, J. H., Hempstead, Texas. Suspender for scissors	Dec. 15, 1868.
78,527	Laass, Emil, Syracuse, N. Y. Arch of furnaces for evaporating kettles, &c.	June 2, 1868.
77,053	LaBaw, George W., Jersey City, N. J., Aaron T. Hutchinson, Harlem, N. Y., and Ira W. Fleming, Jersey City, N. J. Miter gauge	Apr. 21, 1868.
	Laburt, John. (*See* Bishop, George W., assignor.)	
81,179	Lacey, Daniel P., assignor to Robert R. Ball, Oxfordville, Wis. Sash holder	Aug. 18, 1868.
77,625	Lacey, E. F., and D. K. Woodbury, Danville, Ill. Hames	May 5, 1868.
	Lacey, H. A. (*See* Acker, George S., assignor.)	
2,915	Lacour, Louis, San Francisco, Cal. Bottle .....(Design)	Feb. 4, 1868.
	Lacy, B. W. (*See* Wilmarth & Farr, assignors.)	
	Lacy, B. W., and S. C. Eaton. (*See* Wilmarth, William C., assignor.)	
	Lacy, John S., jr., *et al.* (*See* Exelby & Marshall, assignors.)	
81,797	Ladd, Benjamin, Ottumwa, Iowa. Horseshoe	Sept. 1, 1868.
	Ladd, Frank. (*See* McLea, Wm. J., assignor.)	
	Ladd, George P. (*See* Lyman, George G., assignor.)	
81,382	Ladenberger, F. D., Glen Beulah, Wis. Wagon brake	Aug. 25, 1868.
84,632	Laemmel, Moritz, Bay Ridge, N. Y. Mechanical movement	Dec. 1, 1868.
83,069	Lafetre, James, New York, N. Y. Cake mixer	Oct. 13, 1868.
77,200	Lafever, A., and R. K. Laraway, Battle Creek, Mich. Equalizor	Apr. 28, 1868.
77,054	Lafferty, Hugh W. and Robert, Gloucester, N. J. Centrifugal hydro-ejector	Apr. 21, 1868.
3,153	Same.....Centrifugal machine for draining sugar, &c. .....(Reissue)	Oct. 6, 1868.
79,765	Lafferty, Robert M., assignor to self, J. E. and J. P. Prutzman, Three Rivers, Mich. Preparing cotton seed for planting	July 7, 1868.
80,976	Lafler, J. A., Albion, N. Y. Brick machine	Aug. 11, 1868.
79,483	Laflin, Perley, assignor to self and John J. Sprague, Warren, Mass. Shuttle	June 30, 1868.
83,512	Same.....Automatic car coupling	Oct. 27, 1868
76,781	Laforge, Frederick H., and William Geddes, Waterbury, Conn. Machine for straightening and rounding shafting	Apr. 14, 1868.
2,831	La Forme, Francis, J., assignor through mesne assignments to Milo S. Burr, Boston, Mass. Nursing bottle .....(Reissue)	Jan. 14, 1868.
84,633	La France, P. A., assignor to self and O. B. Gray, Elmira, N. Y. Wash powder	Dec. 1, 1868.
77,497	Lagowitz, Jacob, Newark, N. J. Traveling bag	May 5, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84, 364	Lagowitz, Samuel, Newark, N. J. Frame for traveling bag	Nov. 24, 1868.
84, 199	La Halt, S. C., P. Listeman, and C. Hadley, Collinsville, Ill. Wagon-top bow. (Antedated Nov. 9, 1868)	Nov. 17, 1868.
77, 988	Laidley, T. T. S., United States Army. Tompion for fire-arms. (Antedated May 1, 1868)	May 19, 1868.
2, 850	Laird, Andrew J., deceased, by Mary Jane Laird, administratrix, Middletown, Pa. Horse hay fork (Reissue)	Feb. 4, 1868.
74, 918	Laird, Hugh, Mechanicsburg, Pa. Tuyere	Feb. 25, 1868.
78, 294	Same Horse hay fork	May 26, 1868.
82, 176	Laird, R. S., and W. F. Stone, Sandwich, Ill. Rain-water cut-off	Oct. 20, 1868.
75, 929	Laist, Otto, Cincinnati, Ohio. Manufacture of glycerine	Mar. 24, 1868.
79, 235	Lake, Ezra B., Bridgeport, N. J. Ships' fender	June 23, 1868.
73, 730	Lake, Henry, San Francisco, Cal. Japan-paste blacking	Jan. 28, 1868.
	Lake, Jeremy, *et al.* (*See* Reed, Lake & Sisson.)	
79, 841	Lakin, J. A., Thompsonville, Conn. Radiator	July 14, 1868.
80, 076	Same Stove-pipe drum	July 21, 1868.
	Lalor, John B. (*See* Creamer, George N., assignor.)	
80, 637	Lalor, Thomas, assignor to John Dewi, George Harding, and Bartholomew Lalor, Toronto, Canada. Indicator lock	Aug. 4, 1868.
	Lalor, William, *et al.*. (*See* Kelly, Michael, assignor.)	
74, 919	Lamb, Alford, assignor to self, William H. Morse, and Mary E. Layman, Jeffersonville, N. Y. Washing machine	Feb. 25, 1868.
3, 162	Lamb, Alford, assignor to self, Mary E. Layman, and William H. Morse, Jeffersonville, N. Y. Washing machine (Reissue)	Oct. 20, 1868.
74, 920	Lamb, James, Hubbardstown, Mass. Rocking chair	Feb. 25, 1868.
77, 626	Lamb, James, Aurora, Ind. Shaft coupling	May 5, 1868.
	Same (*See* Richmond, Peter, assignor.)	
72, 346	Lamb, James, Aurora, and Francis Livings, East Enterprise, Ind. Scaffold for buildings	Jan. 14, 1868.
79, 662	Lamb, John, Jeffersonville, N. Y. Washing machine	July 7, 1868.
	Lamb Knitting Machine Manufacturing Company. (*See* Crandell, John, assignor.)	
	Same same.	
75, 772	Lamb, William, Rochelle, Ill. Churn	Mar. 24, 1868.
82, 129	Lambert, Jean, assignor to self and C. Rumpff, New York, N. Y. Aniline dye	Sept. 15, 1868.
76, 207	Lambert, Richard C., assignor to David Whittemore, Raynham, Mass. Heel-cutting machine	Mar. 31, 1868.
80, 828	Same Machine for trimming the edges of boots and shoes	Aug. 11, 1868.
	Lambrigot, Jacques P., and Paul A. M. Chauvassaignes. (*See* Chauvassaignes & Lambrigot.)	
79, 292	Lament, J. H. and D. A., Troy, Pa. Fruit picker	June 30, 1868.
75, 636	Lamont, James, Pittsburg, Pa. Fence and trellis post	Mar. 17, 1868.
	La Mothe, B. J., New York, N. Y. Railroad car (Extension)	Apr. 3, 1868.
79, 766	Lamphere, Charles T., Greenfield, Mass. Eye protector or chip arrester for lathes	July 7, 1868.
74, 700	Lamplugh, Isaac, Peoria, Ill. Punching apparatus	Feb. 18, 1868.
83, 177	Same Method of welding tires. (Antedated Oct. 3, 1868)	Oct. 20, 1868.
	Lampman, D. C. and B. H. Hobart. (*See* Hobart & Lampman.)	
73, 982	Lampson, Daniel, Lyons, Iowa. Washing machine	Feb. 4, 1868.
79, 579	Lamson, Henry P., Lowell, Mass. Sewing machine	July 7, 1868.
79, 912	Lanagan, M. A., assignor to self, John Dailey, Robert Russell, and Andrew Mercein, Brooklyn, N. Y. Machine for punching and shearing	July 14, 1868.
74, 552	Lancaster, Israel, Baltimore, Md. Harvester	Feb. 18, 1868.
75, 773	Same same	Mar. 24, 1868.
75, 774	Same same	Mar. 24, 1868.
80, 188	Same Harvester rake	July 21, 1868.
84, 268	Lander, J. C. and R. R., Mazo Manie, Wis. Beehive	Nov. 24, 1868.
77, 740	Landis, Frank F., Lancaster, Pa. Padlock. (Antedated May 7, 1868)	May 12, 1868.
	Landis, Frank F., and George W. Greer. (*See* Greer & Landis.)	
73, 016	Landis, Israel L., Lancaster, Pa. Farm gate	Jan. 7, 1868.
	Landis, Israel L., *et al.* (*See* Arndt, Theophilus, assignor.)	
83, 715	Landis, J. K., Palmyra, Pa. Car coupling	Nov. 3, 1868.
	Lane & Bodley. (*See* Hedges & Story, assignors.)	
79, 359	Lane, Azel, Addison, N. Y. Machine for dressing mill stones	June 30, 1868.
78, 974	Lane, C. M., assignor to self and Charles Gooch, Cincinnati, Ohio. Combination tool for measuring and marking	June 16, 1868
2, 872	Lane, Dennis, Montpelier, Vt. Head block for saw mills (Reissue)	Feb. 18, 1868.
79, 484	Same same	June 30, 1868.
80, 491	Same same	July 28, 1868.
74, 384	Lane, George, New York, N. Y. Door hinge	Feb. 11, 1868.
77, 055	Lane, George, Hamilton, Ohio. Boot heel	Apr. 21, 1868.
76, 638	Lane, George, assignor to self and Benjamin W. Hicks, New York, N. Y. Ice pitcher	Apr. 14, 1868.
73, 983	Lane, John, Chicago, Ill. Mode of forming plow lays	Feb. 4, 1868.
76, 208	Same Plow	Mar. 31, 1868.
80, 189	Same same. (Antedated March 31, 1868)	July 21, 1868.
80, 552	Same Apparatus for welding together the lay and land-side of a plow	Aug. 4, 1868.
82, 130	Same Plow and cultivator	Sept. 15, 1868.
76, 474	Lane, John D., assignor to Horace Everett, New York, N. Y. Manufacture of tin boxes	Apr. 7, 1868.
73, 814	Lane, Philander P., and Joseph T. Bodley, Cincinnati, Ohio. Sawing machine	Jan. 28, 1868.
	Lane, P. P., *et al.* (*See* Smith, Samuel R., assignor.)	
73, 347	Lane, W. J., assignor to self and J. G. Lane, Washington, N. Y. Coffee mill	Jan. 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,533	Lane, William S., Beaver Dam, N. Y. Sheep-shearing device	Sept. 29, 1868.
77,820	Laney, Enos S., assignor to self and Enos Laney, Waterloo, N. Y. Finger for shuttle-stop rod in looms	May 12, 1868.
80,638	Lanfair, John Y., Queensbury, N. Y. Water wheel	Aug. 4, 1868.
	Lang & Lauster. (*See* Lauster, Peter, assignor.)	
	Lang, Charles B., *et al.* (*See* Hill, S. B., assignor.)	
83,178	Lang, Charles F., Venedy, Ill. Fruit gatherer	Oct. 20, 1868.
79,767	Lang, J. P. Theodore, assignor to self, E. H. Ashcroft, and S. S. Fahnestock, Washington, D. C. Screw-cutting latho	July 7, 1868.
76,085	Lang, William, Brooklyn, E. D., N. Y. Umbrella	Mar. 31, 1868.
75,280	Langdon, Sylvester Larned, New Orleans, La. Locomotive engine. (Antedated Feb. 28, 1868)	Mar. 10, 1868.
84,952	Lange, Frederick, assignor to self and Egmond Lichtenberger, Chicago, Ill. Stroet lamp	Dec. 15, 1868.
73,613	Langenbach, Joseph, Dorchester, Iowa. Ox yoke	Jan. 21, 1868.
81,652	Langham, John, jr., Philadelphia, Pa. Tool for slitting boards	Sept. 1, 1868.
82,534	Langlois, Victor, France. Steam generator	Sept. 29, 1868.
84,556	Langston, Thomas, Brooklyn, N. Y. Lantern	Dec. 1, 1868.
78,378	Langston, Thomas, assignor to E. Miller & Company, Meriden, Conn. Lantern	May 26, 1868.
	Langtry, George C., and Henry Weston. (*See* Weston & Langtry.)	
78,102	Lannay, Louis F., Indianapolis, Ind. Machino for washing bristles, &c	May 19, 1868.
84,561	Lannay, Louis F., and William F. Parks, Indianapolis, Ind. Combined bristle washing and combing machine	Dec. 1, 1868.
82,233	Lanning, M. F., White House, N. J. Whiffletree swivel	Sept. 15, 1868.
77,741	Lape, George T., Summit, N. Y. Bridge. (Antedated April 28, 1868)	May 12, 1868.
81,797	Same.....Construction of arches, tunnels, &c	Sept. 1, 1868.
81,513	Lapham, Abraham, Farmington, Mich. Fence	Aug. 25, 1868.
77,386	Lapham, Andrew F., New York, and Frank E. Pratt, Mott Haven, N. Y., assignors to Malcolm C. Turner. Clothes wringer	Apr. 28, 1868.
81,653	Lapham, Rufus, Boston, Mass. Apparatus for extinguishing fires. (Antedated Aug. 20, 1868)	Sept. 1, 1868.
73,815	Laplace, John F., Hamburg, Conn. Bearing for shafts	Jan. 28, 1868.
84,834	Laporta, R., New York, N. Y. Horseshoe	Dec. 8, 1868.
	Laraway, R. H., and A. Lafever. (*See* Lafever & Laraway.)	
3,105	Larkin, George G., West Amesbury, Mass. Carriage-circle coupling.....(Reissue)	Sept. 1, 1868.
82,420	Same.....Carriago shackle	Sept. 22, 1868.
80,866	Larkin, Samuel, assignor to tho Bridgeport Knitting Company, Bridgeport, Conn. Knitting machine	Aug. 11, 1868.
	Larkins, Darius C., and George D. Greenleaf. (*See* Greenleaf & Larkins.)	
83,976	La Roy, H. T., Richmond, Ill. Machine for bundling wool	Nov. 10, 1868.
81,913	Larsen, N. P., Chicago, Ill. Burglar alarm	Sept. 8, 1868.
75,930	La Rue, R. M., Andersonville, Ind. Saddle and harness	Mar. 24, 1868.
	La Rue, S. H., and J. P. Scott. (*See* Scott & La Rue.)	
	Lary, John T. (*See* Smyth, D. M., assignor.)	
	Lassoe, V. F., *et al.* (*See* Neumann, Lassoe & MacCord.)	
83,716	Latch, E. B., assignor to self and Edmund Lincoln, General Wayne, Pa. Steam-engine slide valvo	Nov. 3, 1868.
80,190	Latcher, John W., Albany, N. Y. Curry comb. (Antedated July 18, 1868)	July 21, 1868.
75,931	Latham, Joseph A., New Haven, Conn. Garter	Mar. 24, 1868.
	Lathrop, Horaco A. (*See* Hutchins, Seth T., assignor.)	
	Lathrop, J. S., *et al.* (*See* Spence, Gideon O., assignor.)	
	Samo.....same.	
73,348	Lathrop, Levi B., San José, Cal. Threshing machino and grain separator	Jan. 14, 1868.
	Latta, A. B., deceased, by Finley Latta, administrator, Cincinnati, Ohio. Steam generator.....(Extension)	June 3, 1868.
79,987	Latta, A. T., Camden, S. C. Animal and bird trap	July 14, 1868.
83,977	Latta, Jacob, and Lewis Snyder, Bethlehem Center, N. Y. Sled brake	Nov. 10, 1868.
2,946	Lattin, John R., assignor to E. Wooster & Company and F. Hull & Company, Birmingham, Conn. Skirt hoop.....(Reissue)	May 26, 1868.
76,206	Laub, Peter C., assignor to self and Samuel Shaffer, Allentown, Pa. Churn	Mar. 31, 1868.
73,816	Laubach, William H., Philadelphia, Pa. Gas engino	Jan. 28, 1868.
77,136	Same.....Apparatus for carbonizing gas	Apr. 21, 1868.
77,387	Samo.....Valvo for gas engines	Apr. 28, 1868.
82,421	Same.....Fire extinguisher	Sept. 22, 1868.
83,863	Same.....Steam generator	Nov. 10, 1868.
74,701	Laubach, W. H., assignor to self and Georgo H. Mellen, Philadelphia, Pa. Machine for grinding cutters of mowing machines	Feb. 18, 1868.
83,978	Laubereau, Joseph, assignor to Joseph do Susini, France. Toy watch	Nov. 10, 1868.
78,597	Laufenburge, Michael, Two Rocks, Cal. Shoe for separators	June 2, 1868.
76,209	Laughlin, John, Gettysburg, Pa. Straw cutter	Mar. 31, 1868.
82,010	Lauster, Peter, assignor to Lang & Lauster, Allegheny City, Pa. Jug top	Sept. 8, 1868.
2,859	Lautenschlager, Gustave, Cincinnati, Ohio, and George L. Gott, New York, N. Y. Tobacco pipe.....(Reissue)	Feb. 11, 1868.
	Lauterback, H. C. (*See* Wenzel, Philipp, assignor.)	
83,864	Laux, Jacob, Cleveland, Ohio. Sleigh runner	Nov. 10, 1868.
	Lavater, M. L. J. (*See* De St. Victor, A. C. F. N., assignor.)	
	Lavender, Benjamin A., Halifax, N. C., and Henry Lowe, deceased, Baltimore, Md., by Kate Lowe, administratrix. Treating cane fiber for paper and other purposes.....(Extension)	Apr. 3, 1868.
2,983	Lavender, Benjamin A., Halifax, N. C., and Henry Lowe, Baltimore, Md., assignors through mesne assignments to Sidney C. Long, F. Schumacher, and Jackson Warner. Obtaining cane fiber from cano.....(Reissue)	June 9, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77, 821	Lavere, Gilbert, Bridgeport, Conn. Lamp burner	May 12, 1868.
	Lavey, J. E., and W. A. Long. (*See* Long & Lavey.)	
74, 385	Lavis, Charles H., assignor to Philip Farley, Philadelphia, Pa. Tube-hole cutter	Feb. 11, 1868.
83, 513	Law, Hervey, Chatham, N. J. Machine for cutting paper	Oct. 27, 1868.
73, 817	Law, William, England. Hook and eye	Jan. 28, 1868.
74, 921	Lawbaugh, G. W., Geneseo, Ill. Harness-pad press	Feb. 25, 1868.
85, 013	Same.....same	Dec. 15, 1868.
	Lawder, S. O., *et al.* (*See* Bowdle, Lawder & Johnston.)	
76, 782	Lawler, P. H., Rochester, N. Y. Shingle machine	Apr. 14, 1868.
85, 104	Lawler, P. H., and W. H. Gibson, assignors to selves, G. Shelton, and Quincey Van Voorhis, Rochester, N. Y. Gas machine	Dec. 22, 1868.
	Lawrence, Bradley & Pardee. (*See* Cooper & Gregory, assignors.)	
79, 988	Lawrence, Charles H., assignor to self and N. P. Tyler, New York, N. Y. Printers' galley	July 14, 1868.
83, 979	Lawrence, E. B., and C. Quick, Lakeville, Ohio. Corn planter	Nov. 10, 1868.
83, 179	Lawrence, Edwin S., Worcester, Mass. Manufacture of card clothing	Oct. 20, 1868.
82, 851	Lawrence, J. R., and I. G. Johnson, Cutler, Maine. Boring faucet	Oct. 6, 1868.
76, 639	Lawrence, Nathan, assignor to Reed & Barton, Taunton, Mass. Butter dish	Apr. 14, 1868.
75, 685	Lawrence, T. A., and J. H. Murfey, New York, N. Y. Combined sweat-band fastener and size mark for hats	Mar. 17, 1868.
75, 281	Laws, A. D., Bridgeport, Conn. Lamp-wick tube	Mar. 10, 1868.
75, 775	Laws, Samuel S., New York, N. Y. Signaling apparatus	Mar. 24, 1868.
77, 627	Lawshe, Peter F., Rochester, Minn. Self-sealing burial case	May 5, 1868.
74, 231	Lawson, James S., Diseo, Mich. Hand corn planter	Feb. 11, 1868.
85, 105	Lawson, Joah, Allegheny City, Pa. Steam-engine slide valve	Dec. 22, 1868.
	Lawson, Peter B., and James A. Ball. (*See* Ball & Lawson.)	
74, 099	Lawton, William A., New York, N. Y. Gas torch	Feb. 4, 1868.
82, 724	Lay, John L., Buffalo, N. Y. Toy hoop	Oct. 6, 1868.
	Layman, Mary E., *et al.* (*See* Lamb, Alford, assignor.)	
	Same.....same.....(Reissue.)	
79, 989	Lazear, H. Y., New York, N. Y. Gas heater	July 14, 1868.
75, 432	Lazell, A. E., West Meriden, Conn. Hygrometer	Mar. 10, 1868.
82, 131	Lazell, Edwin E., assignor to self, Theodore H. Peters, and Francis Keyser, Philadelphia, Pa. Centering device	Sept. 15, 1868.
	Leach, Albert. (*See* Jewett, David, assignor.)	
84, 885	Leach, J. D., and Sabin Hutchings, Penobscot, Maine. Fishing tackle	Dec. 15, 1868.
84, 886	Same.....Revolving pile hook	Dec. 15, 1868.
79, 580	Leach, J. D., Penobscot, Maine, and E. S. Wardwell, Bucksport, Pa. Cloak and coat suspender	July 7, 1868.
	Leach, Lewis, and Archibald Rice. (*See* Rice & Leach.)	
73, 818	Leach, Richard, Linwood Station, Pa. Picker for looms	Jan. 28, 1868.
80, 748	Leach, Thomas, assignor to Reed & Barton, Taunton, Mass. Ice pitcher	Aug. 4, 1868.
81, 514	Leach, William and Joseph, New Harmony, Ind. Winding frame for carding engines	Aug. 25, 1868.
76, 086	Leach, William H., assignor to self and Samuel I. Pressey, Dorchester, Mass. Scissors sharpener	Mar. 31, 1868.
77, 742	Leach, William H., assignor to self and Bradford Stetson, Uxbridge, Mass. Tool post for lathe or planing machine	May 12, 1868.
79, 360	Leach, William H., assignor to Bradford Stetson, Uxbridge, Mass. Rolling leather	June 30, 1868.
85, 106	Leachman, William Bradshaw, England. Rotary steam engine	Dec. 22, 1868.
	Leaman, John H., and Thomas Hancock. (*See* Hancock & Leaman.)	
85, 014	Leary, Lemuel W., Norfolk, Va. Portable and stationary lantern	Dec. 15, 1868.
82, 422	Leas, John L., assignor to self and Andrew B. Lerew, York Sulphur Springs, Pa. Corn planter	Sept. 22, 1868.
77, 498	Leather, Samuel, England. Loom for weaving garments	May 5, 1868.
81, 180	Leatherman, Joseph, Napoleon, Ohio. Flood gate	Aug. 18, 1868.
84, 287	Leavitt, C., and W. H. Burridge, Cleveland, Ohio. Cotton gin	Nov. 24, 1868.
80, 289	Leavitt, David S., Grand Rapids, Mich. Table, bench, &c	July 28, 1868.
78, 975	Leavitt, Moses, and Azariah Foster, Ottawa, Ill. Washing and wringing machine	June 16, 1868.
	Leavitt, Samuel D., *et al.* (*See* Baker, Loring J., assignor.)	
	Leavitt, William D., and Henry Shaw. (*See* Shaw & Leavitt.)	
	Same.....same.....(Reissue.)	
82, 135	Leber, Henry, Stafford County, Va. Churn	Sept. 15, 1868.
83, 514	Leekrone, Benjamin, Somerset, Ohio. Beehive	Oct. 27, 1868.
79, 134	Leeky, R. H., Allegheny City, Pa. Lathe dog. (Antedated June 6, 1868)	June 23, 1868.
79, 361	Same.....Pipe wrench. (Antedated June 13, 1868)	June 30, 1868.
84, 835	Leelere, Francois, Boston, Mass. Apparatus for making paper boxes	Dec. 8, 1868.
73, 614	Leeocq, Jules, New York, N. Y. Truss and abdominal supporter	Jan. 21, 1868.
79, 664	Leeoeq, Louis J., France. Car coupling	July 7, 1868.
73, 984	Leeompte, Samuel D., Leavenworth County, Kansas. Car coupling	Feb. 4, 1868.
2, 851	Leeompte, S. D., assignor to E. H. Bourne, E. Damon, jr., and H. M. Knowles, Cleveland, Ohio. Instrument for opening sealed and other cans.....(Reissue)	Feb. 4, 1868.
85, 107	Le Count, C. W., Norwalk, Conn. Drill	Dec. 22, 1868.
83, 180	Ledlie, William, and George L. Gray, Jefferson, Ill. Hand seed drill	Oct. 27, 1868.
	Ledyard, Thomas D. (*See* Ensley, J. J., assignor.)	
	Ledyard, T. S., *et al.* (*See* Todd, Asahel, jr., assignor.)	
	Same.....same.	
81, 181	Lee, A. V., Clayton, Ala. Medicine for fever and ague	Aug. 18, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,475	Lee, Charles, Sandy, Ohio. Fence	Apr. 7, 1868.
79,236	Lee, Charles L., Fitchville, Ohio. Combined cultivator and planter	June 23, 1868.
	Lee, Daniel. (*See* Choate, Ira, assignor.)	
	Lee, George G., and William H. Bond. (*See* Bond & Lee.)	
2,863	Lee, George W., assignor to Adam R. Reese, Phillipsburg, N. J. Seed planter (Reissue)	Feb. 11, 1868.
2,864	Lee, George W., and Adam R. Reese, assignors to Adam R. Reese, Phillipsburg, N. J. Seeding machine (Reissue)	Feb. 11, 1868.
77,663	Lee, H. A., Worcester, Mass. Molding machine	July 7, 1868.
78,528	Lee, James, New York, N. Y. Lamp-chimney cleaner. (Antedated May 22, 1868)	June 2, 1868.
73,103	Lee, Joel, Galesburg, Ill. Washing machine	Jan. 7, 1868.
3,146	Same.....Hydro-carbon burner (Reissue)	Oct. 6, 1868.
78,598	Lee, John, Massillon, Ohio. Gate. (Antedated May 27, 1868)	June 2, 1868.
83,642	Lee, John A., Chattanooga, Tenn. Animal trap	Nov. 3, 1868.
84,064	Lee, Ralph R., and George H. Wren, assignors to selves and John C. Northall, Mahanoy City, Pa. Valve for steam engines	Nov. 17, 1868.
80,290	Lee, Samuel M., New London, Iowa. Car brake	July 28, 1868.
	Lee, W., and John Elliott. (*See* Elliott & Lee.)	
79,075	Lee, William A., and Charles M. Hardenbergh, Minneapolis, Minn. Hot-air furnace	June 23, 1868.
75,171	Leech, Harry K., Harrisburg, Pa. Railroad switch	Mar. 3, 1868.
74,762	Leech, W. W., Pittsburg, Pa. Animal trap	Feb. 25, 1868.
85,108	Leek, Philander, Hartford, Conn. Door for carriages, &c. (Antedated Dec. 11, 1868)	Dec. 22, 1868.
79,076	Leermo, E. O., Gold Hill, Nev. Safety-guard for mining shafts	June 23, 1868.
83,643	Lees, David, Blair County, Pa. Manufacture of oxide of zinc from sulphureted ores	Nov. 3, 1868.
	Lees, John, and William Hayward. (*See* Hayward & Lees.)	
75,932	Leete, N. F., Middletown, Ohio. Lamp shade	Mar. 24, 1868.
78,213	Le Ferre, John, Charlestown, Mass. Method of forming carriage axles	May 26, 1868.
3,168	Leffel, James, deceased, by James S. Good and John W. Bookwalter, executors, Springfield, Ohio. Water wheel (Division A, of reissue of No. 1,791)	Oct. 27, 1868.
3,169	Same.....same (Division B, of reissue of No. 1,791)	Oct. 27, 1868.
3,170	Same.....Case for water wheels (Division A, of reissue of No. 1,792)	Oct. 27, 1868.
3,171	Same.....Gate for water wheels (Division B, of reissue of No. 1,792)	Oct. 27, 1868.
78,879	Leffel, Thomas, assignor to self and Henry C. Barnett, Springfield, Ohio. Water wheel	June 16, 1868.
74,702	Lefferson, James B., New York, N. Y. Bung	Feb. 18, 1868.
	Lefferts, Marshall. (*See* Allen, J. Lathrop, assignor.)	
77,296	Leffingwell, Elisha, Sempronius, N. Y. Machine for trimming teazles. (Antedated April 16, 1868)	Apr. 28, 1868.
85,231	Leffler, John, Rochester, N. Y. Building block and artificial stone	Dec. 21, 1868.
	Leforgee, J. A., and H. P. Stafford. (*See* Stafford & Leforgee.)	
2,912	Legé, Charles L., San Antonio, Texas. Medical preparation (Reissue)	Apr. 7, 1868.
78,103	Legg, Isaac W., Long Eddy, N. Y. Device for pulling hop poles	May 19, 1868.
81,280	Legg, J. D., Long Eddy, N. Y. Curtain fixture	Aug. 18, 1868.
77,499	Legg, J. D., and I. W., Long Eddy, N. Y. Curtain fixture	May 5, 1868.
80,413	Legg, Samuel P., Springfield, Mass. Hydro-carbon burner	July 28, 1868.
	Leggett, Samuel. (*See* Wright, Edward S., assignor.)	
	Leggette, George. (*See* Dennis, Paul, assignor.)	
3,077	Legrandainé, A., France. Bottle (Design)	June 30, 1868.
74,232	Lehman, Joseph S., Mt. Joy, Pa. Bag-holding apparatus	Feb. 11, 1868.
82,132	Same.....Bag-holding device and truck	Sept. 15, 1868.
	Lehman, J. S., and Henry S. Brooks. (*See* Brooks & Lehman.)	
78,976	Lehman, Leander, Harrisburg, Pa. Bottle lock	June 16, 1868.
	Lehman, Louis S., and Robert A. Lucas. (*See* Lucas & Lehman.)	
78,295	Lehman, William, Newville Pa. Composition to be applied to leather	May 26, 1868.
81,383	Lehmann, John, Crown Point, Ind. Bridge guard or barrier	Aug. 25, 1868.
76,087	Lehmann, Julius, Bloomington, Ill. Compound for welding and refining iron and steel	Mar. 31, 1868.
78,104	Lehmann, Leopold, Monee, Ill. Tin ware	May 19, 1868.
	Lehnbeuter, Joseph, *et al.* (*See* Wiegel, Lehnbeuter & Fegers.)	
80,414	Lehnert, Carl, assignor to Joseph M. Weilhart, Boston, Mass. Opening and closing shutters	July 28, 1868
	Lehr, Ferdinand A. (*See* Okey, Joseph, assignor.)	
85,315	Leib, John, Akron, Ohio. Washing machine	Dec. 29, 1868.
	Leibby, Andrew. (*See* Obrieter, John, assignor.)	
2,970	Leibrandt, Frederick, and W. L. McDowell, Philadelphia, Pa. Stove (Design)	Mar. 31, 1868.
	Leich, August. (*See* Stilson, Lyman B., assignor.)	
83,644	Leideeker, M., and P. Cron, Rochester, N. Y. Barber and dental chair	Nov. 3, 1868.
78,296	Leigh, Edwin, St. Louis, Mo. System of pronouncing orthography. (Antedated May 19, 1868)	May 26, 1868.
	Leigh, Gideon, and William C. Ray. (*See* Ray & Leigh.)	
77,822	Leigh, Thomas Joseph, England. Furnace for burning fuel for heating metals, and for other purposes	May 12, 1868.
	Leighton, George A., Lawrence, Mass. Sewing machine (Extension)	July 2, 1868.
82,133	Leighton, George W., and C. O. Cole, Portland, Maine. Out-haul for booms	Sept. 15, 1868.
84,200	Leighton, Joseph J., Boston, Mass. Box	Nov. 17, 1868.
83,645	Leighton, Robert F., and Solomon Severy, Melrose, Mass. Writing slate	Nov. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75, 433	Leighton, William, Wyandotte, Mich. Fagot for railroad rails	Mar. 10, 1868.
	Leisen, Charles F. (*See* Conday, Paul, assignor.)	
85, 109	Leland, Windsor, and Volney E. Rusco, Chicago, Ill. Device for suspending slaughtered animals	Dec. 22, 1868.
75, 554	Lemaistre, H., Belgium. Belting	Mar. 17, 1868.
78, 880	Lemman, John, assignor to J. A. Fay & Co., Cincinnati, Ohio. Guide for band saws.	June 16, 1868.
	Lemon, M., and J. E. Williams. (*See* Williams & Lemon.)	
80, 829	Lennox, Patrick, Lynn, Mass. Machine for beaming hides	Aug. 11, 1868.
78, 380	Lennox, Patrick, Hiram H. Robbins, and Edward Hayes, Lynn, Mass. Machine for beaming hides	May 26, 1868.
74, 703	Lent, C., Washington, D. C. Hay and cotton press	Feb. 18, 1868.
81, 515	Leonard, Andrew M., and Belmont Perkins, Ann Arbor, Mich. Chalk holder for billiard tables	Aug. 25, 1868.
	Leonard, Benjamin S. (*See* Perkins, Howard, assignor.)	
78, 977	Leonard, Franklin, Cleveland, Ohio. Die for forging eye bolts	June 16, 1868.
	Leonard, Henry W., and Henry F. Phillips. (*See* Phillips & Leonard.)	
78, 979	Leonard, John, Basil, Ohio. Portable fence	June 16, 1868.
80, 356	Leonard, J. C., and J. J. Gobar, Clinton, Mo. Subsoil attachment for plows	July 28, 1868.
74, 553	Leonard, Martin and Stephen C., Oberlin, Ohio. Animal tether	Feb. 18, 1868.
79, 990	Leonard, Philip, Sharon, Pa. Machine for dressing grindstones, minerals, &c	July 14, 1868.
80, 415	Lepp, Mitchell, Albany, N. Y. Card rack	July 28, 1868.
	Lerew, Andrew B. (*See* Leas, John L., assignor.)	
82, 852	Leroy, Charles, Mexico, N. Y. Apparatus for attaching horses to vehicles	Oct. 6, 1868.
81, 798	Lesher, H. S., Galesburg, Ill. Animal trap	Sept. 1, 1868.
80, 355	Leslie, J. F., and Edwin A. Tibbets, Woburn, Mass. Nursery cup	July 28, 1868.
77, 894	Leslie, William O., Philadelphia, Pa. Brick machine	May 12, 1868.
77, 895	Same.....Machine for dressing stone	May 12, 1868.
79, 362	Same.....Brick machine	June 30, 1868.
80, 977	Same.....Brick press	Aug. 11, 1868.
81, 094	Same.....Apparatus for drying bricks	Aug. 18, 1868.
81, 516	Lester, James S., and Perrin H. Cardwell, Knoxville, Tenn. Shoe	Aug. 25, 1868.
	Lester, Johnson, *et al.* (*See* McDonald, Thomas E., assignor.)	
81, 095	Letchworth, William P., Buffalo, N. Y. Machine for bending wood	Aug. 18, 1868.
82, 234	Letherbury, John W. L., Sandoval, Ill. Tree box	Sept. 15, 1868.
	Letson, Johnson, *et al.* (*See* Stella, David D., assignor.)	(Reissue.)
80, 291	Letzkus, John, assignor to self and Richard Brown, Allegheny City, Pa. Teeth for gear wheels	July 28, 1868.
	Levan, William and Isaac W. (*See* Keffer, Peter, assignor.)	
74, 554	Levee, Elias, West Point, Iowa. Sulky plow	Feb. 18, 1868.
83, 980	Lever, James S., assignor to Ross C. Browning, Philadelphia, Pa. Bookbinding.	Nov. 10, 1868.
80, 749	Levering, W. W., New York, N. Y. Writing and drawing desk	Aug. 4, 1868.
78, 381	Leverty, Alexander, Bridgeport, Conn. Running cornice	May 26, 1868.
74, 704	Levette, Gilbert M., Indianapolis, Ind. Combined clock and advertiser	Feb. 18, 1868.
	Levin, Nathaniel, *et al.* (*See* Cuthbert, Thomas L., assignor.)	
	Levis, Samuel G., Kellyville, Pa. Making thick paper	(Extension) Jan. 31, 1868.
82, 134	Levy, John J., New York, N. Y. Playing cards	Sept. 15, 1868.
84, 126	Lewander, Charles, Boston, Mass. Caster	Nov. 17, 1868.
75, 933	Lewin, George W., Worcester, Mass. Lathe carriage	Mar. 24, 1868.
79, 581	Lewis, Alpheus, Virginia, Montana Territory. Quartz mill	July 7, 1868.
76, 640	Lewis, A. H., North Greenbush, N. Y. Device for fettering horses	Apr. 14, 1868.
85, 456	Lewis, Benjamin B., Bristol, Conn. Calendar clock	Dec. 29, 1868.
	Lewis, C. C., *et al.* (*See* Harrison, Job, assignor.)	
	Lewis, Charles E. F., and John Allen. (*See* Allen & Lewis.)	
74, 835	Lewis, Ebenezer E., Geneva, N. Y. Harvester	Feb. 25, 1868.
74, 100	Lewis, Edward C., Auburn, N. Y. Seat clasp or fastener	Feb. 4, 1868.
73, 985	Lewis, George, Westfield, Ohio. Wood-turning lathe	Feb. 4, 1868.
	Lewis, George F. (*See* Seawell, C. H., assignor.)	
77, 896	Lewis, George F., Philadelphia, Pa., and F. D. Stuart, Washington, D. C. Cylindrical-plate printing machinery	May 12, 1868.
84, 701	Lewis, G. W., Dansville, N. Y. Bolt trimmer	Dec. 8, 1868.
79, 363	Lewis, Homer, Bennington, Vt. Spirit level	June 30, 1868.
76, 641	Lewis, Jerry, Albion, N. Y. Stove polish or blacking	Apr. 14, 1868.
82, 330	Lewis, Jesse B., Lincoln, Ohio. Skimmer for sorghum evaporators	Sept. 22, 1868.
81, 799	Lewis, J. B., and J. E. Udall, Concord, Ill. Sulky plow	Sept. 1, 1868.
85, 316	Lewis, John, New York, N. Y. Shingle	Dec. 29, 1868.
85, 457	Lewis, Lewis W., Sharpsburg, Pa. Metal squeezer	Dec. 29, 1868.
78, 460	Lewis, Moses, Odell, Ill. Harvester cutter	June 2, 1868.
80, 978	Lewis, Nelson, Troy, N. Y. Spider	Aug. 11, 1868.
3, 115	Lewis, R. W., assignor to S. B. Rowley, Philadelphia, Pa. Sealing preserve cans	(Reissue) Sept. 8, 1868.
75, 028	Lewis, Samuel, Brooklyn, N. Y. Snow clearer	Mar. 3, 1868.
75, 029	Same.....Ice-planing machine	Mar. 3, 1868.
79, 913	Lewis, Samuel, assignor to William H. Cammeyer, Brooklyn, N. Y. Snow plow. (Antedated July 6, 1868)	July 14, 1868.
80, 492	Same.....Portable and adjustable still-water dam	July 28, 1868.
83, 181	Lewis, Stephen R., Rockford, Ill. Turning lathe	Oct. 20, 1868.
	Lewis, Theodore G., and George B. Snow. (*See* Snow & Lewis.)	
81, 800	Lewis, Thomas E., Pennville, Ind. Wagon body	Sept. 1, 1868.
73, 104	Lewis, William H., New York, N. Y. Bread board	Jan. 7, 1868.
76, 210	Lewis, William J., Pittsburg, Pa. Die for heading bolts	Mar. 31, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,237	Lewis, William J., and Henry W. Oliver, jr., Pittsburg, Pa. Manufacturing bolster plates	June 23, 1868.
82,725	Same.....Strap bolt	Oct. 6, 1868.
	Lewis, W. K., *et al.* (*See* Cartwright, Joseph, assignor.)	
	Lewis, W. M. (*See* Reiber & Schrader, assignors.)	
	Lewy, B. M., and A. Stresser. (*See* Stresser & Lewy.)	
77,897	Leyburn, E. J., Lexington, Va. Harvester	May 12, 1868.
82,962	Same.....Wrench	Oct. 13, 1868.
73,821	Libbey, H. W., Cleveland, Ohio. Mode of suspending carriage bodies	Jan. 28, 1868.
75,030	Same.....Bosom pad	Mar. 3, 1868.
75,031	Same.....same	Mar. 3, 1868.
75,434	Same.....Catamenial sack	Mar. 10, 1868.
78,881	Same.....Nursing bottle	June 16, 1868.
	Libby, Asa S., and Lyman R. Blake. (*See* Blake & Libby.)	
76,211	Libby, John C., Biddeford, Maine. Table waiter	Mar. 31, 1868.
	Lichtenberger, Egmond. (*See* Lange, F., assignor.)	
	Lichtenthaler, Griffith, Limestoneville, Pa. Cultivator.....(Extension)	July 17, 1868.
75,435	Liddell, Noyes and Morris, Lafayette, N. Y. Corn planter	Mar. 10, 1868.
74,836	Lidren, Christopher, assignor to self and R. Jackson, Lafayette, Ind. Harvester rake	Feb. 25, 1868.
82,535	Same.....Harvester	Sept. 29, 1868.
74,555	Lieb, John A., and E. W. Crane, Newark, N. J. Safety attachment for umbrellas	Feb. 18, 1868.
85,015	Lieber, Karl, assignor to E. J. Keferstein, Prussia. Mode of preparing carbonated and caustic alkalies, &c	Dec. 15, 1868.
76,928	Liebhaber, Joseph, Bavaria. Churn	Apr. 21, 1868.
	Liebrich, Conrad, Philadelphia, Pa. Trunk-lock hasp.....(Extension)	May 1, 1868.
78,529	Light, Joseph F., Worcester, Mass. Shaft coupling	June 2, 1868.
84,887	Lighter, S. K., and Joseph Curtis, Hamilton, Ohio. (Antedated Dec. 2, 1868)	Dec. 15, 1868.
83,182	Lightfoot, John, England. Printing certain texile fabrics and yarns	Oct. 20, 1868.
75,172	Lighthall, A. H., and Charles F. North, assignors to Charles F. North, Cohoes, N. Y. Car heater	Mar. 3, 1868.
77,388	Lighthall, John and Reuben, Brooklyn, N. Y. Manufacture of glue	Apr. 28, 1868.
73,105	Lighthall, Joseph N., Joliet, Ill. Filter	Jan. 7, 1868.
75,173	Lighthall, William A., New York, N. Y. Means of securing tubes in surface condensers	Mar. 3, 1868.
76,929	Same.....Condenser	Apr. 21, 1868.
	Lightner, Charles M. (*See* Haigh, Thomas, assignor.)	
76,088	Ligon, E. T., Demopolis, Ala. Formation of joints of steel or iron plates. (Antedated Mar. 20, 1868)	Mar. 31, 1868.
83,717	Same.....Railway car	Nov. 3, 1868.
75,555	Lilley, William, Washington, D. C. Propagation and treatment of house plants	Mar. 17, 1868.
78,214	Lincoln, David C., North Vassalboro, Maine. Soap	May 26, 1868.
	Lincoln, Edmund. (*See* Latch, E. B., assignor.)	
	Lincoln, William, *et al.* (*See* Merrill, Rufus S., assignor.)	
	Lincoln, William, and Rufus S. Merrill. (*See* Liscom, Levi, assignor.)	
83,070	Lindergreen, N. P., Boston, Mass. Packing can	Oct. 13, 1868.
81,914	Linderman, James L., Rockford, Ill. Seeding machine	Sept. 8, 1868.
83,777	Lindley, Thomas H., Taunton, Mass. Machine for milking cows	Nov. 3, 1868.
79,991	Lindley, Thomas J., Medora, Ind. Truss pad	July 14, 1868.
	Lindley, William, *et al.* (*See* Ritz, Adam G., assignor.)	
78,382	Linden, William, New Haven, Conn. Watch key	May 26, 1868.
84,558	Same.....same	Dec. 1, 1868.
	Lindsey, George B. (*See* Long, H. E., assignor.)	
73,106	Lindsley, Edward, Cleveland, Ohio. Pantaloon-protecting guard	Jan. 7, 1868.
80,639	Lindsley, Elijah, Neenah, Wis. Hinge	Aug. 4, 1868.
82,011	Same.....Fanning mill	Sept. 8, 1868.
84,557	Same.....Threshing machine	Dec. 1, 1868.
76,476	Lindsley, Isaac, Pawtucket, R. I. Hair cloth	Apr. 7, 1868.
76,783	Same.....Woven fabric for floor matting, &c	Apr. 14, 1868.
78,980	Lindsley, J. E., Goshen, Ind. Weather strip	June 16, 1868.
75,556	Linese, Joseph, Chicago, Ill. Window sash. (Antedated Feb. 28, 1868)	Mar. 17, 1868.
	Lingenfelter, Japhet. (*See* Barker, Theodore, assignor.)	
	Lingle, Thomas, and James White. (*See* White & Lingle.)	
84,888	Link, Joseph, U. S. Army. Apparatus for cooling liquids on draught	Dec. 15, 1868.
83,071	Linnemann, Johan, Denmark. Spade	Oct. 13, 1868.
81,517	Lins, Charles E., Ashland, Pa. Horse hay fork	Aug. 25, 1868.
76,930	Linscott, C. F., Woburn, Mass. Frame for window screens	Apr. 21, 1868.
	Linton, John R. (*See* Baker, Edwin R., assignor.)	
	Linton, John R. and O. E. (*See* Parsons, Louis J., assignor.)	
81,182	Linton, Wm. J., Detroit, Mich. Tool holder	Aug. 18, 1868.
81,183	Same.....same	Aug. 18, 1868.
81,384	Same.....Device for locking loose pulleys	Aug. 25, 1868.
84,288	Linville, I. H., Philadelphia, Pa. Bridge	Nov. 24, 1868.
	Lipman, Hymen L., Philadelphia, Pa. Eyelet machine.....(Extension)	June 30, 1868.
	Same.....same.....(Extension)	July 23, 1868.
80,292	Lippiatt, Thomas, New York, N. Y. Rose-engine lathe. (Antedated July 11, 1868)	July 28, 1868.
85,110	Lippincott, John, Pittsburg, Pa. Bar for axe-bit blanks	Dec. 22, 1868.
	Lippincott, John, and James Bakewell. (*See* Colburn, Daniel W., assignor.) (Reissue.)	
77,823	Lippincott, William H., Pittsburg, Pa. Vulcanite billiard ball	May 12, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
3,147	Lippincott, William J., assignor to John Lippincott, Thomas, Benjamin P. and B. Bakewell, jr., Pittsburg, Pa. Machine for grinding and polishing saws.....(Reissue)..	Oct. 6, 1868.
	Lippitt, A. C. (*See* Harrington, Jackson, assignor.)	
	Same.....same.	
80,191	Lipps, John P., assignor to self and Henry Guyer, Newark, N. J. Car replacer or guide rail.....	July 21, 1868.
85,458	Lipps, John S., New York, N. Y. Manufacture of illuminating gas.....	Dec. 29, 1868.
	Liscom, Levi, *et al.* (*See* Merrill, Rufus S., assignor.)	
76,212	Liscom, Levi, assignor to self, Rufus S. Merrill and William Lincoln, Boston, Mass. Bridge.....	Mar. 31, 1868.
78,297	Lisk, Alexander, Philadelphia, and Adam Woolever, Allentown, Pa. Converting cast iron into wrought iron and steel.....	May 26, 1868.
	Listeman, P., *et al.* (*See* La Halt, Listeman & Hadley.)	
79,238	Lister, I. Stone, Philadelphia, Pa. Axle box.....	June 23, 1868.
3,070	Little, Andrew, New York, N. Y. Printers' type.....(Design)..	June 16, 1868.
3,273	Same.....same.....(Design)..	Dec. 1, 1868.
80,293	Little, George, Hudson City, N. J. Telegraph instrument.....	July 28, 1868.
	Same.....same.....(Disclaimer filed)..	Oct. 31, 1868.
76,332	Little, Isaac W., Newbury, Mass. Ox yoke.....	Apr. 7, 1868.
83,646	Little, John L., Atkinson, N. H. Stove-pipe thimble.....	Nov. 3, 1868.
84,498	Little, J. R., West Roxbury, Mass. Stay for shirt bosoms.....	Dec. 1, 1868.
	Little, John W. (*See* Wilson, George W., assignor.)	
	Little, Robert B., and Henry C. Clark. (*See* Clark & Little.)	
76,477	Little, Thomas D., Salisbury, N. H. Attachment for heads of rakes.....	Apr. 7, 1868.
80,077	Littlefield, Clement, Kennebunk, Maine. Instrument for measuring lumber....	July 21, 1868.
2,881	Littlefield, Dennis G., Albany, N. Y. Base-burning stove.....(Reissue)..	Feb. 25, 1868.
77,056	Same.....Coal stove.....	Apr. 21, 1868.
78,981	Littlefield, Joseph H., Cambridge, Mass. Combined press and strainer.....	June 16, 1868.
74,101	Livermore, R. F., Starksboro, Vt. Sap spout.....	Feb. 4, 1868.
74,239	Livermore, T. S., Leicester, Mass. Belt coupling.....	June 23, 1868.
	Livings, Francis, and James Lamb. (*See* Lamb & Livings.)	
76,931	Livingston, Frank, Marathon, N. Y. Gate.....	Apr. 21, 1868.
73,731	Livingston, Stephen M., Claverack, N. Y. Hay raker and loader. (Antedated Jan. 17, 1868).....	Jan. 23, 1868.
73,537	Livingstone, William, New York, N. Y. Water meter.....	Jan. 21, 1868.
	Lloyd, David J., *et al.* (*See* Gates, Lloyd & Miller.)	
80,192	Lloyd, Henry C., Cincinnati, Ohio. Still.....	July 21, 1868.
	Lloyd, Isaac, *et al.* (*See* Patton, Wm. P., assignor.)	
74,386	Lloyd, Samuel, Washington, D. C. Heating and ventilating railroad cars.....	Feb. 11, 1868.
77,824	Lobb, John A., Independence, Mo. Crutch.....	May 12, 1868.
84,499	Lobdell, Calvin, Fort Hill, Ill. Cultivator and seeder.....	Dec. 1, 1868.
79,842	Lobdell, George G., Wilmington, Del. Cast-iron car wheel.....	July 14, 1868.
75,282	Lobdell, James E., Center Lisle, N. Y. Horse hay fork.....	Mar. 10, 1868.
82,963	Locher, Conrad, Oroville, Cal. Agricultural locomotive with spading apparatus.	Oct. 13, 1868.
	Lochner, Martin. (*See* Bender & Teller, assignors.)	
82,331	Lockard, Samuel, Lagrange, Ind. Piston-rod packing.....	Sept. 22, 1868.
82,536	Locke, Charles S., assignor to John Hall, Rensselaer Tute, and Samuel A. Brackett, Watertown, Mass. Toy gun. (Antedated Sept. 17, 1868).....	Sept. 22, 1868.
75,934	Locke, Edward A., Boston, Mass. Cask label.....	Mar. 24, 1868.
73,538	Locke, E. A., and W. N. Weeden, Boston, Mass. Lamp.....	Jan. 21, 1868.
81,915	Same.....Lamp shade.....	Sept. 8, 1868.
84,289	Same.....Mode of packing lamp shades.....	Nov. 24, 1868.
77,057	Locke, H. C., Somersville, Tenn. Corn planter.....	Apr. 21, 1868.
82,726	Locke, Josiah R., San Francisco, Cal. Carriage spring.....	Oct. 6, 1868.
82,727	Same.....same.....	Oct. 6, 1868.
76,333	Locke, Richard B., assignor to the Self-lighting Gas Burner Company, New York, N. Y. Gas burner.....	Apr. 7, 1868.
84,065	Locke, Sylvanus D., Janesville, Wis. Reel for grain binders.....	Nov. 17, 1868.
82,135	Lockhart, A. W., Sacramento, Cal. Device for conducting grain to threshing machines.....	Sept. 15, 1868.
3,002	Lockhart, Charles, and John Gracie, Pittsburg, Pa. Still for petroleum, &c., (Division A, reissue).....	June 23, 1868.
3,003	Same.....Still for petroleum, &c.....(Division B, reissue)..	June 23, 1868.
80,294	Same.....Still for hydro-carbons.....	July 28, 1868.
80,357	Lockhart, Enoch, Frank Roberts, Louisville, Ky., and Henry Knight, Brooklyn, N. Y. Branch cement pipe.....	July 28, 1868.
76,478	Lockhart, G. W., Charlestown, Ind. Hay press.....	Apr. 7, 1868.
75,637	Lockwood, C. H., Hawleyville, Conn. Guide for hat lining in sewing machines.....	Mar. 17, 1868.
81,385	Lockwood, Charles S., Newburg, N. Y. Derrick.....	Aug. 25, 1868.
74,556	Lockwood, E. W., and B. T. Frederick, Marshalltown, Iowa. Cast-iron sleigh runner.....	Feb. 18, 1868.
	Lockwood, John F., and Hiram S. Maxim. (*See* Maxim & Lockwood.)	
75,032	Lockwood, Samuel E., Westbury, N. Y. Compound punching and upsetting apparatus.....	Mar. 3, 1868.
73,349	Lockwood, William E., Philadelphia, Pa. Fastening for wire fence.....	Jan. 14, 1868.
73,350	Same.....Apparatus for drying envelopes.....	Jan. 14, 1868.
77,389	Lockwood, W. H., Brooklyn, N. Y. Ventilating show case.....	Apr. 28, 1868.
79,843	Loder, W. A., Rochester, N. Y. Fruit jar.....	July 14, 1868.
	Lodge, G. H., and Justin Hinds. (*See* Hinds & Lodge.)	
83,183	Lodge, Thomas, New Lisbon, Ohio. Shifting buggy top.....	Oct. 20, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,654	Loftus, R. G., assignor to self and Alonzo Farran & Company, Chelsea, Mass. Process of treating petroleum to remove the more volatile portions	Sept. 1, 1868.
84,634	Logan, James B., Richview, Ill. Gang plow	Dec. 1, 1868.
75,033	Logan, J. A. J., Moline, Ill. Reflector	Mar. 3, 1868.
78,298	Logan, James R., Rolla, Mo. Sawing machine. (Antedated May 18, 1868)	May 26, 1868.
	Logan, R. R., *et al.* (*See* Olney, Logan & Fisher.)	
	Logan, Samuel, and William H. Ford. (*See* Ford & Logan.)	
	Logan, W. M. (*See* Hale, W. I., assignor.)	
78,299	Loi, Nardo F., New York, N. Y. Pipe wrench	May 26, 1868.
78,982	Loiseau, Emile, and C. F. Reguin, Nashville, Tenn. Artificial fuel	June 16, 1868.
	Loller, William B. (*See* Morgan, A. O., assignor.)	
73,819	Lombard, Daniel, Boston, Mass. Machine for hulling coffee	Jan. 28, 1868.
78,105	Lombard, N. C., and Mellen Bray, assignors to Mellen Bray, Boston, Mass. Machine for forming sheet-metal ware	May 19, 1868.
78,106	Lombard, S. Howard, Winona, Minn. Dough kneader	May 19, 1868.
80,553	Long, Charles B. and W. A. N., Worcester, Mass. Knife ring	Aug. 4, 1868.
81,655	Long, Charles R., Louisville, Ky. Boring machine	Sept. 1, 1868.
80,750	Long, Davis E., Pawtucket, R. I. Curtain fixture	Aug. 4, 1868.
75,935	Long, H. E., assignor to W. A. Long and George B. Lindsey, Plymouth, Ind. Printers' galley	Mar. 24, 1868.
85,390	Long, H. M., Williamsville, N. Y. Gate attachment	Dec. 29, 1868.
83,778	Long, Henry W., Council Bluffs, Iowa. Wagon jack	Nov. 3, 1868.
84,635	Long, Jacob, Shaver's Creek, Pa. Explosive projectile	Dec. 1, 1868.
85,314	Long, J. E., Norway, Maine. Staging	Dec. 29, 1868.
75,936	Long, James P., Osage, Iowa. Combined broadcast seeder, cultivator, and roller	Mar. 24, 1868.
	Long, John, *et al.* (*See* Nock, E. B., assignor.)	
	Long, Joseph P. (*See* Bailey, Lyman M., assignor.)	
80,751	Long, M. W., Bangor, Maine. Stove oven	Aug. 4, 1868.
78,300	Long, Nelson, Watertown, N. Y. Apparatus for rolling dough	May 26, 1868.
81,184	Long, R. H., assignor to self and R. T. Trall, Cincinnati, Ohio. Window ventilator	Aug. 18, 1868.
77,743	Long, Samuel N., assignor to self and Lincoln B. Bearse, South Chatham, Mass. Caster for furniture	May 12, 1868.
	Long, Sidney C., *et al.* (*See* Lavender & Lowe, assignors) (Reissue.)	
78,383	Long, W. A., and J. E. Lavey, Plymouth, Ind. Grain ear	May 26, 1868.
81,386	Long, William C., and Harvey A. Lownsbery, Lockport, N. Y. Filter	Aug. 25, 1868.
83,291	Longaere, M. C., Cleveland, Ohio. Step ladder	Oct. 20, 1868.
77,898	Longanecker, John, New Pittsburg, Ohio. Stump extractor	May 12, 1868.
	Longley, Samuel M., *et al.* (*See* Ruggles, Solomon W., assignor) (Reissue.)	
75,937	Longton, Thomas Carr, Trenton, N. J. Oil cup	Mar. 24, 1868.
83,515	Loomis, A. W., Atwater, Ohio. Gauge for stone ware	Oct. 27, 1868.
79,582	Loomis, Hiram G., Hartford, Conn. Level	July 7, 1868.
73,732	Loomis, James A., and Alonzo Johnson, assignors to Charles Gifford, Springfield, Mass. Calculating machine	Jan. 28, 1868.
81,281	Loomis, Jason B., Chelsea, Mass. Bustle	Aug. 18, 1868.
78,215	Loomis, John S., Brooklyn, N. Y. Machine for polishing wood	May 26, 1868.
82,728	Loomis, Kellogg H., New York, N. Y. Anti-friction steam-engine valve	Oct. 6, 1868.
	Loomis, Mahlon, Washington, D. C. Plate for artificial teeth (Extension)	Apr. 28, 1868.
78,530	Loomis, O. E., assignor to self and E. K. Sherman, Ellenburg, N. Y. Soap	June 2, 1868.
83,292	Loomis, Samuel L., assignor to self and Charles E. Walter, Byron, N. Y. Sash holder	Oct. 20, 1868.
	Loosey, Charles F., *et al.* (*See* Kronig, Carl, assignor) (Reissue.)	
80,752	Loraine, J. W., Philadelphia, Pa. Hanger for shafting	Aug. 4, 1868.
3,223	Lord, Charles S., and William N. Walker, Otter River, Mass. Cook stove (Design)	Nov. 3, 1868.
84,953	Lord, Eli H., and Willard Thompson, Homer, N. Y. Churn dasher	Dec. 15, 1868.
73,351	Lord, Horace, Hartford, Conn. Cartridge retractor	Jan. 14, 1868.
74,387	Same.....Breech-loading fire-arm	Feb. 11, 1868.
	Lord, John. (*See* Sladdin, Joseph, assignor.)	
	Loring, Joseph G., *et al.* (*See* Heyl, John A., assignor.)	
78,107	Lorenz, Joseph, Cincinnati, Ohio. Organ pipe	May 19, 1868.
	Lorton, Nicholas, and John S. Davison. (*See* Davison & Lorton.)	
82,012	Losie, John M., Indianapolis, Ind. Spring-bed bottom	Sept. 8, 1868.
83,516	Lossen, Joseph Theodore, Bavaria. Governor for steam and other enginery	Oct. 27, 1868.
	Lothrop, Eben W. (*See* Vogel, Kasimer, assignor.)	
75,034	Lothrop, Henry O., Milford, Mass. Steam-engine cut-off	Mar. 3, 1868.
77,989	Same.....Steam engine	May 19, 1868.
73,415	Lothrop, Henry O., assignor to self, Crawford and Joseph R. Pierce, Milford, Mass. Coating heel and toe iron for boots and shoes	Jan. 21, 1868.
77,628	Lothrop, Llewellyn D., Dover, N. H. Fishing tackle	May 5, 1868.
80,295	Lotridge, Benjamin F., New York, N. Y. Bolt	July 28, 1868.
85,391	Lotz, William H., Chicago, Ill. Folding lounge	Dec. 29, 1868.
74,837	Louden, Henry W., Ephrata, Pa. Egg beater	Feb. 25, 1868.
84,127	Louden, William, Cedar Township, Iowa. Elevator	Nov. 17, 1868.
75,686	Louden, William, Fairfield, Iowa. Hay elevator	Mar. 17, 1868.
84,365	Lough, John, Buckingham Village, Canada. Dressing saw teeth	Nov. 24, 1868.
79,240	Loughborough, William S., Rochester, N. Y. Water-proof-leather cement	June 23, 1868.
2,944	Louis, Lafayette, Providence, R. I. Melodeon (Reissue)	May 26, 1868.
80,979	Same.....Boston, Mass. Tremolo	Aug. 11, 1868.
3,184	Same..... Piano with melodeon and tremolo attachment. (Division A, reissue)	Nov. 10, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
3,185	Louis, Lafayette, Boston, Mass. Wind musical instrument...(Div. B, reissue)..	Nov. 10, 1868.
	Louis, Thomas J., and Frank Rahm. (*See* Wilson, John T., assignor.)	
79,992	Loup, James C., Galveston, Ind. Stove pipe	July 14, 1868.
83,391	Lourrentz, Michael J., assignor to self and John Myors, jr., Leavenworth, Kansas. Lamp-chimney cleaner. (Antedated Oct. 17, 1868)	Oct. 27, 1868.
	Loutrol, Cyrus H. (*See* Francis, Lewis, assignor.)	
75,938	Lovatt, John, Tarrytown, N. Y. Machine for winding button-hole twist, &c.	Mar. 24, 1868.
3,186	Samo.....Newark, N. J. Skato .....(Reissue)..	Nov. 10, 1868.
76,213	Love, G. W., Jackson County, Mo. Soap	Mar. 31, 1868.
	Love, Horace T. (*See* Grier & Boyd, assignors.)	
2,901	Love, John C., assignor through mesne assignments to W. H. Love, R. H. and W. H. Childs, Philadelphia, Pa. Lamp burner .....(Reissue)..	Mar. 24, 1868.
80,078	Love, Milton, Corry, Pa. Machine for saving cream while churning	July 21, 1868.
83,184	Love, Obadiah, Saxenburg, Pa. Fence	Oct. 20, 1868.
81,916	Love, Robert, Hoboken, N. J. Varnish for metal, wood, and paper, or other fabric	Sept. 8, 1868.
	Love, R. Vincent, and W. S. Thompson. (*See* Thompson & Love.)	
75,939	Love, Samuel, Indianapolis, Ind. Apparatus for filling railroad tanks with water	Mar. 24, 1868.
81,801	Lovejoy, Lorenzo, Malden, Mass. Well tube	Sept. 1, 1868.
	Loveland, F. M., and E. E. Allen. (*See* Chaplin, Joseph M., assignor.)	
79,485	Loveless, C. B., Syracuse, N. Y. Vapor burner	June 30, 1868.
84,636	Samo.....Manufacture of illuminating gas	Dec. 1, 1868.
76,214	Lovelidge, Thomas, and John Grindrod, Philadelphia, Pa. Skato	Mar. 31, 1868.
82,854	Lovell, Amos B., Pomfret, N. Y. Elastic apron for paper machines	Oct. 6, 1868.
81,917	Lovell, M. N., Erie, Pa. Lamp-chimney cleaner	Sept. 8, 1868.
85,016	Lovio, Albert, assignor to Charles F. Steinbach, Philadelphia, Pa. Curtain fixture	Dec. 15, 1868.
	Low, William H. (*See* Marchbank, John, assignor.)	
75,776	Lowdermill, Elliott A., Grand Junction, Tenn. Medical compound	Mar. 24, 1868.
80,980	Lowe, David H., Boston, Mass. Hydro-carbon burner	Aug. 11, 1868.
83,865	Same.....Vapor burner	Nov. 10, 1868.
84,429	Same.....Sad-iron heator	Nov. 24, 1868.
84,889	Same.....Gas heater	Dec. 15, 1868.
81,656	Lowe, Edwin, Burrows, Ind. Hand loom	Sept. 1, 1868.
	Lowe, Henry, and Benj. A. Lavender. (*See* Lavender & Lowe)...(Extension.)	
	Samo.....samo.....(Reissue.)	
	Lowe, N. M. (*See* Foster, Dan P., assignor.)	
82,424	Lowe, R. E., Upper Alton, Ill. Plane for cutting blind slats	Sept. 22, 1868.
	Lowell, Charles. (*See* Young, William, jr., assignor.)	
	Lowell, John F. (*See* Bogert & Perkins, assignors.)	
	Lowell Manufacturing Company. (*See* Campbell, Rob't R., assignor)...(Design.)	
	Same .....samo.....(Design.)	
	Same .....samo.....(Design.)	
	Same.....(*See* Ney, Elomir, J., assignor) .....(Design.)	
	Same .....samo.....(Design.)	
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	Same .....samo.....(Design.)	
79,364	Lowman, H. L., New York, N. Y. Machine for forming eyes of pick-axes, &c.	June 30, 1868.
83,779	Lown, David, Poughkeepsie, N. Y. Churn	Nov. 3, 1868.
	Lownsbery, Harvey A., and William C. Long. (*See* Long & Lownsbery.)	
75,174	Lowrey, John T., James A. Caso, and Richard Chow, High Banks, Ind. Corn planter	Mar. 3, 1868.
80,416	Lowrey, J. W., Dayton, Ohio. Cooking stove	July 28, 1868.
74,388	Lowrey, Robert O., Saratoga Springs, N. Y. Spring-bed bottom	Feb. 11, 1868.
77,990	Same.....Salem, N. Y. Mode of treating leather, cloth, and the like, to render them water and fire proof. (Antedated May 12, 1868)..	May 19, 1868.
77,991	Same.....Plastic compound for roofing and other purposes. (Antedated May 12, 1868)	May 19, 1868.
77,992	Same.....Fibrous compound for roofing and other purposes. (Antedated May 12, 1868)	May 19, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery,	Date.
77,993	Lowrey, Robert O., Salem, N. Y. Mode of producing floor cloth, leather cloth, and the like. (Antedated May 12, 1868)	May 19, 1868.
78,108	Same.....Manufacture of water-proof fabrics	May 19, 1868.
2,940	Same.....Composition for the manufacture of water-proof paper and other articles.....(Reissue)	May 19, 1868.
78,384	Same.....Shoe	May 26, 1868.
80,640	Same.....Mode of water-proofing paper, cloth, &c	Aug. 4, 1868.
80,641	Same.....Artificial gum for coating and water-proofing	Aug. 4, 1868.
	Lowrey, W. A., *et al.* (*See* Coulter, Trabue & Lowrey.)	
80,642	Lowrey, William L., Saratoga Springs, N. Y. Manufacture of illuminating gas.	Aug. 4, 1868.
	Lowry, Edward S., and David H. Wilson. (*See* Glanding, James, assignor.)	
75,283	Lowry, Joseph L., Pittsburg Pa. Steam engine. (Antedated Feb. 20, 1868)	Mar. 10, 1868.
75,284	Same.....Pumping engine. (Antedated Feb. 24, 1868)	Mar. 10, 1868.
80,358	Lowry, Thomas J., Conneautville, Pa. Mold for building blocks	July 28, 1868.
	Lowth, John. (*See* Hainque, Martial, assignor.)	
75,436	Lowth, M. F., and T. J. Howe, Owatonna, Minn. Cultivator tooth	Mar. 10, 1868.
82,423	Same.....Cultivator	Sept. 22, 1868.
82,853	Same.....Grain drill	Oct. 6, 1868.
79,135	Lozier, Abraham W., New York, N. Y. Hay loader	June 23, 1868.
84,559	Same.....Horse hay fork	Dec. 1, 1868.
84,560	Same.....Hay loader	Dec. 1, 1868.
	Luc, Louis, *et al.* (*See* Pooley, Roberts & Luc.)	
79,973	Lucas, Elijah, Winslow, Ind. Grain separator	July 14, 1868.
78,216	Lucas, Halsey B., Middletown, Conn. Skate fastening	May 26, 1868.
80,981	Lucas, Hiram, Rowsburg, Ohio. Apparatus for tanning leather	Aug. 11, 1868.
83,072	Lucas, James G., Newark, N. J. Work-table appliance	Oct. 15, 1868.
78,983	Lucas, James G., assignor to self and Arctus L. Sawin, Newark, N. J. Machine for bending wood. (Antedated June 4, 1868)	June 16, 1868.
85,459	Lucas. Robert A., and Louis S. Lehman, Wooster, Ohio. Fruit dryer	Dec. 29, 1868.
73,820	Luce, C. O., Brandon, Vt. Horse rake	Jan. 28, 1868.
	Luce, Curtis O., and Charles Merriam. (*See* Merriam & Luce.)	
85,317	Luce, Curtis O., and Cyril W. Green, assignors to selves and Cyrenius M. Willard, Brandon, Vt. Stone-quarrying machine	Dec. 29, 1868.
83,647	Luce, Orrin, Cortland, N. Y. Trunk hinge	Nov. 3, 1868.
76,215	Luce, Orrin, assignor to self and Martin Luce, Virgil, N. Y. Hay raker and loader	Mar. 31, 1868.
	Luce, R. S., and O. E. Pickett. (*See* Pickett & Luce.)	
82,136	Luce, Shubael K., assignor to self and Charles O. Luce, Marion, Mass. Chimney scraper	Sept. 15, 1868.
82,425	Lucey, Timothy, Salem, Mass. Driving hoop	Sept. 22, 1868
76,216	Lucey, Timothy, and James E. Murphy, Salem, Mass. Lining boots and shoes	Mar. 31, 1868
84,290	Luckett, Samuel B., Corydon, Ind. Cloth-measuring apparatus	Nov. 24, 1868.
	Lucop, Charles, and John Carr. (*See* Carr & Lucop.)	
85,111	Ludden, William A., Brooklyn, N. Y. Bottle lock	Dec. 22, 1868
83,354	Luders, Thomas L., Olney, Ill. Bobbin and thread holder for spinning machines.	Oct. 20, 1868
85,178	Ludington, Zalmon, Uniontown, Pa. Peat machine	Dec. 22, 1868
85,263	Ludlow, H. G., Troy, N. Y. Stop valve for steam and other enginery	Dec. 22, 1868
77,201	Ludlow, W. I., Cleveland, Ohio. Fruit bag	Apr. 28, 1868.
78,531	Same.....Seat for harvesters	June 2, 1868.
73,539	Lugo, Orazio, assignor to John F. Collins, New York, N. Y. Apparatus for distilling spirituous liquids	Jan. 21, 1868.
81,185	Lugo, Orazio, assignor to David Lyman, Ross E. Browning, and Mason C. Weld, New York, N. Y. Process of preserving animal substances	Aug. 18, 1868.
	Luigart, J., and G. Fuchs. (*See* Fuchs & Luigart.)	
76,784	Lull, Joseph W., Glen Hope, Pa. Revolving cylinder for tanning hides	Apr. 14, 1868.
74,557	Lull, Lucius M., and James T. Starr, Walnut Grove, Ill. Breech-loading ordnance. (Antedated Feb. 6, 1868)	Feb. 18, 1868.
80,193	Lull, L. M., and P. C. Bowen, Altoona, Pa. Washing machine	July 21, 1868.
76,642	Lull, Philo, Norwich, N. Y. Apparatus for removing hides from animals	Apr. 14, 1868.
73,107	Lumbard, Henry, assignor to self, George E. Gerts, and John Schmidt, Chicago, Ill. Broom	Jan. 7, 1868.
75,940	Same.....Tumbler brush	Mar. 24, 1868.
	Lummus, William W. (*See* Marshall, Horace B., assignor.)	
78,385	Lumsden, Nicholas, San Francisco, Cal. Boot and shoe	May 26, 1868.
	Lumsden, Wm. C., *et al.* (*See* Tappey, Lumsden & Steel.)	
	Lund, John. (*See* Williams, M. T., assignor.)	
	Lundgren, John, and Henry Want. (*See* Want & Lundgren.)	
75,437	Lundy, C. A., Marshalltown, Iowa. Straw cutter	Mar. 10, 1868.
3,204	Lurmann, F. W., assignor to George Asmus, New York, N. Y. Blast furnace. (Reissue)	Nov. 24, 1868.
83,185	Lurvey, J. J.. North Prairie, Wis. Divider for harvesters	Oct. 20, 1868.
84,291	Lushbaugh, Harmon F., and Oscar Z. Hurd, Mt. Pulaski, Ill. Animal trap	Nov. 24, 1868.
	Lusk, Thomas E., *et al.* (*See* Porter, Benj., assignor.)	
2,863	Lusk, William J., Fentonville, Mich. Frame.....(Design)	Jan. 28, 1868.
73,189	Lusted, Charles, New York, N. Y. Snow plow	Jan. 7, 1868.
83,073	Lusten, Samuel, Linesville, Pa. Compound for tanning	Oct. 13, 1868.
74,922	Luther, Ellis, West Troy, N. Y. Horse rake	Feb. 25, 1868.
82,855	Same.....same	Oct. 6, 1868.
85,112	Luther, Ellis, Platt Lyon, and Walter Edwards, West Troy, N. Y. Finishing loose-hinge butts	Dec. 22, 1868.
73,733	Luther, Wheaton, Niagara Falls, N. Y. Process of bleaching cloth, yarn, &c	Jan. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery	Date.
75,557	Luther, W. I., Rochester, N. Y. Bottle faucet	Mar. 17, 1868.
74,923	Lutton, T. C., deceased, by Caroline L. Lutton, administratrix, Philadelphia, Pa. Machine for shearing yarn	Feb. 25, 1868.
73,615	Lutz, Abraham, Orangeville, Ill. Machine for sawing hoops	Jan. 21, 1868.
74,102	Luzier, T. B., and George A. Haas, Philadelphia, Pa. Ladder	Feb. 4, 1868.
80,982	Lyall, James, New York, N. Y. Loom	Aug. 11, 1868.
79,136	Lyder, John W., and Henry Shreve, Alliance, Ohio. Mode of splicing belting	June 23, 1868.
	Lyford, S. G., and A. M. Damon, (*See* Damon & Lyford.)	
81,802	Lyman, Albert, Troy, N. Y. Reservoir for cooking stoves	Sept. 1, 1868.
83,866	Lyman, Alfred E., North Hampton, Mass. Weeding hoe	Nov. 10, 1868.
75,777	Lyman, C. C., Edenboro, Pa. Animal trap	Mar. 22, 1868.
79,583	Same.....Scale	July 7, 1868.
	Lyman, David. (*See* Coates, W. B., assignor.)	
	Same.....(*See* Lugo, Orazio, assignor.)	
77,058	Lyman, George G., assignor to self and George P. Ladd, Independence, Iowa. Harvester	Apr. 21, 1868.
82,013	Lyman, Henry D., Kalamazoo, Mich. Horseshoe	Sept. 8, 1868.
84,637	Lyman, John N., New York, N. Y. Revolving stay-log for cutting veneers	Dec. 1, 1868.
83,186	Lyman, W. I., Springfield, Mass. Rotary steam engine	Oct. 20, 1868.
75,558	Lyman, William J., East Hampton, Mass. Portable chamber closet	Feb. 18, 1868.
79,994	Same.....same	July 14, 1868.
2,988	Lyman, William W., West Meriden, Conn. Fruit can.....(Reissue)	June 16, 1868.
80,296	Same.....Fruit jar	July 28, 1868.
	Same.....(*See* Weidig, John, assignor.)	
80,297	Lyman, William W., assignor to the Meriden Britannia Company, West Meriden, Conn. Butter dish	July 28, 1868.
83,517	Lynam, John T., Jeffersonville, Ind. Grain drill	Oct. 27, 1868.
	Lynch, Augustus, *et al.* (*See* Marden, Jeremiah A., assignor.)	
80,643	Lynch, George F., Milwaukee, Wis. Rotary cultivator	Aug. 4, 1868.
	Lynch, George R., and John W. Hewitt. (*See* Hewitt & Lynch.)	
3,202	Lynch, Isaac F. A. A., assignor through mesne assignments to Benjamin B. Savary and Frederick O. Raymond, Roxbury, Mass. Weather strip for doors and windows.....(Reissue)	Nov. 17, 1868.
81,657	Lynch, John, Columbia, S. C., Adhesive plaster	Sept. 1, 1868.
76,479	Lynch, J. Augustus, Boston, Mass. Paper dampener	Apr. 7, 1868.
82,332	Lynch, J. Augustus, and Reuben K. Huntoon, Boston, Mass. Governor for steam engines	Sept. 22, 1868.
	Lynch, William H., and Roswell Judson. (*See* Judson & Lynch.)	
74,389	Lynde, John D., Philadelphia, Pa. Water indicator for boilers	Feb. 11, 1868.
3,159	Lyne, Charles, Philadelphia, Pa. Perambulator body.....(Design)	Aug. 11, 1868.
81,387	Same.....England. Perambulator	Aug. 25, 1868.
77,825	Lyon, Arthur, Warren Shumard, and Jasper N. Robbins, Goshen, Ohio. Saw set	May 12, 1868.
82,623	Lyon, Baxter, assignor to self and Dana L. Columbia, Mt. Pleasant, Ill. Revolving harrow	Sept. 29, 1868.
	Lyon, Charles, and William Bradshaw. (*See* Bradshaw & Lyon.)	
80,554	Lyon, J. B., East Cleveland, Ohio. Fruit jar	Aug. 4, 1868.
77,059	Lyon, James W., Brooklyn, N. Y. Lamp-shade supporter	Apr. 21, 1868.
82,964	Lyon, John J. P., Ypsilanti, Mich. Apparatus for producing reciprocating motion	Oct. 13, 1868.
	Lyon, Platt, *et al.* (*See* Luther, Lyon & Edwards.)	
75,035	Lyon, Virgil H., Plainfield, Ind. Fruit gatherer	Mar. 3, 1868.
3,060	Same.....same.....(Reissue)	Aug. 4, 1868.
	Same.....(*See* Stone, Thomas, assignor.)	
83,981	Lyon, Warren, New York, N. Y. Punching machine	Nov. 10, 1868.
73,616	Lyons, James B., assignor to the Lyons Peat, Coal, and Machine Company, New Haven, Conn. Machine for molding peat	Jan. 21, 1868.
74,103	Lyons, J. R., Montrose, Pa. Horse hay fork	Feb. 4, 1868.
80,359	Lyons, Lafayette, Bennington, Vt. Water wheel	July 28, 1868.
80,933	Lyons, Thomas, Hartford, Conn. Door bell	Aug. 11, 1868.
83,293	Lytle, A. J., West Union, Ohio. Button-hole cutter	Oct. 20, 1868.
	Lytle, Charles A. (*See* Hancock, Benjamin A., assignor.)	
75,638	Maas, C. W., and C. Fischer, Germany. Machine for stamping letters	Mar. 17, 1868.
78,109	Mabbett, John H., Jersey City, N. J. Chicken coop	May 19, 1868.
76,785	Mabbett, J. L., Titusville, Pa. Bed bottom	Apr. 14, 1868.
73,352	Mabbett, Truman, jr., Vineland, N. J. Berry box	Jan. 14, 1868.
77,060	Mabbett, Truman, sr., Vineland, N. J. Fruit crate	Apr. 21, 1868.
76,481	Maberry, Francis E., Haverhill, Mass. Washboard	Apr. 7, 1868.
79,241	Mabrey, John, Jefferson City, Mo. Fever and ague medicine	June 23, 1868.
79,365	Macadam, James, Little Falls, N. Y. Curd mill. (Antedated Feb. 28, 1863)	June 30, 1868.
	MacCord, C. W., *et al.* (*See* Neumann, Lassoe & MacCord.)	
78,110	Macdaniel, O., New York, N. Y. Fruit basket	May 19, 1868.
3,239	Same.....Process for cleaning wool and other fibers. (Division A, reissue)	Dec. 22, 1868.
3,240	Same.....Process for cleaning woolen and other fabrics. (Division B, reissue)	Dec. 22, 1868.
3,247	Macdonald, Robert, New York, N. Y. Lady's collar and cuff.....(Design)	Nov. 17, 1868.
	MacDougall, John, *et al.* (*See* Vander Weyde, P. H., assignor.)	
75,558	MacDuff, James B., New York, N. Y. Mode of forming raised ornaments on wood	Mar. 17, 1868.
75,175	Mace, L. H., Westchester, and F. S. Gwyer, New York, N. Y. Bottom for ice boxes in refrigerators	Mar. 3, 1868.
	Mace Theodore. (*See* Miles, Purches, assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75, 778	Macferran, James, Philadelphia, Pa. Night chair	Mar. 24, 1868.
74, 705	Macferran, James, assignor to self and Samuel Macferran, Philadelphia, Pa. Blacking case and closet	Feb. 18, 1868.
84, 366	Macferran, Samuel, Philadelphia, Pa. Removable head for boxes, &c	Nov. 24, 1868.
	MacGregor, James, jr., deceased, by James Buell, executor, New York, N. Y. Coffee pot (Extension)	Apr. 10, 1868.
3, 176	MacGregor, James, jr., assignor to George R. Chittenden and Charles A. Smith, Troy, N. Y Coffee pot (Reissue)	Oct. 27, 1868.
84, 638	Machette, E. V., jr., and E. M. Crary, Philadelphia, Pa. Cement	Dec. 1, 1868.
2, 965	Mack, Francis A., Niles, Mich. Well tube (Reissue)	June 2, 1868.
80, 079	Mack, Frederick S., Galesburg, Ill. Floor clamp	July 21, 1868.
76, 217	Mack, George W., Hamtramck, Mich. Feed-water heater for steam generators.	Mar. 31, 1868.
82, 426	Mack, John C., Bristol, Conn. Cupboard and table	Sept. 22, 1868.
85, 460	Mackay, D. D., Whitestone, N. Y. Egg beater	Dec. 29, 1868.
81, 803	Same.....Flooring clamp	Sept. 1, 1868.
	MacKellar, Smiths & Jordan. (*See* Jordan, Peter A., assignor) (Design.)	
	Same.....(*See* Henberg, Hermann, assignor) (Design.)	
	Same.....same (Design.)	
	MacKellar, Smith & Jordan. (*See* Ruthven, E. C., assignor.)	
	Mackenzie, P. W., Orangeville, N. Y. Machine for blowing blasts (Extension)	Dec. 31, 1868.
85, 113	Mackerley, Benjamin, Paint, Ohio. Governor for steam and other enginery	Dec. 22, 1868.
75, 687	Mackey, Alexander, New York, N. Y. Centrifugal machine for draining sugar.	Mar. 17, 1868.
	Mackey, Andrew, *et al.* (*See* McKillop, John, assignor.)	
83, 294	Mackinnon, John A., Cleveland, Ohio. Holdback for carriages	Oct. 20, 1868.
78, 984	Mackintosh, W. S., Pittsburg, Pa. Axle roller	June 16, 1868.
82, 965	Same.....Allegheny City, Pa. Grate bar	Oct. 13, 1868.
79, 366	Macklett, O. C., St. Paul, Minn. Lathing machine	June 30, 1868.
74, 390	Maclure, John, Newark, N. J. Manufacturing harness pads	Feb. 11, 1868.
85, 114	Macomber, H. R., Shopiere, Wis. Wind mill	Dec. 22, 1868.
84, 890	Macy, Egbert, assignor to John H. Keyser, New York, N. Y. Cover for fuel magazine in base-burning stoves	Dec. 15, 1868.
77, 297	Macy, John, Pine, Oregon. Tire shrinker	Apr. 28 1868.
80, 644	Macy, Philander, Rochester, N. Y. Valve arrangement	Aug. 4, 1868.
79, 665	Madden, John, Cleveland, Ohio. Wrench	July 7, 1868.
73, 017	Madden, John, and J. G. Haserot, Cleveland, Ohio. Bread cutter	Jan. 7, 1868.
82, 966	Madden, Samuel, Eureka South, Cal. Car coupling	Oct. 13, 1868.
79, 584	Madison, James R., and Milam Thomas, Oneida, Ill. Wagon pole. (Antedated June 30, 1868)	July 7, 1868.
77, 061	Maedel, Charles B., and Jacob Wolff, Chicago, Ill. Skate fastening	Apr. 21, 1868.
74, 734	Maes, F. W., Prussia. Buckle	Jan. 28, 1868.
	Magee, James T. (*See* Gray, A. G., assignor.)	
76, 089	Magee, John, Chelsea, Mass. Lamp burner	Mar. 31, 1868.
78, 217	Magee, John, assignor to the Magee Furnace Company, Chelsea, Mass. Cooking stove	May 26, 1868.
80, 194	Same.....same	July 21, 1868.
80, 867	Same.....same	Aug. 11, 1868.
85, 461	Magee, Robert B., Venango City, Pa. Temper screw for oil wells	Dec. 29, 1868.
77, 062	Maginn, William, New York, N. Y. Pencil case	Apr. 21, 1868.
	Magnusson, Lewis J., and Lewis Dodge. (*See* Dodge & Magnusson.)	
84, 128	Magoffin, John, St. Louis, Mo. Womb supporter	Nov. 17, 1868.
80, 645	Magoon, A. J., Providence, R. I. Stove grate	Aug. 4, 1868.
83, 518	Magowan, Allen, Boston, Mass. Wringer roller	Oct. 27, 1868.
73, 735	Magrane, Henry S., Hoboken, N. J. Button fastening	Jan. 28, 1868.
74, 391	Magruder, Thomas J., Marion, Ohio. Harness trimming	Feb. 11, 1868.
	Maguire, James. (*See* Jenks, George A., assignor.)	
	Maguire, Thomas. (*See* Dutton, Thomas, assignor.)	
	Maguire, Thomas, and Thomas Dutton. (*See* Dutton & Maguire.)	
77, 500	Mahan, Charles, Grand Island, Cal. Farm wagon	May 5, 1868.
84, 292	Mahler, Theodore W., Rome, N. Y. Water wheel. (Antedated Nov. 9, 1868)	Nov. 24, 1868.
	Same.....(*See* Yale, Charles O., assignor.)	
77, 298	Mahlon, James W., Brooklyn, N. Y. Gas meter	Apr. 28, 1868.
75, 941	Mahon, Isaac B., Dunkirk, Ohio. Cultivator and gang plow	Mar. 24, 1868.
83, 187	Mahurin, Stephen, assignor to self and William Montgomery, Clayton, Ill. Rotary cultivator	Oct. 20, 1868.
	Maiden, T. G., *et al.* (*See* Connett, Matthew F., assignor.)	
81, 518	Main, Deloss L., Brooklyn, Mich. Churn	Aug. 25, 1868.
	Main, Harlan A., *et al.* (*See* Hayes, Waldo & Main.)	
80, 830	Maine, Sebeus C., Boston, Mass. Folding mosquito frame	Oct. 20, 1868.
74, 104	Mains, James, Olena, Ill. Corn harvester	Feb. 4, 1868.
78, 599	Maitland, Thomas, Williamsport, Pa. Tooth brush	June 2, 1868.
	Makinson, Charles, and John P. Gruger. (*See* Gruger & Makinson.)	
78, 600	Malcolm, R. J., Cincinnati, Ohio. Apparatus for generating gas	June 2, 1868.
73, 907	Males, Samuel, Cincinnati, Ohio. Urinal	Jan. 28, 1868.
84, 500	Maley, John, assignor to self and Martin Dowd, Middletown, Ohio. Machine for crozing barrels	Dec. 1, 1868.
84, 562	Malick, Wesley, Tidioute, Pa. Machine for pointing hooks, staples, &c	Dec. 1, 1868.
2, 864	Malkin, Levi G., assignor to the Hartford Carpet Company, New York, N. Y. Carpet pattern (Design)	Jan. 28, 1868.
2, 865	Same.....same (Design)	Jan. 28, 1868.
3, 165	Same.....same (Design)	Aug. 25, 1868.
3, 166	Same.....same (Design)	Aug. 25, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,298	Mallary, George H., New York, N. Y. Machine for making paper bags	July 28, 1868.
83,648	Mallary, G. H., assignor to self, Alexander L. Van Buren, Herbert Reed, William H. Clark, and John A. Standish, Poughkeepsie, N. Y. Paper-bag machine. (Antedated Oct. 17, 1868)	Nov. 3, 1868.
73,540	Mallet, J. T. A., assignor to Jean Marie Onesime Tamin, France. Process of producing oxygen and chlorine	Jan. 21, 1868.
81,519	Mallet, S. E., Corry, Pa. Cream saver	Aug. 25, 1868.
83,519	Mallon, James, Lockport, Ill. Cultivator	Oct. 27, 1868.
	Mallory & Sanford Flax and Hemp Machine Dressing Company. (*See* Sanford, Gelston, assignor.)	
	Mallory, Burton. (*See* Andrews, William H., assignor.)	
3,102	Mallory, D. D., Baltimore, Md. Trade mark.....(Design)	July 14, 1868.
74,392	Mallory, George, Bridgeport, Conn. Hat	Feb. 11, 1868.
83,649	Mallory, John, Penn Yan, N. Y. Broiler	Nov. 3, 1868.
74,393	Mallory, W. S., Batavia, N. Y. Railroad-rail coupling	Feb. 11, 1868.
81,804	Malone, William R., Mason, West Va. Check valve for pumps	Sept. 1, 1868.
83,295	Same.....Safety valve	Oct. 20, 1868.
78,386	Maltby, Benjamin K., assignor to Thomas N. Drake, Cincinnati, Ohio. Coffee roaster	May 26, 1868.
79,847	Maltby, Benjamin K., assignor to Charles R. Fosdick, Cincinnati, Ohio. Eye cup	July 14, 1868.
84,954	Maltby, Philo, Cleveland, Ohio. Wrist-pin turner	Dec. 15, 1868.
84,639	Maltpress, John, Edgerton, Wis. Grate for brick kilns	Dec. 1, 1868.
84,955	Manchester, Albert D., Westport, Mass. Propagating box	Dec. 15, 1868.
	Manchester, Albert J. (*See* Goodrum, Thomas, assignor).....(Reissue)	
74,105	Manchester, Joel, New York, N. Y. Animal trap	Feb. 4, 1868.
85,462	Mancy, Leonard, St. Morgan, Ill. Whiffletree attachment	Dec. 29, 1868.
	Mancy, Leonard, and Charles L. Horn, jr. (*See* Horn & Mancy.)	
84,201	Mandeville, E. W., assignor to self and Charles D. Johnson, Ithaca, N. Y. Low-water alarm for boilers	Nov. 17, 1868.
73,541	Mandeville, George A., and William E. Pine, Newark, N. J. Machine for blocking and stretching hats	Jan. 21, 1868.
75,036	Manheim, Charles, assignor to E. L. Perry, New York, N. Y. Catamenial sack	Mar. 3, 1868.
73,617	Manico, Edward, assignor to John P. Manico, Great Britain. Marine foundation. (Patented in England Oct. 23, 1867)	Jan. 21, 1868.
77,629	Manley, Almon D., assignor to self and Lewis H. Castine, Washington, Mich. Hoisting and transferring pulley	May 26, 1868.
	Manley, Horace A., and Samuel F. Conant. (*See* Conant & Manley.)	
78,301	Manley, William R., New York, N. Y. Paddle wheel	May 26, 1868.
85,115	Same.....Pillow block	Dec. 22, 1868.
	Mann, E. (*See* Howard, A. J. F., assignor.)	
81,096	Mann, Eldridge, and A. J. F. Howard, Milford, Mass. Boot crimp	Aug. 18, 1868.
2,948	Mann, James H., Lewistown, Maine. Axe label.....(Design)	Mar. 10, 1868.
84,891	Mann, Peter A., and Griffith P. Terry, assignors to Andrew B. Uline and G. G. Kidder, Albany, N. Y. Seal bolt for railway cars	Dec. 15, 1868.
3,004	Manner, G. C., New York, N. Y. Piano-forte.....(Reissue)	June 23, 1868.
81,186	Manning, E. B., Middletown, Conn. Tea and coffee pot	Aug. 18, 1868.
	Manning, Edward D. (*See* Richards, Thomas, assignor.)	
	Manning, Henry A., *et al.* (*See* Blakemore, Charles C., assignor.)	
80,493	Manning, J. A., Ashtabula, Ohio. Car coupling	July 28, 1868.
83,392	Manning, Stephen N., Kankake City, Ill. Apparatus for illustrating spherical trigonometry	Oct. 27, 1868.
73,018	Manning, William, Chelmsford, Mass. Confection or cake	Jan. 7, 1868.
	Manning, W. N., and Reuben Brooks. (*See* Brooks & Manning.)	
78,750	Mansfield, F. W. assignor to self and H. C. Hitchcock, Fitchburg, Mass. Saw-horse	June 9, 1868.
83,188	Mansfield, H. N. J., Malone, N. Y. Piston for steam-engines	Oct. 20, 1868.
79,242	Mansur, R. M., Augusta, Maine. Carpet stretcher and tack holder	June 23, 1868.
79,367	Same.....Washboard	June 30, 1868.
	Same.....(*See* Wilson, Putnam, assignor.)	
78,302	Mantey, T. F., New Orleans, La. Extension ladder	May 26, 1868
77,994	Mantey, William, New Orleans, La. Tap for cutting screw threads	May 19, 1868.
78,387	Manton, Joseph P., Providence, R. I. Holder for lathe planers	May 26, 1868.
81,918	Manuel, Charles C., assignor to self, William G. and O. N. Elkins, North Troy, Vt. Stump extractor	Sept. 8, 1868.
74,233	Manuel, David, assignor to self and Willard Manuel, Boston, Mass. Machine for making wire springs. (Antedated Jan. 24, 1868)	Feb. 11, 1868.
77,630	Manuel, David A., Napa City, Cal. Side-hill plow	May 5, 1868.
78,111	Manuel, George W., San Francisco, Cal. Gang plow	May 19, 1868.
74,394	Manville, E. J., assignor to self and E. M. Judd, Waterbury, Conn. Machine for making sewing-machine needles	Feb. 11, 1868.
79,368	Manville, Eli J., assignor to Blake & Johnson, Waterbury, Conn. Device for stop-motion for revolving shafts	June 30, 1868.
	Manz, John, and William T. Shaw, (*See* Shaw & Manz.)	
77,299	Mapes, H. Collins, Rushville, N. Y. Horse hay fork	Apr. 28, 1868.
85,017	Marable, T. E., Petersburg, Va. Toy pistol	Dec. 15, 1868.
81,187	Marable, T. E., assignor to self and S. A. Plummer, Petersburg, Va. Cutter attachment for plows	Aug. 18, 1868.
74,838	Maranville, Galusha, assignor to D. A. Wilson and Ebenezer Gould, jr., Hampton, N. Y. Mechanism for operating stationary machinery	Feb. 25, 1868.
81,388	Maranville, H., Akron, Ohio. Steelyard	Aug. 25, 1868.
76,090	Marble, Ezra P., Sutton, Mass. Shuttle	Mar. 31, 1868.
	Marble, George W., and A. W. Clark. (*See* Clark & Marble.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
2,892	Marble, Lansing, assignor to self and Townsend North, Vassar, Mich. Basket. (Reissue)	Mar. 10, 1868.
74,395	Marburg, Louis H., assignor to self and C. L. Marburg, Baltimore, Md. Packing tobacco	Feb. 11, 1868.
	Marcelin, Jules, *et al.* (*See* Milloehau, A., assignor.)	
77,202	Marcelin, Paul, and Joseph Saunders, Green Point, N. Y. Pan for concentrating sulphuric acid	Apr. 28, 1868.
77,826	Same.....same	May 12, 1868.
77,203	March, Seth, Norfolk, Va. Plow frame	Apr. 28, 1868.
	Mareh, Sisler & Co. (*See* Martino, Beesley & Currie, assignors).....(Design.)	
80,417	Marchant, R. M. Railroad rail	July 28, 1868.
73,822	Marchbank, John, assignor to William H. Son, Lansingburg, N. Y. Faucet	Jan. 28, 1868.
76,482	Marey, J. J., West Meriden, Conn. Lamp burner	Apr. 7, 1868.
76,483	Marey, J. J., assignor to E. Miller & Co, West Meriden, Conn. Oil can	Apr. 7, 1868.
77,300	Marey, L. J, Newport, R. I. Magic lantern	Apr. 28, 1868.
80,984	Same.....Lamp burner	Aug. 11, 1868.
84,892	Marey, T. M., Windham, Ohio. Wagon box	Dec. 15, 1868.
73,618	Marden, Franeis B., Bangor, Maine. Combined potato planter, hoe, and potato digger	Jan. 21, 1868.
73,353	Marden, Jeremiah A., assignor to William N. Ely, Chelsea, Mass. Let-off for looms	Jan. 14, 1868.
82,729	Marden, Jeremiah A., assignor to Augustus Lyneh & Reuben K. Huntoon, Boston, Mass. Governor for steam engines	Oct. 6, 1868.
	Marden, Jeremiah A., and Joseph F. Flanders. (*See* Flanders & Marden).(Exten.)	
	Marden, Jeremiah A., and John H. Abbott. (*See* Abbott & Marden.)	
74,234	Marden, Samuel, Newton, Mass. Deviee for obtaining motion by means of friction	Feb. 11, 1868.
74,235	Same.....Car brake	Feb. 11, 1868.
81,282	Mareau, Dumont, Hubbardstown, Mass. Easy ehair	Aug. 18, 1868.
78,985	Marengo, Joseph and Alexander, Burlington, Vt. Machine for making eigars and eigarettes	June 16, 1868.
82,333	Margerum, Mahlon R., Trenton, N. J. Coffin. (Antedated Sept. 9, 1868)	Sept. 22, 1868.
78,462	Margutti, Carlo, Italy. Railway	June 2, 1868.
78,112	Mariner, George A., assignor to self and John B. Turehin, Chieago, Ill. Preserving powder	May 19, 1868.
82,730	Mariner, G. A., and Julian Kune, Chicago, Ill. Amalgamator	Oct. 6, 1868.
73,108	Marinus, T. J., Indepeudenee, Iowa. Curtain fixture	Jan. 7, 1868.
82,856	Maris, Andrew J., assignor to self and William H. Burnap, New York, N. Y. Indieator for steam boilers	Oct. 6, 1868.
	Markham, Homer C., and Charles G. Riggs. (*See* Riggs & Markham.)	
82,537	Markham, M. B., Grass Lake, Mieh. Gate fastening	Sept. 29, 1868.
78,461	Markillie, Thomas R., Winehester, Ill. Tightening wheel tires. (Antedated May 27, 1868)	June 2, 1868.
76,334	Markland, Thomas T., jr., Philadelphia, Pa. Name plate for street lamps	Apr. 7, 1868.
76,335	Same.....Street lamp	Apr. 7, 1868.
	Markley, Stephen H. (*See* Hutehinson, Alfred, assignor.)	
	Marks, Edward J., *et al.* (*See* Cuthbert, Thomas L., assignor.)	
73,354	Marks, G. F., Petersburg, Va. Mill shape or mold for manufacturing tobacco	Jan. 14, 1868.
	Marks, I., & Company. (*See* Nateher, Gabriel, assignor.)	
	Marks, William W., and Samuel C. Bishop, (*See* Bishop & Marks.)	
77,432	Marland, Obadiah, Boston, Mass. Construetion of safes	Apr. 28, 1868.
82,857	Marmaduke, Leslie, Arrow Rock, and Sidney T. Bruee, Marshall, Mo. Mode of attaehing and detaching poles of earriages	Oct. 6, 1868.
82,538	Marquis, John, assignor to self and Ole Bergerson, San Franeiseo, Cal. Steam propeller-plow and eultivator. (Antedated Sept. 16, 1868)	Sept. 29, 1868.
77,631	Marquis, William C., Burgettstown, Pa. Rat trap	May 5, 1868.
76,336	Marr, Mary E. J., Jefferson, La. Child's bed	Apr. 7, 1868.
76,484	Same.....Churn dasher	Apr. 7, 1868.
82,731	Marret, A. H., Water Works, Ky. Manufaeture of artifieial stone	Oet. 6, 1868.
78,303	Marriott, Franklin W., Richwood, Ohio. Corn and seed planter	May 26, 1868.
83,718	Marsden, Robert, England. Apparatus for rolling metal. (Patented in England, March 13, 1865	Nov. 3, 1868.
78,986	Marsh, Delavan, D., deceased, by John Young, administrator, Sunapee, N. H. Invalid bedstead	June 16, 1868.
84,563	Marsh, George W., Clinton, N. C. Plow	Dec. 1, 1868.
	Marsh, Henry F. (*See* Clark, William E., assignor.)	
78,601	Marsh, Isaae, jr., New Orleans, La. Composition tile or slab for floors, &c	May 19, 1868.
74,396	Marsh, J. L., Riehmond, Ind. Churn dasher	Feb. 11, 1868.
73,619	Marsh, James S., Lewisburg, Pa. Harvester rake	Jan. 21, 1868.
83,296	Marsh, John, Seneca, Ill. Ditehing maehine. (Antedated Sept. 28, 1868)	Oet. 20, 1868.
76,218	Marsh, John W., Oxford, Mass. Combination tool	Mar. 31, 1868.
79,585	Marsh, S. W., Roehester, N. Y. Water wheel	July 7, 1868.
77,995	Marshall, C. K., New Orleans, La. Artiele for food from potatoes	May 19, 1868.
78,218	Same.....Metallie door and shutter. (Antedated May 14, 1868)	May 26, 1868.
79,137	Same.....Metallie horse eollars. (Antedated June 6, 1868)	June 23, 1868.
79,768	Same.....Draw bridge	July 7, 1868.
79,844	Same.....Hot-air flue in stoves. (Antedated July 4, 1868)	July 14, 1868.
79,845	Same.....Coal grate and stove. (Antedated June 27, 1868)	July 14, 1868.
81,097	Same.....Station indicator. (Antedated Aug. 6, 1868)	Aug. 18, 1868.
78,219	Marshall, David, Pittsburg, Pa. Socket board for reed instruments	May 26, 1868.
83,189	Marshall, E. B., Atlanta, Ga. Wheelbarrow	Oet. 20, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
83,190	Marshall, E. B., Atlanta, Ga. Station indicator	Oct. 20, 1868.
80,418	Marshall, George, Brooklyn, N. Y. Pump	July 28, 1868.
83,780	Marshall, G. T., Unadilla, Mich. Salting trough for stock	Nov. 3, 1868.
	Marshall, George W., and Richard Exelby. (*See* Exelby & Marshall.)	
79,486	Marshall, Hammond, assignor to self and T. W. Chandler, Atlanta, Ga. Plow	June 30, 1868.
	Marshall, Henry. (*See* Camp, John, assignor.)	
74,559	Marshall, Horace B., assignor to self and Samuel R. Bridgham, Waldoboro', Me. Brake for vehicles	Feb. 18, 1868.
77,063	Marshall, Horace B., assignor to self and William W. Lummus, Waldoboro', Me. Boot and shoe	Apr. 21, 1868.
82,732	Marshall, James Garth, England. Apparatus for washing, bleaching, and cleansing yarns, bobbins, and other materials	Oct. 6, 1868.
75,942	Marshall, John, Hartland, Mich. Boiler	Mar. 24, 1868.
85,179	Marshall, John, assignor to John Christopher Rees Weguelin, Greenwich, England. Safety gauge for boilers. (Patented in England Feb. 25, 1867)	Dec. 22, 1868.
79,138	Marshall, John E., and J. W. Schraeder, Baltimore, Md. Hoisting apparatus	June 23, 1868.
84,202	Marshall, Joseph W., Williamsburg, N. Y. Hydrant	Nov. 17, 1868.
75,438	Marshall, Major B., Drawbridge, Md. Animal trap	Mar. 10, 1868.
73,355	Marshall, William Marot, Philadelphia, Pa. Reflector	Jan. 14, 1868.
3,013	Same.....Medallion head of General Grant.....(Design)	May 5, 1868.
79,667	Same.....Air carbureter	July 7, 1868.
79,846	Marshall, William M., assignor to self and J. B. Alexander, Philadelphia, Pa. Ornamenting stair-rods, &c.	July 14, 1868.
80,753	Same.....Foot-muff	Aug. 4, 1868.
80,754	Same.....Gilding and silvering mica and glass	Aug. 4, 1868.
81,658	Marston, Mrs. A. F., Clinton, La. Culinary vessel	Sept. 1, 1868.
	Marston, Charles L. (*See* Porter, T. W., assignor.)	
	Same.....(*See* Porter, T. W. and H. K., assignors.)	
	Same.....same.	
	Marston, F. W., and P. H. Niles. (*See* Niles & Marston.)	
74,839	Marston, Oliver H., Sandwich, N. H., and Moses L. Morso, Stoneham, Mass. Device for fastening shoe lacings	Feb. 25, 1868.
	Marston, William E. (*See* DeGalleford, J., assignor.)	
76,786	Martin, Alexander, assignor to self and George Ott. Match box	Apr. 14, 1868.
83,982	Martin, Alexander C., and William Ritchie, Hamilton, Ohio. Head block	Nov. 10, 1868.
79,586	Martin, A. J., Catskill, N. Y. Hay and manure fork	July 7, 1868.
76,787	Martin, Anthony M., and John C. Blocher, Bloomville, Ohio. Horse hay fork	Apr. 14, 1868.
73,356	Martin, B., Prairie-du-Chien, Wis. Pocket grain tester	Jan. 14, 1868.
84,956	Martin, B. T., Charlotte, Mich. Harrow	Dec. 15, 1868.
74,397	Martin, Charles, England. Reduction of refractory iron ores	Feb. 11, 1868.
82,539	Martin, Charles, William Barrett, and Thomas S. Webb, England. Treatment and reduction of titaniferous iron ore	Sept. 29, 1868.
73,620	Martin, C. W., Mt. Pleasant, Iowa. Buckle	Jan. 21, 1868.
	Martin, Edward G., *et al.* (*See* Rue, Samuel, jr., assignor.)	
	Same.....same.	
	Martin, Edward J., and S. McCambridge. (*See* McCambridge & Martin.)	
3,096	Martin, Emile and Pierre E., France. Process for refining and converting cast iron into cast steel and other combinations of iron and carbon.....(Reissue)	Aug. 25, 1868.
80,555	Martin, George W., Boston, Mass. Boot and shoe, and clog for the feet	Aug. 4, 1868.
80,299	Martin, George W., assignor to self and J. W. Haskins, Boston, Mass. Manufacture of articles of soft rubber	July 28, 1868.
80,300	Same.....Cane seat	July 28, 1868.
78,882	Martin, Henry, Galveston, Ind. Machine for cutting staves	June 16, 1868.
	Martin, Henry, *et al.* (*See* Davenport, Joseph D., assignor.)	
83,297	Martin, Henry, assignor to James H. Renick, Keyport, N. J. Brick machine	Oct. 20, 1868.
73,109	Martin, Henry A., assignor to Joseph H. Adams, Roxbury, Mass. Fibrous material for the manufacture of rope, cord, and for covering wire, cord, &c	Jan. 7, 1868
	Martin, Henry H., and Johnson Orr. (*See* Orr & Martin.)	
76,337	Martin, Ignace, Newark, N. J. Brick machine	Apr. 7, 1868.
77,301	Martin, Jacob, Cairo, Ill. Steam slide valve	Apr. 28, 1868.
	Martin, J., and J. Haythorn. (*See* Haythorn & Martin.)	
83,191	Martin, James, assignor to Henry Martin, Jersey City, N. J. Brick machine	Oct. 20, 1868.
	Martin, J. C. (*See* Sullenberger, W. H., assignor.)	
75,176	Martin, James H., Columbus, Ohio. Scaffolding for buildings. (Antedated Feb. 22, 1868)	Mar. 3, 1868.
80,080	Martin, John, assignor to self and Jacob Jamison, Philadelphia, Pa. Refrigerator	July 21, 1868.
77,501	Martin, Joseph T., New York, N. Y. Grapple for sunken vessels	May 5, 1868.
73,019	Martin, Lyman, Indianapolis, Ind. Line reel	Jan. 7, 1868.
78,304	Martin, Mark M., Cochran, Ind. Railway-car seat	May 26, 1868.
84,893	Martin, Oliver M., Ann Arbor, Mich. Curing ham, beef, and other meats	Dec. 15, 1868.
	Martin, Patrick. (*See* Golding, James H., assignor.)	
80,646	Martin, Peter, Forest Grove, Oregon. Manufacturing and purifying spirits. (Antedated April 4, 1868)	Aug. 4, 1868.
77,744	Martin, Robert H., Staten Island, N. Y. Safety hatch. (Antedated April 25, 1868)	May 12, 1868.
76,485	Martin, William, Tarr Farm, Pa. Well tube	Apr. 7, 1868.
76,219	Martin, William H., Brooklyn, N. Y. Method of creating draught in chimneys by means of steam	Mar. 31, 1868.
74,398	Martin, William J., Catawissa, Pa. Attachment for plows	Feb. 11, 1868.
73,621	Martin, W. W., Allegheny City, Pa. Lubricating car wheels	Jan. 21, 1868.
73,908	Same.....Spike	Jan. 28, 1868.
3,013	Martine, Charles F., Boston, Mass. Weather glass.....(Design)	May 5, 1868.
	Same.....Sofa bedstead.....(Extension)	June 5, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,293	Martine, Cornelius W. L., Scotch Plains, N. J. Water elevator	Nov. 24, 1868.
2,953	Martino, J., J. Beesley, and J. Currio, assignors to Orr, Painter & Company, Philadelphia, Pa. Cook stove (Design)	Mar. 17, 1868.
2,971	Martino, John, Jacob Beesley, and John Currie, Philadelphia, Pa. Cook stove. (Design)	Mar. 31, 1868.
3,046	Martino, John, Jacob Beesley, and John Currie, assignors to Mareh, Sisler & Company, Philadelphia, Pa. Door of a cook stove (Design)	May 12, 1868.
3,190	Martino, John, Jacob Beesley, and John Currio, assignors to Abbott & Noble, Philadelphia, Pa. Plate for portable ranges (Design)	Sept. 1, 1868.
	Martischang, Joseph. (*See* Wonger, Edouard, assignor.)	
	Marvin, Albert. (*See* Burger, John, assignor.)	
77,632	Marvin, Daniel S., Watertown, N. Y. Knife and fork scourer	May 5, 1868.
79,666	Marvin, Frank W., Sacramento, Cal. Marking cans	July 7, 1868.
74,236	Marvin, George R., Keokuk, Iowa. Ice cutter. (Antedated Jan. 30, 1868)	Feb. 11, 1868.
2,972	Marvin, Sylvester S., Philadelphia, Pa. Trade mark (Design)	Mar. 31, 1868.
77,745	Marvin, Thomas, Cambridge, Mass. Attaching door knobs to spindles	May 12, 1868.
77,633	Marvin, Walter K., New York, N. Y. Safety door-key guard	May 5, 1868.
83,983	Same. Sash fastener	Nov. 10, 1868.
	Marvin, Washburne & Company. (*See* Smith, James L., assignor.)	
84,640	Marx, Henry, Pikesville, Md. Apparatus for reducing wood to paper pulp	Dec. 1, 1868.
83,393	Maschauer, Lorenz, and William Frankfurth, Milwaukee, Wis. Pintle of butt hinges	Oct. 27, 1868.
	Masehor, John F., deceased, by Eliza Masehor, administratrix, Philadelphia, Pa. Daguerreotype case (Extension)	Nov. 9, 1868. Apr. 21, 1868.
77,064	Mashmeyer, John A., Beardstown, Ill. Buckle	
82,967	Maslin, John, and David Birdsall, Jersey City, N. J. Water-level detector for boilers	Oct. 13, 1868.
	Mason & Hamlin Organ Company. (*See* Trowbridge, W. O., assignor.)	
	Mason, Augusto F. (*See* Mumford, Joseph M., assignor) (Design.)	
77,390	Mason. Austin Z., assignor to self and Richard P. Robbins, Adrian, Mich. Vise	Apr. 28, 1868.
82,014	Mason, Austin Z., and Richard P. Robbins, assignors to Richard P. Robbins, Adrian, Mich. Vise	Sept. 8, 1868. Jan. 7, 1868.
73,110	Mason, Benjamin A., New York, N. Y. Screw machine	
	Mason, C., and Alexander Miller. (*See* Miller & Mason.)	
77,827	Mason, Charles E., Elgin, Ill. Pallet for time-pieces	May 12, 1868. July 7, 1868.
79,668	Mason, C. E., and G. F. Bell, Wellington, Ohio. Feather renovator	June 9, 1868.
78,674	Mason, C. T., Sumter, S. C. Electric fan for lamps	June 30, 1868.
79,369	Mason, George A., Chelsea, Mass. Lamp burner	Mar. 24, 1868.
75,779	Mason, George I., assignor to self and William M. Scott, Lewiston, Ill. Heel seat for boots and shoes. (Antedated March 10, 1868)	Nov. 17, 1868.
	Mason, Isaac N. (*See* Storlo, Ole O., assignor.)	
84,129	Mason, Jabez F., Brooklyn, N. Y. Scrubbing-brush mop	Feb. 11, 1868.
	Mason, James S., & Company. (*See* Diedriehs, Charles, assignor.)	Mar. 31, 1868.
74,237	Mason, John A., Keokuk, Iowa. Mode of fastening teeth	Sept. 8, 1868.
76,220	Mason, John L., New York, N. Y. Machine for threading screw-caps	Sept. 15, 1868.
81,919	Same. Garbage box. (Antedated Aug. 27, 1868)	Sept. 15, 1868.
82,137	Mason, John S., Coal Run, Ohio. Combined corn planter and cultivator	Feb. 4, 1868.
82,138	Mason, Joshua, Paterson, N. J. Liquid meter	Nov. 24, 1868.
74,106	Mason, Linus S., Middlefield Center, N. Y. Horse hay fork	June 30, 1868.
84,294	Mason, Samuel, Newark, N. J. Horse shoe	Apr. 7, 1868.
79,370	Mason, Samuel, assignor to the Beaver Falls Cutlery Company, Beaver Falls, Pa. Cutlery	Dec. 15, 1868.
76,643	Mason, Sylvester G., Rochester, N. Y. Pump piston	June 2, 1868.
	Mason, T., *et al.* (*See* Woodward & Mason.)	June 30, 1868.
84,957	Mason, Thomas J., Harmony, Maine. Plowing hoe	
78,463	Mason, William, Taunton, Mass. Mounting picker staffs	
79,371	Mason, William C., Beaver Falls, Pa. Cutlery	
	Mason, William R., and Edward G. Maxey. (*See* Maxey & Mason.)	
	Massa, G., *et al.* (*See* Uitting, L., assignor.)	
74,706	Massey, G. B., New York, N. Y. Low-water detector for steam generators	Feb. 18, 1868.
	Massey, John W. (*See* Pillings, George T., assignor.)	
76,486	Massey, P. H., South Bend, Ind. Grain scouring apparatus	Apr. 7, 1868.
	Massey, Robert H., *et al.* (*See* Damron, Massey & Whitman.)	
	Mast, P. P., *et al.* (*See* Gardiner, C. O., assignor.)	
	Mast, P. P., and J. H. Thomas. (*See* Thomas & Mast) (Reissue.)	
	Same same (Reissue.)	
76,788	Masters, John, Waukegan, Ill. Ditching machine	Apr. 14, 1868.
75,037	Matchett, Charles G., Greenville, Ohio. Window-shade	Mar. 3, 1868.
82,858	Mater, Daniel, Bellmore, Ind. Plow	Oct. 6, 1868.
83,192	Matkei, Ignace, Belgium. Apparatus for storing petroleum	Oct. 20, 1868.
80,081	Matheis, John, Ottawa, Ill. Machine for punching leather straps for fly-nets	July 21, 1868.
	Mathews, Charles F., *et al.* (*See* Nock, E. B., assignor.)	
75,688	Mathews, Darius A., assignor to D. W. Baird, Geneva, N. Y. Carriage perch connection	Mar. 17, 1868.
81,920	Mathews, David P., Winthrop, Mass. Medical compound for cattle and other animals	Sept. 8, 1868.
	Mathews, Edwards, *et al.* (*See* Wilson, Sylvanus C., assignor.)	
77,996	Mathews, Elbridge G., assignor to Frank F. Holbrook, Boston, Mass. Plow	May 19, 1868.
84,501	Mathews, George Humphreys, New York, N. Y. Envelope. (Antedated Nov. 16, '68)	Dec. 1, 1868.
	Mathews, G. W. (*See* Wagoner, Elijah, assignor.)	
76,092	Mathews, Isaac D., Worcester, Mass. Journal box	Mar. 31, 1868.
	Mathews, James E., *et al.* (*See* Sweeney, Mathews & Hartley.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78,305	Mathews, S. F., Mechanicsburg, Pa. Gas regulator	May 26, 1868.
79,372	Mathews, Thomas C., Yates City, Ill. Hedge trimmer	June 30, 1868.
77,746	Mathews, William, Troy Township, Ohio. Purifying sorghum juice	May 12, 1868.
74,238	Mathews, W. W., Yates City, Ill. Gang plow	Feb. 11, 1868.
75,440	Same.....Treble-tree	Mar. 10, 1868.
77,997	Mathewson, E. W., Norwich, Conn. Gauge	May 19, 1868.
77,634	Mathewson, Nathan F., Barrington, R. I. Mowing machine	May 5, 1868.
75,943	Matlack, Mahlon, Bridesburg (Philadelphia,) Pa. Apparatus for the manufacture of lampblack	Mar. 24, 1868.
78,532	Matos, Louis A., Philadelphia, Pa. Balance	June 2, 1868.
77,302	Matson, M. H., Horse Heads, N. Y. Water wheel	Apr. 28, 1868.
	Mattee, Milton D. (*See* Barrett, Asa, assignor.)	
73,020	Matterson, Henry S., Stockton, Cal. Seeder and cultivator	Jan. 7, 1868.
78,464	Matteson, Don Carlos, Stockton, Cal. Gang plow	June 2, 1868.
3,114	Same.....same.....(Reissue)	Sept. 8, 1868.
3,097	Matteson, Don Carlos, and Truman P. Williamson, Stockton, California. Cultivator teeth.....(Reissue)	Aug. 25, 1868.
3,179	Same.....Plow.....(Reissue)	Nov. 3, 1868.
83,719	Same.....Horse hoe	Nov. 3, 1868.
82,968	Matteson, Elisha, assignor to self and James M. Trippe, Brooklyn, N. Y. Buoyant propeller	Oct. 13, 1868.
79,669	Matthes, Henry, Cambridgeport, Mass. Steam gauge	July 7, 1868.
82,139	Matthewman, George, Brooklyn, N. Y. Press	Sept. 15, 1868.
	Matthews, Charles W. (*See* Thorn, J. W., assignor.)	
76,487	Matthews, E. G., Boothbay, Maine. Dory boat knee	Apr. 7, 1868.
2,852	Matthews, Hugh W., Chicago, Ill. Threshing machine and separator. (Reissue)	Feb. 4, 1868.
84,836	Matthews, John, jr., New York, N. Y. Bottle-filling apparatus	Dec. 8, 1868.
82,624	Matthews, Levi, Antrim, Ohio. Clothes pin	Sept. 29, 1868.
84,564	Matthews, Luciene G., New Albany, Ind. Book-binding	Dec. 1, 1868.
77,303	Matthews, Reuben B., Fitchburg, Mass. Machine for facing grindstones	Apr. 28, 1868.
85,463	Matthews, William, and James Moore, Philadelphia, Pa. Cover or door for gas retorts, furnaces, &c	Dec. 29, 1868.
	Matthias, Sylvester. (*See* Myers, William H., assignor.)	
77,065	Matthiessen, F. O., Jersey City, N. J. Vacuum-pan apparatus	Apr. 21, 1868.
	Matthiessen, F. O., and Walter Elmenhorst. (*See* Elmenhorst and Matthiessen.)	
79,373	Mattingly, John G., and Benjamin F., Louisville, Ky. Whisky still	June 30, 1868.
	Mattison, L. J., *et al.*, executors of D. J. George, deceased. (*See* Millington & George).....(Extension.)	
75,285	Mattson, Morris, New York, N. Y. Nasal irrigator	Mar. 10, 1868.
75,689	Same.....Case for holding syringes	Mar. 17, 1868.
	Same.....Enema syringe.....(Extension)	Mar. 30, 1868.
3,106	Same.....same.....(Reissue)	Sept. 1, 1868.
82,015	Same.....Breast pump	Sept. 8, 1868.
85,318	Same.....same	Dec. 29, 1868.
83,193	Mauch, Herrman, Providence, R. I. Instrument for attaching buttons to fabrics	Oct. 20, 1868.
84,641	Maudelbaum, L. H., New York, N. Y. Fluted trimming	Dec. 1, 1868.
	Mauger, Victor E. (*See* Cooper, George, assignor.)	
74,840	Maurice, Charles, New York, N. Y. Lithographic press. (Antedated Feb. 13, 1868)	Feb. 25, 1868.
74,560	Maury, Thomas F., Washington, D. C. Tooth brush	Feb. 18, 1868.
	Mauser, Wilhelm and Paul, and Samuel Norris. (*See* Norris & Mauser.)	
81,921	Max, David, assignor to self and Thomas Waltz, Newton, Ill. Cloth-measuring machine	Sept. 8, 1868.
73,542	Maxey, Edward G., deceased, by Louisa J. Maxey, administratrix, Troy, Ind., and William R. Mason, Lewisport, Ky. Hay and cotton press	Jan. 21, 1868.
75,441	Maxey, James W., Plymouth, Ind. Mode of producing motion for sawing machines	Mar. 10, 1868.
73,622	Maxey, Nathan, Plymouth, Ind. Bed bottom	Jan. 21, 1868.
77,502	Maxfield, Charles A., New York, N. Y. Machine for forming paste-board boxes. (Antedated April 23, 1868)	May 5, 1868.
	Maxfield, Hiram, *et al.* (*See* Wiggins, George, assignor.)	
74,841	Maxham, Norman, assignor to self and C. G. Robbins, Hancock, Vt. Hub and axle	Feb. 25, 1868.
81,922	Maxim, Hiram S., New York, N. Y. Gas machine	Sept. 8, 1868.
78,465	Maxim, Hiram S., and John F. Lockwood, New York, N. Y. Gas machine	June 2, 1868.
81,659	Maximilian, M. K., New York, N. Y. Sofa bedstead	Sept. 1, 1868.
82,733	Maxson, Nathan, Wilmington, Ohio. Fence	Oct. 6, 1868.
84,746	Maxwell, Catharine, and I. Newton Peirce, Philadelphia, Pa. Preparation of steel corsets, hoop skirts, &c	Dec. 1, 1868.
	Maxwell, William G. (*See* Fitzhugh, B. G., assignor.)	
77,391	May, John M., Janesville, and Winslow M. Colton, Stoughton, Wis. Mop wringer	Apr. 28, 1868.
74,107	May, William, Binghamton, N. Y. Hand truck	Feb. 4, 1868.
83,650	Same.....Door stop	Nov. 3, 1868.
73,909	Mayall, Miles, Roxbury, Mass. Machine for oiling wool	Jan. 28, 1868.
82,236	Mayall, Miles, assignor through mesne assignments to George W. Mayall, Roxbury, Mass. Carpet lining. (Antedated June 27, 1868)	Sept. 15, 1868.
78,220	Maybee, Norman and Abram, Monroe, Mich. Scraper	May 26, 1868.
82,266	Mayer, John B., Buffalo, N. Y. Clock	Sept. 15, 1868.
82,267	Mayer, John B., assignor to self and Tobias Witmer, Buffalo, N. Y. Striking mechanism for clocks	Sept. 15, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Mayes, D. J. (*See* Cothron, John, assignor.)	
	Mayes, D. J., and Peter Rasar. (*See* Rasar & Mayes.)	
	Same.....same.	
79,995	Mayhew, James M., Providence, R. I. Chafing roller for wagons	July 14, 1868.
79,996	Mayhew, John W., San Francisco, Cal. Shackle bearer	July 14, 1868.
80,195	Mayloy, Edward C., Rochester, N. Y. Skate fastening	July 21, 1868.
84,203	Maynard, Albert M., Savoy, Mass. Water wheel	Nov. 17, 1868.
85,232	Maynard, D. P., Worcester, Mass. Folding bureau bedstead	Dec. 22, 1868.
83,194	Maynard, Edward, Tarrytown, N. Y. Double-barrelled fire-arm	Oct. 20, 1868.
75,038	Mayo, David C., Richmond, Va. Press for packing shred tobacco	Mar. 3, 1868.
3,085	Mayo, John K., assignor of one-half interest to A. and G. B. Cushing, New York, N. Y. Material for various structures. (Division A, reissue)	Aug. 18, 1868.
3,086	Same.....Material to be used in constructing bridges, arches, beams, tunnels, and other works in civil engineering. (Division B, reissue)	Aug. 18, 1868.
3,087	Same.....Construction of ships, boats, buoys, and other nautical and marine structures. (Division C, reissue)	Aug. 18, 1868.
3,088	Same.....Construction and finishing of houses and other buildings. (Division D, reissue)	Aug. 18, 1868.
3,089	Same.....House decorations, furniture, fittings, and the like. (Division E, reissue)	Aug. 18, 1868.
3,090	Same.....Construction of boxes, trunks, buckets, barrels, and other containing vessels. (Division F, reissue)	Aug. 18, 1868.
3,091	Same.....Pipes, tubes, funnels, faucets, &c. (Division G, reissue)	Aug. 18, 1868.
3,092	Same.....Construction of carriages, cars, couches, and other vehicles. (Division H, reissue)	Aug. 18, 1868.
82,969	Mayott, Lafayette H., Springfield, Mass. Gauge	Oct. 13, 1868.
73,823	Mays, John, and E. W. Bliss, Brooklyn, N. Y. Die press	Jan. 28, 1868.
3,231	Same.....same.....(Reissue)	Dec. 15, 1868.
78,221	McAfee, B. J., Delphi, Ind. Brick machine	May 26, 1868.
81,520	McAfee, J. C., West Alexander, Pa. Composition for grinding and polishing marble and other substances	Aug. 25, 1868.
83,720	McAleer, George, assignor to E. W. Vaill, Worcester, Mass. Folding chair	Nov. 3, 1868.
78,222	McAllister, William, Lawrence, Mass. Machinery for printing yarn	May 26, 1868.
2,866	McArthur, John, jr., Philadelphia, Pa. Masonic hall.....(Design)	Jan. 28, 1868.
74,561	McAuley, Charles D., assignor to self and George W. Kaylor, Carthage, Ohio. Edge plane. (Antedated Feb. 10, 1868)	Feb. 18, 1868.
3,225	McAvoy, Hugh L., assignor through mense assignments to Edmon L. Mix, and the Monumental Automatic Gas Machine Company, Baltimore, Md. Apparatus for carburetting air.....(Reissue)	Dec. 8, 1868.
74,139	McBeth, James E., New Orleans, La. Pocket knife	June 23, 1868.
80,755	Same.....Thimble	Aug. 4, 1868.
80,985	Same.....Breech-loading fire-arm	Aug. 11, 1868.
73,357	McBeth, James E., assignor to self and Sheldon Sturgeon, New Orleans, La. Breech-loading fire-arm	Jan. 14, 1868.
73,253	McBride, James, Flint, Mich. Pump	Jan. 14, 1868.
73,426	McBride, James D., Mansfield, Ohio. Combined trough and double rack for feeding sheep, cattle, and horses	Jan. 14, 1868.
74,968	Same.....Attachment for hot-air registers	Feb. 25, 1868.
75,559	McBride, William C., Somerville, N. J. Machine for dressing flax	Mar. 17, 1868.
	McCahan, George L., *et al.* (*See* Cook, John F., assignor.)	
	McCain, Alfred K., and Enoch S. Yentzer. (*See* Yentzer & McCain.)	
81,805	McCall, T. D., and S. Bushnell, Walton, N. Y. Hinge	Sept. 1, 1868.
80,419	McCambridge, Samuel, Philadelphia, Pa. Car brake	July 28, 1868.
80,420	McCambridge, Samuel, and Edward G. Martin, Philadelphia, Pa. Car brake	July 28, 1868.
	McCambridge, Samuel, *et al.* (*See* Rue, Samuel, jr., assignor.)	
	Same.....same.	
84,565	McCarthy, Edmond P., and James Johnston, San Francisco, Cal. Anchor	Dec. 1, 1868.
77,503	McCarthy, James, New York, N. Y. Extension pipe coupling	May 5, 1868.
76,644	McCarthy, Peter, Rochester, N. Y. Clamp for holding pickets	Apr. 14, 1868.
74,108	McCarty, Jacob C., assignor to William E. Porter, Grafton, West Va. Railway switch	Feb. 4, 1868.
	McCarty, James, Reading, Pa. Roller for scarfing the edges of skelps for lap-welded tubes.....(Extension)	Jan. 15, 1868.
	Same.....Heating skelps for the manufacture of wrought-iron tubes. (Extension)	Apr. 3, 1868.
74,562	McCarty, Louis P., San Francisco, Cal. Newspaper file	Feb. 18, 1868.
76,488	McCaughan, Thomas B., Moscow, Tenn. Lead and slate pencil case	Apr. 7, 1868.
76,489	Same.....Fish trap	Apr. 7, 1868.
	McCauley, Reuben A. (*See* French, Joseph J., assignor).....(Reissue.)	
73,358	McCeney, E. P., Washington County, D. C. Lock catch or stopper	Jan. 14, 1868.
80,986	Same.....File fastener	Aug. 11, 1868.
78,306	McClamroek, John C., Edina, Mo. Animal trap	May 26, 1868.
83,692	McClara, A., Whitney's Point, N. Y. Post driver	Nov. 3, 1868.
78,307	McCleish, James, assignor to self and E. V. Haughwaut & Company, New York, N. Y. Gas apparatus	May 26, 1868.
76,221	McClelland, J. A., Louisville, Ky. Mould for artificial teeth	Mar. 31, 1868.
77,304	Same.....Material for dental plates and for other purposes	Apr. 28, 1868.
80,647	McClelland, James A., Vernon, Ind. Device for feeding sawdust, &c., to furnaces	Aug. 4, 1868.
76,222	McClintock, Emory, New Brunswick, N. J. Gas fixtures	Mar. 31, 1868.
85,233	McClintock, L. D., Glenwood, Iowa. Cultivator	Dec. 22, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78,751	McCloskey, John, assignor to Henry McGuckin, New York, N. Y. Cooking range	June 9, 1868.
	McCloy, Richard. (*See* Howard, Cornelius A., assignor.)	
2,975	McClure, Henry, assignor to self and James Ellis, Terre Haute, Ind. Steam boiler furnace (Reissue)	June 9, 1868.
83,074	McClure, Wilson, Sinking Spring, Ohio. Animal trap	Oct. 13, 1868.
	McCluskey, John, and G. W. R. Bayley. (*See* Bayley & McCluskey.)	
	Same same.	
81,188	McCollester, B. F., California, Mo. Shovel plow	Aug. 18, 1868.
	McCollom, John, and Samuel Friend. (*See* Friend & McCollom.)	
83,867	McCollum, Peter, Fayette, Mo. Gate	Nov. 10, 1868.
73,111	McConaughey, Thomas B., Newark, Del. Governor	Jan. 7, 1868.
82,140	McConnell, J. R., Marengo, Iowa. Sulky plow	Sept. 15, 1868.
85,319	McConnell, Robert Y., and George Pringle, Rochester, N. Y. Street sweeper	Dec. 29, 1868.
	McCord, Samuel, and George B. Goodwin. (*See* Goodwin & McCord.)	
74,924	McCord, William, Sing Sing, N. Y. Horse rake. (Antedated Feb. 14, 1868)	Feb. 25, 1868.
80,556	McCorkell, Robert, Philadelphia, Pa. Cultivator. (Antedated July 15, 1868)	Aug. 4, 1868.
79,997	McCorkle, S. B., Greenville, Tenn. Horse collar stuffing machine	July 14, 1868.
	McCormick, A. W., and Samuel S. McNaughton. (*See* Babcock, Wm. W., assignor.)	
	McCormick, C. H., & Brother. (*See* McCormick, Baker & Erpelding, assignors.)	
	Same same.	
73,623	McCormick, J. B., St. Louis, Mo. Harvester rake	Jan. 21, 1868.
79,914	McCormick, John G., assignor to self and M. W. Ferguson, Louisville, Ky. Apparatus for feeding fuel to furnaces. (Antedated July 3, 1868)	July 14, 1868.
82,114	McCormick, L. J., William R. Baker, and Lambert Erpelding, assignors to C. H. McCormick & Brother, Chicago, Ill. Harvester rake	Sept. 15, 1868.
82,520	Same Harvester	Oct. 27, 1868.
76,490	McCormick, Mark T., Meadville, Pa. Tool for opening cans	Apr. 7, 1868.
	McCoun, Henry T., *et al.* (*See* Sherman & Russell, assignors.)	
	Same (*See* Adams, Thomas, assignor.)	
73,190	McCown, Harvey and Luther M., Enon Valley, Pa. Hay elevator	Jan. 7, 1868.
82,427	Same same	Sept. 22, 1868.
77,998	McCoy, E. B., assignor to self and R. Cook & Sons, Winsted, Conn. Carpenter's bench dog. (Antedated May 4, 1868)	May 19, 1868.
77,899	McCoy, John, assignor to self and W. T. Snell, Philadelphia, Pa. Metal can or case for putting up alkalies	May 12, 1868.
78,223	McCracken, Stephen B., Detroit, Mich. Spring-bed bottom. (Antedated May 12, 1868)	May 26, 1868.
	McCray, J. B., and Joseph Bogan. (*See* Bogan & McCray.)	
	McCreary, John, and George M. Morris. (*See* Morris & McCreary.)	
80,360	McCreary, Thomas, assignor to self, George M. Sullivan, and John McCreary, Mattewan, N. Y. Carriage clip	July 28, 1868.
73,191	McCreery, William, Pittsburg, Pa. Endless-chain power	Jan. 7, 1868.
76,093	McCreight, Alexander, Tranquillity, Ohio. Carving machine	Mar. 31, 1868.
81,660	Same Corn plow	Sept. 1, 1868.
82,970	Same Saw mill	Oct. 13, 1868.
85,392	McCullaugh, Henry, Marietta, Pa. Collar for pipes in hot-blast furnaces	Dec. 29, 1868.
73,736	McCulloch, Thomas H., assignor through mesne assignments to the Hart Grain Separator Company, Monmouth, Ill. Grain separator	Jan. 28, 1868.
77,900	McCullon, Franklin P., and William Woodcock, Philadelphia, Pa. Oil cup for steam pressure	May 12, 1868.
	McCullough, Richard, *et al.* (*See* Burns, James, assignor.)	
73,910	McCune, John, Auburn, Ind. Spinning machine	Jan. 28, 1868.
	McCurdy, Daniel W., *et al.* (*See* McKnight, Wm., assignor.)	
81,923	McDaniel, A., assignor to self and S. J. Henion, Dubuque, Iowa. Spring-bed bottom	Sept. 8, 1868.
73,359	McDermott, James, Frederick, Md. Elastic printing apparatus	Jan. 14, 1868.
76,223	McDonald, Hugh, Allegheny City, Pa. Treating cinder for fixing furnaces	Mar. 31, 1868.
85,320	Same Pittsburg, Pa. Shield for puddling furnaces	Dec. 29, 1868.
79,343	McDonald, Jacob, Buffalo, N. Y. Beehive	June 23, 1868.
83,394	McDonald, John, New York, N. Y. Brick kiln	Oct. 27, 1868.
74,109	McDonald, John K., Newark, N. J. Eye glass	Feb. 4, 1868.
76,224	Same Door and package holder	Mar. 31, 1868.
81,098	McDonald, Joseph, Oshkosh, Wis. Cant hook	Aug. 18, 1868.
77,504	McDonald, O. P., Carbondale, Ill. Attachment for pendulum clocks	May 5, 1868.
82,142	McDonald, Robert R., Clearfield, Pa. Hames fastener	Sept. 15, 1868.
84,430	McDonald, Thomas E., assignor to P. P. Runyon, Johnson Letson, and George J. Janeway, New Brunswick, N. J. Cultivator	Nov. 24, 1868.
	McDonald, T. E., *et al.* (*See* Stelle, David D., assignor) (Reissue.)	
81,661	McDonald, William, Calais, Maine. Hanging circular saws	Sept. 1, 1868.
2,899	McDonald, William, assignor to R. Hoe & Co., New York, N. Y. Machine for mitering printers' rules (Reissue)	Mar. 17, 1868.
75,286	McDonough, Henry, New York, N. Y. Churn dasher	Mar. 10, 1868.
75,780	McDougall, Hugh, assignor to self, Robert Stuart, and Coll McDougall, Chicago, Ill. Wooden pavement	Mar. 24, 1868.
73,021	McDougall, James T., San Francisco, Cal. Apparatus for collecting precious metals	Jan. 7, 1868.
83,868	Same same	Nov. 10, 1868.
74,563	McDougall, S. T., Brooklyn, N. Y. Lamp	Feb. 18, 1868.
74,564	Same Quartz crusher	Feb. 18, 1868.
77,635	Same Gas heater	May 5, 1868.
79,670	Same Partitioned steamer	July 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,671	McDougall, S. T,, Brooklyn, N. Y. Clothes pounder	July 7, 1868.
75,442	McDowell, Theodore, assignor to T. & A.McDowell, Light Street, Pa. Mode of producing hot blast in furnaces	Mar. 10, 1868.
73,737	McDowell, W. L., Philadelphia, Pa. Ash-pit cover for stoves. (Antedated Jan. 14, 1868)	Jan. 28, 1868.
	McDowell, W. L., and Frederick Leibrandt. (*See* Leibrant & McDowell)..(Design.)	Apr. 21, 1868.
77,066	McDuff, P., Atchison, Kansas. Fence post	Apr. 21, 1868.
77,067	McDuffe, Horace G., Bradford, Vt. Planing machine. (Antedated April 18, 1868)	Aug. 25, 1868.
81,389	McElevey, G. H., Newcastle, Pa. Fire-place	Dec. 29, 1868.
85,321	McElroy, J. H., and J. H. Holly, Warwick, N. Y. Door fastener	June 16, 1868.
78,987	McElroy, Patrick J., East Cambridge, Mass. Nursing bottle	June 30, 1868.
79,487	Same.....Medicine dropper	Oct. 27, 1868.
83,395	McEwen, Peter, Jersey City, and William McKensie, Hudson City, N. J. Singeing machine for fabrics	July 21, 1868.
80,196	McFadden, George, assignor to self and Richard Austin, Thomaston, Conn. Combined dress and satchel holder	May, 19,1868.
77,999	McFadden, John, Cadiz, Ohio. Truss supporter	
	McFarland, Abner, and John P. Butz. (*See* Butz & McFarland.)	
	McFarland, Abner, and Peter Richmond. (*See* Richmond & McFarland.)	May 5, 1868.
77,505	McFarland, David, Worcester, Mass. Railroad truck	July 7, 1868.
79,672	McFarland, David, New York, N. Y. Low-water indicator and steam-pressure alarm	July 7, 1868.
79,673	McFarland, David, assignor to John Johnston, New York, N. Y. Low-water detector and steam-pressure alarm	June 23, 1868.
79,140	McFarland, Josiah, Clinton, Ill. Fire kindler	Apr. 7, 1868.
76,491	McFarland, William, assignor to self and John H. Campbell, New York, N. Y. Tenon for blind slats	Sept. 8, 1868.
82,016	McFarland. William, and W. H. Butler, Williamsburg, N. Y. Fire-proof safe..	June 23, 1868.
79,141	McFarlin, William, Jackson, Ill. Fence for crossing streams	Dec. 1, 1868.
84,502	McGann, Henry, Cleveland, Ohio. Float for boilers	Dec. 1, 1868.
84,642	Same.....Automatic boiler feeder	May 26, 1868.
78,224	Same.....Device for feeding boilers	May 12, 1868.
77,828	McGarry, Michael, Westfield, N. Y. Washboard	
	McGarvey, Michael, and Jasper VanWormer. (*See* VanWormer & McGarvey.)	
	Same.....same.	
	McGaw, John A., and John W. Boynton. (*See* Boynton & McGaw.)	
	McGaw, Josiah A., and Lewis Horton. (*See* Horton & McGaw.)	Apr. 7, 1868.
76,338	McGeary, James, Salem, Mass. Process for making gas	
	McGee, James, and W. C. Stickney, (*See* Stickney & McGee.)	
	Same.....same.	
	McGee, John, and James Vaughan. (*See* Vaughan & McGee.)	Sept. 22, 1868.
82,334	McGee, J. P., Trenton, Tenn. Lamp burner	Sept. 29, 1868.
82,625	McGee, Patrick, North Providence, R. I. Let-off mechanism for looms	Mar. 3, 1868.
75,177	McGee, Samuel, Madison, N. J. Boring faucet	Apr. 14, 1868.
76,645	McGill, William C., Cincinnati, Ohio. Lamp burner	Apr. 14, 1868.
76,646	Same.....Conductor's register	May 5, 1868.
77,506	Same.....Blacking brush	Nov. 24, 1868.
84,295	McGill, William C., and William Knox, Cincinnati, Ohio. Safety stove for railroad ears	
	McGivern, Edward, and John Webber. (*See* Kinney, Israel, assignor.)	Feb. 4, 1868.
74,110	McGonegal, H. G., New York, N. Y. Pavement	July 7, 1868.
79,769	McGowan, John H., Cincinnati, Ohio. Tobacco compress	Sept. 1, 1868.
81,806	McGowan, Theodore J., Cincinnati, Ohio. Pump	Dec. 29, 1868.
85,322	Same.....Hydraulic pressure regulator	Aug. 18, 1868.
81,099	McGowan, William C., and J. M. Hale, Georgia Plains, Vt. Fly net for windows.	Oct. 27, 1868.
83,396	McGown, R. L., and Walter Fletcher, Alliance, Ohio. Railway switch stand...	Jan. 28, 1868.
73,738	McGrath, R. M., Lafayette, Ind. Thimble skeins	Sept. 22, 1868.
82,428	McGregor, F. B., assignor to self and George A. Hoyt, Pontiac, Mich. Piano. (Antedated Sept. 14, 1868)	
	McGuckin, Henry. (*See* McCloskey, John, assignor.)	May 5, 1868.
77,507	McGuffin, Shannon, Rising Sun, Ind. Tea and coffee pot	June 2, 1868.
78,466	McGuiness, P. J., New York, N. Y. Bridle bit	Dec. 1, 1868.
84,643	Same.....Martingale	
	McGuire, Edwin, and Samuel W. Barr. (*See* Barr & McGuire.)	Aug. 25, 1868.
81,521	McGuire, William, Chess Springs, Pa. Farm gate	
	McHenry, William. (*See* Reese, Leolf & Harry, assignors.)	Sept. 8, 1868.
81,924	McIlroy, Hiram, Poplar Ridge, N. Y. Forward axle for carriages	Dec. 29, 1868.
85,393	McIlvain, Jeremiah, Churchville, Md. Anti-friction box for shafting	Feb. 25, 1868.
74,925	McInroy, William N., Northumberland, Pa. Spring for relay magnets	Apr. 28, 1868.
77,305	McIntire, George R., Houghton, Mich. Apparatus for measuring cloth. (Antedated April 16, 1868)	Oct. 27, 1868.
83,397	McIntire, J. N., New York, N. Y. Billiard cue. (Antedated Oct. 6, 1868)	Sept. 22, 1868.
82,335	McIntosh, J. L., assignor to self, James Blenkinsop, and William H. Vaughn, Boston, Mass. Pinking tool. (Antedated Sept. 7, 1868)	Dec. 8, 1868.
84,747	McInturff, C., Greenville, Tenn. Car coupling	Jan. 7, 1868.
73,022	McIsaac, Patrick, Waterloo, Iowa. Corn planter and plow combined	Jan. 14, 1868.
73,360	McIvor, William Graham, England. Windlass	
85,234	McKay, William, assignor to self and Charles E. Bayley, Newburyport, Mass. Mast hoop	Dec 22, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	McKay, W. W., *et al.* (*See* Bockstaller, George, assignor.)	
84,837	McKay, W. W., Ossian, Iowa. Rotary horse brush	Dec. 8, 1868.
3,191	McKee, Joseph D., Philadelphia, Pa. Pattern for knitted fabric.....(Design)	Sept. 1, 1868.
3,192	Same.....same.....(Design)	Sept. 1, 1868.
77,392	McKee, William, Neponset, Ill. Signal box	Apr. 28, 1868.
83,869	McKee, William, and Charles H. Jordan, Washington, D. C. Blind hinge	Nov. 10, 1868.
82,971	McKelvey, Peter B., Albany, N. Y. Machine for cutting soap	Oct. 13, 1868.
78,988	McKendree, Albert C., Conneaut, Ohio, Ladder	June 16, 1868.
	McKensie, William, and Peter McEwen. (*See* McEwen & McKensie.)	
75,560	McKenzie, Alexander, Henry, Ill. Insect destroyer	Mar. 17, 1868.
79,674	McKenzie, Duncan, Brooklyn, N. Y. Wooden pavement	July 7, 1868.
3,208	Same.....same.....(Reissue)	Nov. 24, 1868.
74,565	McKenzie, Edwin, Watertown, N. Y. Horse hay fork	Feb. 18, 1868.
83,781	McKenzie, George, Zanesville, Ohio. Wagon brake	Nov. 3, 1868.
3,071	McKenzie, George S., Cleveland, Ohio. Trade mark.....(Design)	June 16, 1868.
75,287	McKenzie, J. C., Adrian, Mich. Brick machine	Mar. 10, 1868.
82,626	Same.....Pug mill	Sept. 29, 1868.
74,111	McKibben, John, Lima, Ohio. Snap hook	Feb. 4, 1868.
84,838	Same.....Bridle. (Antedated Dec. 1, 1868)	Dec. 8, 1868.
78,533	McKillop, James, assignor to Andrew Mackey and John Ward, jr., Brooklyn, N. Y. Safety bridle	June 2, 1868.
85,116	McKim, D. F., Austin, Nev. Feed-water heater for steam generators	Dec. 22, 1868.
85,464	McKinley, John H., New York, N. Y. Hames fastener	Dec. 29, 1868.
75,288	McKinley, William R., Lucas County, Iowa. Machine for marking ground for planting	Mar. 10, 1868.
	McKinney, Harvey, and O. Court Hamilton. (*See* Hamilton & McKinney.)	
85,465	McKinney, William S., Cincinnati, Ohio. Shaft coupling	Dec. 29, 1868.
75,561	McKinsey, John, Millville, N. J. Vermifuge	Mar. 17, 1868.
74,566	McKittrick, James, Watertown, N. Y. Paint and varnish brush	Feb. 18, 1868.
81,662	McKnight, J. H., Oakwood, Mich. Gate	Sept. 1, 1868.
82,143	McKnight, William, assignor to self, John H. Fulford, and Daniel W. McCurdy, Clearfield, Pa. Tenoning machine	Sept. 15, 1868.
	McLagon & Stevens. (*See* Root, John, assignor.)	
80,361	McLane, E., Young America, Ill. Smut machine	July 28, 1868.
78,809	McLane, J. J., Sagetown, Ill. Churn	June 9, 1868.
	McLaughlin, Francis. (*See* Young, Albert A., assignor.)	
	Same.....same.	
77,393	McLaughlin, Thomas, Millville, N. J. Shield for nipples	Apr. 28, 1868.
83,870	McLaughlin, W. A., New York, N. Y. Machine for cutting out garments	Nov. 10, 1868.
76,789	McLea, William J., assignor to self and C. F. Young, Buffalo, N. Y. Gas reflector	Apr. 14, 1868.
81,390	McLea, William J., assignor to self and Frank Ladd, Le Roy, N. Y. Bail ear for pails	Aug. 25, 1868.
2,853	McLean, James H., St. Louis, Mo. Dredging machine.....(Reissue)	Feb. 4, 1868.
79,848	McLean, James P., New York, N. Y. Refining and smelting ores. (Antedated July 3, 1868)	July 14, 1868.
	McLellan, George F. (*See* Pole, Benjamin C., assignor.)	
74,926	McLeod, Alexander, Covington, Ky. Railway switch stand	Feb. 25, 1868.
83,984	McLeod, Norman, Clio, S. C. Feed cutter	Nov. 10, 1868.
3,062	McLeod, N. N., assignor, through mesne assignments, to Amos Broadnax and Rollin B. Gray, St Louis, Mo. Hose coupling.....(Reissue)	Aug. 4, 1868.
	McLoughlin, John and Edmund, and Charles Henry. (*See* Henry and McLoughlin.)	
74,112	McLucas, William, Reinersville, Ohio. Corn planter	Feb. 4, 1868.
79,998	Same.....Double corn planter	July 14, 1868.
78,602	McMahan, Claburn S., Centerville, Ind. Pump	June 2, 1868.
74,399	McMahan, G. M., Mount Sterling, Ky. Window and door blind and awning	Feb. 11, 1868.
76,790	Same.....Door	Apr. 14, 1868.
	McManama, Edward, and Samuel Farley. (*See* Wyatt, Lorenzo D., assignor.)	
84,894	McManus, H., and J. B. Hatting, New York, N. Y. Plate or salver	Dec. 15, 1868.
75,639	McMaster, A. D., Rochester, N. Y. Fruit jar	Mar. 17, 1868.
83,075	McMaster, D. W. C., Southborough, Mass. Line holder	Oct. 13, 1868.
83,871	McMillan, E. G., Norwalk, Ohio. Farm fence	Nov. 10, 1868.
74,567	McMillan, Stewart, Fletcher, Ohio. Fanning mill	Feb. 18, 1868.
76,094	McMillen, Arthur W., assignor to self and Alexander Adams, Chicago, Ill. Cast-iron chimney	Mar. 31, 1868.
82,972	McMillen, G. M. L., Dayton, Ohio. Horse rake	Oct. 13, 1868.
77,508	McMullen, Adam, and John H. Rock, Sterling, Ill. Harness	May 5, 1868.
81,391	McMullin, Thomas, assignor to self and Miles Mendenhall, Osgood, Ind. Coupling belts	Aug. 25, 1868.
75,178	McMurray, James S., assignor to self, Thomas Richard Fuller, and Samuel Street Fuller, Toronto, Canada. Car coupling	Mar. 3, 1868.
77,509	McMurray, Robert, Brooklyn, N. Y. Sand screen	May 5, 1868.
74,927	McMurtry, John, Lexington, Ky. Starting cars	Feb. 25, 1868.
	McNally, W. T., *et al.* (*See* Cragne, Francis, and George G., assignors.)	
74,707	McNamara, David S., Troy, N. Y. Shoe	Feb. 18, 1868.
78,388	McNamara, James, assignor to self and C. D. Page, Buffalo, N. Y. Machine for dressing brick. (Antedated May 18, 1868)	May 26, 1868.
	McNaughton, Samuel S., and A. W. McCormick. (*See* Babcock, Wm. W., ass'r.)	
	McNeal, H. B., *et al.* (*See* Springer, Jacob, assignor.)	
81,807	McNeely, D., and C. J. Cady, Spurgeon, Ind. Cultivator	Sept. 1, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,374	McNeil, D. C., Osceola, Mo. Sympathetic ink	June 30, 1868.
80,987	Same.....Camp stove and oven	Aug. 11, 1868.
82,017	McNeil, William S., Springfield, Mass. Hammer and mallet	Sept. 8, 1868.
75,944	McNeil, William S., assignor to Thomas H. White and Warren Johnson, Springfield, Mass. Culinary steamer	Mar. 24, 1868.
81,392	McNeil, W. S., and O. S. Cadwell, jr., Springfield, Mass. Railroad-car heater	Aug. 25, 1868.
76,068	McNeill, Aaron, Cincinnati, Ohio. Safety attachment for pocket-books	Apr. 21, 1868.
80,988	McNeven, John, New York, N. Y. Corset, abdominal, and skirt supporter	Aug. 11, 1868.
	McNichol, Archibald, *et al.* (*See* Baker, Loring J., assignor.)	
	McNieee, William. (*See* Joseph, Benjamin, assignor.)	
79,675	McPheeters, Joseph H., and Philip P. Gross, Palmyra, Mo. Corn sheller	July 7, 1868.
79,375	McPherson, James, Brooklyn, N. Y. Steam-engine cut-off	June 30, 1868.
76,225	McPherson, S. D., Normal, Ill. Compound for making pictures transparent	Mar. 31, 1868.
82,859	McQuaid, Hugh, Canyon City, Oregon. Preventing incrustation in steam boilers	Oct. 6, 1868.
73,986	McRobert, Charles S., Plymouth, Mich. Carpet stretcher	Feb. 4, 1868.
84,895	McSherry, Daniel E., Dayton, Ohio. Wheat drill	Dec. 15, 1868.
84,748	McTarnahan, Francis, Santa Clara, Cal. Gang plow	Dec. 8, 1868.
	McVaugh, James H., and Daniel W. Dyer. (*See* Dyer and McVaugh.)	
	McVay, Jason, and Jason S. Carey. (*See* Serviss, Wm., assignor.)	
83,298	McWhorter, F. S., St. Georges', Del. Grain-weighing and tallying machine	Oct. 20, 1868.
73,023	McWilliams, Gabriel, Fostoria, Ohio. Churn	Jan. 7, 1868.
76,647	Mead, Albert G., and Charles J. Addy, Boston, Mass. Stamping press	Apr. 14, 1868.
83,651	Mead, Henry E., Centreville, Mich. Stump extractor	Nov. 3, 1868.
79,587	Mead, Ira W., assignor to self and Edwin W. Hanford, Bridgeport, Conn. Spike drawer	July 7, 1868.
79,999	Mead, N. H., Waterport, N. Y. Fire-frame attachment	July 14, 1868.
77,394	Meader, George, Prairie Center, Ill. Corn harvester. (Antedated April 19, 1868)	Apr. 28, 1868.
81,808	Meador, James D., Independence, Iowa. Moth-fly trap for beehives	Sept. 1, 1868.
73,911	Meaker, J. W., Chicago, Ill. Apparatus for counting money	Jan. 28, 1868.
76,492	Same.....Apparatus for assorting coin	Apr. 7, 1868.
76,493	Same.....same	Apr. 7, 1868.
	Meakin, George F. L., and Peter Ashcroft. (*See* Ashcroft & Meakin.)	
83,521	Mealey, John, Fairville, N. B. School desk	Oct. 27, 1868.
80,197	Mealey, Lewis H., Alpha, Ohio. Paper sack knife	July 21, 1868.
	Mears, E. A. F. (*See* Jones, John A., assignor.)	
74,400	Mears, John H., Oshkosh, Wis. Mop wringer	Feb. 11, 1868.
76,932	Mecay, Samuel P., Kilbourne, Ohio. Horse rake	Apr. 21, 1868.
83,076	Meddock, Francis M., Mainsville, Ohio. Device for heating railroad-cars	Oct. 13, 1868.
75,690	Meech, Harrison B., Fort Edward, N. Y. Manufacture of artificial leather	Mar. 17, 1868.
82,336	Meek, A. W., Waterloo City, Ind. Gate	Sept. 22, 1868.
	Meeker, Charles S., and George M. White. (*See* White & Meeker.)	
74,568	Meeker, Ellis R., Elizabeth, N. J. Implement	Feb. 18, 1868.
82,429	Mefford, David M., assignor to self and Stephen Boalt, Norwalk, Ohio. Preserving fruit	Sept. 22, 1868.
	Meginnis, Thomas J. (*See* Harman, I. R., assignor.)	
82,144	Meginnity, Robert, and J. Dessinger, Detroit, Mich. Tobacco-dressing machine	Sept. 15, 1868.
81,925	Mehrmann, Ferdinand, Fountain City, Wis. Combined spur and creeper	Sept. 8, 1868.
2,867	Meier, Theodore G., assignor to the St. Louis Cotton Factory, St. Louis, Mo. Trade mark.....(Design)	Jan. 28, 1868.
2,868	Same.....same.....(Design)	Jan. 28, 1868.
79,376	Meigs, Edmund H., assignor to Roys & Wilcox Company, East Berlin, Conn. Tinsmith's stake	June 30, 1868.
80,868	Same.....Hand-axe	Aug. 11, 1868.
73,739	Meigs, Henry, jr., Bergen Point, N. J. Priming metallic cartridges	Jan. 28, 1868.
81,100	Meigs, Joe V., Washington, D. C. Breech-loading fire-arm. (Antedated Aug. 5, 1868)	Aug. 18, 1868.
81,663	Meikle, George S., Sterling, Ill. Shellac varnish	Sept. 1, 1868.
75,179	Meikle, Thomas, Louisville, Ky. Machine for making plow clevis	Mar. 3, 1868.
77,395	Meineke, J. J. D., Milwaukee, Wis. Forward gear for carriages	Apr. 28, 1868.
80,421	Meinhardt, Christian Gotthold, assignor to self and Benjamin F. Bell, Altoona, Pa. Propeller	July 28, 1868.
80,869	Same.....Ship's davit	Aug. 11, 1868.
73,987	Melcher, George B., assignor through mesne assignments to John Kinsman, Salem, Mass. Window-blind fastener	Feb. 4, 1868.
82,237	Meleher, J. F., Bloomington, Ill. Machine for bending wood	Sept. 15, 1868.
76,494	Melcher, John W., Oshkosh, Wis. Car coupling	Apr. 7, 1868.
	Meleher, N. H. (*See* Palmer, Alonzo, assignor.)	
83,077	Meley, Jonathan, Trenton, Tenn. Grave mound	Oct. 13, 1868.
77,636	Mellen, Dustin F., Manchester, N. H. Apparatus for distilling pine wood	May 5, 1868.
	Mellen, George H. (*See* Laubach, W. H., assignor.)	
79,534	Mellen, George H., Chicago, Ill. Combined baby jumper and cradle	June 30, 1868.
	Mellier, Marie Amedee Charles, deceased, by Alexander Hay, administrator, Philadelphia, Pa. Making paper pulp.....(Extension)	July 24, 1868.
78,113	Mellinger, Charles, Cornwall, Pa. Furnace for roasting ores	May 19, 1868.
3,107	Same.....same.....(Reissue)	Sept. 1, 1868.
73,740	Mellish, Henry, Walpole, N. H. Machine for making wooden bowls	Jan. 28, 1868.
78,989	Mellon, Peter H., St. Louis, Mo. Quilting frame	June 16, 1868.
	Mellor, Alfred, *et al.* (*See* Meyer, Berek A., assignor.)	
80,648	Mellor, C. H., Philadelphia, Pa. Molding machine	Aug. 4, 1868.
80,198	Melvell, William, Paterson, N. J. Machine for heading bolts	July 21, 1868.
82,734	Melville, Frank, New York, N. Y. School slate	Oct. 6, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75,039	Melvin, David Neilson, Buffalo, N. Y. Furnace for generating steam	Mar. 3, 1868.
73,112	Melvin, E. O., Brooklyn, N. Y. Grain measure	Jan. 7, 1868.
	Mendelson, L., *et al.* (*See* Stoner, John B., assignor.)	
	Same.....same.	
	Same.....same.	
	Same.....(*See* Stoner, Mendelson & Crommelin.)	
	Same.....(*See* Stoner, John B., assignor).....(Reissue.)	
76,339	Mendenhall, D., Fairfield, Iowa. Harvester rake	Apr. 7, 1868.
	Mendenhall, Miles. (*See* McMullin, Thomas, assignor.)	
85,466	Mendenhall, Noah, Greensburg, Ind. Corn and seed planter	Dec. 29, 1868.
80,422	Meneely, George R., West Troy, N. Y. Attaching bells to their yokes	July 28, 1868.
77,704	Mengel, Herman, Philadelphia, Pa. Instrument for measuring and laying out garments	May 5, 1868.
77,396	Mercer, George, and John Hinton, St. Louis, Mo. Apparatus for tempering saw-plates and similar articles of steel	Apr. 28, 1868.
	Mercer, G. H., *et al.* (*See* Grenier, Francois, assignor.)	
75,180	Mercer, John H., New York, N. Y. Bath tub	Mar. 3, 1868.
	Mercien, Andrew, *et al.* (*See* Lanagan, M. A., assignor.)	
77,510	Mercier, Edward, assignor to self and Henry W. Bailey, Springfield, Mass. Railroad switch	May 5, 1868.
73,024	Mercier, John, assignor to Israel Kinney, Detroit, Mich. Harrow	Jan. 7, 1868.
	Meredith, Edwin. (*See* Harsha, Mortimer S., assignor.)	
85,117	Meriam, John N., assignor to North, Meriam & Company, Cambridgeport, Mass. Apparatus for stirring and cooling lard	Dec. 22, 1868.
76,791	Meriam, Rufus N., Worcester, Mass. Wood-planing machine	Apr. 21, 1868.
	Meriden Britannia Company. (*See* Forbes, Marshall L., assignor.)	
	Same.....(*See* Wilcox, Horace C., assignor).....(Design.)	
	Same.....(*See* Foote, Charles C., assignor.)	
	Same.....(*See* Lyman, William W., assignor.)	
	Same.....(*See* Wilcox, D. C., assignor.)	
	Meriden Cutlery Company. (*See* Fosket, William, assignor.)	
81,926	Meriman, Emelie J., New York, N. Y. Corset. (Antedated Sept. 4, 1868)	Sept. 8, 1868.
81,283	Merlett, John, assignor to self and John Smalley, Bound Brook, N. J. Breech-loading fire-arm. (Antedated Aug. 7, 1868)	Aug. 18, 1868.
77,511	Merrell, Jay C., Medina, N. Y. Wash-boiler	May 5, 1868.
83,985	Merrell, William, Kent, Ohio. Iron fence post	Nov. 10, 1868.
73,452	Merrell, William G., assignor to self and Cyrenus Wheeler, jr., Auburn, N. Y. Harvester rake	Jan. 21, 1868.
75,945	Merriam, Charles, and Curtis O. Luce, assignors to selves and Julius C. Higgins, Brandon, Vt. Hand stamp	Mar. 24, 1868.
81,522	Merriam, D. H., Fitchburg, Mass. Stone-cutting machine	Aug. 25, 1868.
85,018	Merrick, J. M., jr., assignor to the New England Vulcanite Hide Company, Boston, Mass. Material for the manufacture of boxes, picture frames, buttons, inkstands, insulators, and other articles	Dec. 15, 1868.
78,675	Merrick, J. Vaughan and W. H., Philadelphia, Pa. Hoisting apparatus	June 9, 1868.
	Same.....(*See* Joy, David, assignor.)	
84,130	Merrick, Silas, New Brighton, Pa. Coffin	Nov. 17, 1868.
76,495	Merrick, William H., Philadelphia, Pa. Apparatus for filtering sugar	Apr. 7, 1868.
73,624	Merrifield, Charles E., Indianapolis, Ind. Gate latch	Jan. 21, 1868.
80,649	Merrill, Benjamin F., West Lebanon, N. H. Gauge	Aug. 4, 1868.
78,676	Merrill, E. H. and H E., Akron, Ohio. Apparatus for making bottles of clay	June 9, 1868.
75,640	Merrill, Elijah W., West Buxton, Maine. Harvester	Mar. 17, 1868.
82,145	Merrill, George, Newburyport, Mass. Carving machine	Sept. 15, 1868.
82,430	Merrill, Georgo, assignor to Samuel Blish, Newburyport, Mass. Carving machine	Sept. 22, 1868.
	Merrill, George, and W. H. Jackson. (*See* Jackson & Merrill.)	
82,735	Merrill, Helem, New York, N. Y. Filter for saccharine and other liquids. (Antedated Sept. 30, 1868)	Oct. 6, 1868.
	Merrill, Henry, *et al.* (*See* Eddy, Rollin S., assignor.)	
	Same.....(*See* Smith & Eddy, assignors.)	
77,069	Merrill, Ithamar B., Dexter, Me. Blacking for leather, &c	Apr. 21, 1868.
83,078	Merrill, Joshua, Boston, Mass. Machine for bending wood	Oct. 13, 1868.
74,763	Merrill, Mary, Marengo, Ill. Knife and fork scourer	Feb. 25, 1868.
78,000	Merrill, Rufus S., assignor to self, Levi Liscom, and William Lincoln, Boston, Mass. Bridge	May 19, 1868.
79,488	Merrill, Rufus S., assignor to self and William Carleton, Boston, Mass. Lamp burner	June 30, 1868.
73,912	Merrill, R. S., and William Carleton, Boston, Mass. Lamp	Jan. 28, 1868.
	Merrill, Rufus Spaulding, *et al.* (*See* Richmann, Christian, assignor.)	
	Same.....(*See* Fowle, Joseph W., assignor.)	
	Merrill, Rufus S., and William Lincoln. (*See* Liscom, Levi, assignor.)	
83,872	Merrill, S. I., assignor to D. U. Young and M. C. Merrill, Falmouth, Me. Medical plaster	Nov. 10, 1868.
75,691	Merrill, S. T., Beloit, Wis. Bleaching paper stock	Mar. 17, 1868.
	Merrimae Loom Company. (*See* Jackson & Merrill, assignors.)	
78,225	Merriman, Alanson H., New Britain, Conn. Press spindle adjustment	May 26, 1868.
84,749	Merriman, Henry, Bloomington, Ill. Coal chute	Dec. 8, 1868.
74,569	Merriman, John A., Chicago, Ill. Corn sheller	Feb. 18, 1868.
	Merritt, Burlin T., and Henry E. Hull. (*See* Hull & Merritt.)	
81,393	Merritt, Daniel S., Mt. Morris, Mich. Mechanical movement	Aug. 25, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,792	Merritt, George, Brooklyn, N. Y. Inkstand	Apr. 14, 1868.
	Merryman, Joseph M., and William C. Bartlit. (*See* Bartlit & Merryman.)	
	Mersereau, W. T., and Amos Shipley. (*See* Shipley & Mersereau.)	
2,973	Mershon, A. H., Philadelphia, Pa. Furnace door (Design)	Mar. 31, 1868.
77,512	Mershon, Albert H., Philadelphia, Pa. Damper for hot air furnaces	May 5, 1868.
	Mersick, E. F., *et al.* (*See* Bradley, F. A., assignor.)	
84,958	Mervesp, J. J., New York, N. Y. Horseshoe	Dec. 15, 1868.
84,431	Messenger, Charles, Cleveland, Ohio. Dish washer	Nov. 24, 1868.
74,928	Messenger, Q. F., Easton, Pa. Corn harvester	Feb. 25, 1868.
73,741	Metcalf, George, Leland, Ill. Brick machine	Jan. 28, 1868.
79,490	Metcalf, James A., Lawrence, Mass. Shuttle	June 30, 1868.
78,677	Metcalf, Martin, Grand Rapids, Mich. Machine for grooving and swaging sheet metal	June 9, 1868.
81,809	Same....Hot-air furnace	Sept. 1, 1868.
73,254	Metcalf, Oliver, Salem, Ind. Animal trap	Jan. 14, 1868.
81,927	Metherell, John, Rockford, Ill. Millstone ventilator	Sept. 8, 1868.
	Metropolitan Rotary Engine Company. (*See* Millochau, Adolph, assignor.) (Reissue.)	
	Metropolitan Washing Machine Company. (*See* Spaulding & Scott, assignors.) (Reissue.)	
	Same....same (Reissue.)	
	Same....(*See* Palmer, S. W., & J. F., assignors.) (Reissue.)	
	Same....(*See* Bailey, Alfred M., assignor.)	
79,489	Mets, E., assignor to self and A. Cram, Rochester, N. Y. Wood bending machine	June 30, 1868.
82,860	Metten, George R., Cleveland, Ohio. Mechanial movement	Oct. 6, 1868.
	Metz, Joseph and Bernard. (*See* Murr, Lewis, assignor.)	
77,513	Metzler, Henry F., assignor to self and William F. Youngs, New York, N. Y. Spring-horse	May 5, 1868.
82,018	Metzler, Henry F., assignor to Louisa Metzler, New York, N. Y. Swing	Sept. 8, 1868.
78,678	Meyendorff, Adolph A., New York, N. Y. Distilling apparatus	June 9, 1868.
2,916	Meyer, Charles T., assignor to Edward C. Sampson, Bergen, N. J., Floor oil cloth pattern (Design)	Feb. 4, 1868.
2,917	Same....Carpet or floor oil cloth pattern (Design)	Feb. 4, 1868.
2,918	Same....same (Design)	Feb. 4, 1868.
2,974	Same....Floor cloth pattern (Design)	Mar. 31, 1868.
2,975	Same....same (Design)	Mar. 31, 1868.
3,036	Same....Floor oil cloth pattern (Design)	May 12, 1868.
3,037	Same....same (Design)	May 12, 1868.
3,038	Same....same (Design)	May 12, 1868.
3,039	Same....same (Design)	May 12, 1868.
3,088	Same....same (Design)	June 30, 1868.
3,089	Same....same (Design)	June 30, 1868.
3,090	Same....same (Design)	June 30, 1868.
3,091	Same....same (Design)	June 30, 1868.
3,092	Same....same (Design)	June 30, 1868.
3,093	Same....same (Design)	June 30, 1868.
3,161	Same....Floor oil cloth (Design)	Aug. 25, 1868.
3,162	Same....same (Design)	Aug. 25, 1868.
3,163	Same....same (Design)	Aug. 25, 1868.
3,248	Same....Floor cloth pattern (Design)	Nov. 17, 1868.
3,293	Same....same (Design)	Dec. 15, 1868.
3,294	Same....same (Design)	Dec. 15, 1868.
3,295	Same....same (Design)	Dec. 15, 1868.
2,966	Meyer, Frederick, Newark, N. J. Machine for grinding scale pivots (Reissue)	June 2, 1868.
76,226	Meyer, Henry, Grafton, Wis. Machine for dressing chair seats	Mar. 31, 1868.
82,019	Meyer, Henry, Richmond, Ind. Stovepipe drum	Sept. 8, 1868.
83,986	Myer, Isaac T., and James F. J. Guning, New York, N. Y. Hoop skirt	Nov. 10, 1868.
81,189	Meyer, Jacob, Bloom Township, Ohio. Shovel plow	Aug. 18, 1868.
79,849	Meyer, John, Portland, Maine. Machine for separating iron from sugar	July 14, 1868.
	Meyer, L. Otto P., Newtown, Conn. Vulcanizing India-rubber and other gums. (Extension)	Feb. 10, 1868.
	Same....Treating caoutchouc and other vulcanizable gums. (Extension)	Mar. 26, 1868.
78,308	Meyer, Martin, Philadelphia, Pa. Refrigerator	May 26, 1868.
3,209	Meyer, Victor, assignor to Edward C. Sampson, Kearney, N. J. Floor-cloth pattern (Design)	Sept. 22, 1868.
3,210	Same....same (Design.)	
81,190	Meyer——, Berek A., assignor to Alfred Mellor and H. N. Rittenhouse, Prussia. Article of food for the sick	Aug. 18, 1868.
82,020	Meyereordt, Philipp, Chicago, Ill. Sewer pipe	Sept. 8, 1868.
81,191	Meyers, Nicholas, assignor to E. L. Chamberlayne and S. C. Pomeroy, Buffalo, N. Y. Sewing machine	Aug. 18, 1868.
83,398	Same....same	Oct. 27, 1868.
84,959	Same....same	Dec. 15, 1868.
73,543	Michael, William E., assignor to self and Abraham Setley, New Holland, Pa. Means for stuffing seats	Jan. 21, 1868.
84,204	Michel, A., assignor to self, James S. Harman, and Napoleon Moisan, St. Louis, Mo. Wash boiler	Nov. 17, 1868.
76,933	Michel, F. P., Rochester, N. Y. Pump piston. (Antedated April 14, 1868)	Apr. 21, 1868.
80,650	Michell, Lucius E., Cincinnati, Ohio. Curtain fixture	Aug. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Michie, Peter S. (*See* Alexander, John F., assignor.)	
81,810	Middleton, John L., Zanesville, Ohio. Churn	Sept. 1, 1868.
	Middleton, Reuben S., and Henry Rothfelder. (*See* Reed, G. W., assignor.)	
83,195	Middleton, William A., Harrisburg, Pa. Bracket and rack	Oct. 20, 1868.
	Same.....(*See* Nebinger, G. R., assignor.)	
80,870	Middleton, William A., and John A. Haller, Harrisburg, Pa. Horse hitch	Aug. 11, 1868.
	Middletown Plate Company. (*See* Holmes, Robert, assignor.)	
	Middletown Tool Company. (*See* Henshaw, J. R. assignor).....(Reissue.)	
73,025	Mieler, John G., Plymouth, Mich. Sleigh runner	Jan. 7, 1868.
77,901	Migeon, A. F., assignor to the Union Hardware Company, Wolcottsville, Conn. Skate	May 12, 1868.
82,021	Mighell, Reuben C., Plano, Ill. Gate	Sept. 8, 1868.
73,824	Mignault, John B., assignor to self and Alfred B. Hall, Boston, Mass. File-cutting machine	Jan. 28, 1868.
84,566	Milbank, Isaac M., Greenfield Hill, Conn. Breech-loading fire-arm	Dec. 1, 1868.
75,443	Milburn, Joseph P., Washington, D. C. Tumbler washer	Mar. 10, 1868.
82,540	Milburn, N. L., St. Louis, Mo. Elevator	Sept. 29, 1868.
77,514	Miles, Charles M., and George W. Remsen, Lincoln, Del. Lamp burner	May 5, 1868.
	Miles, Charles W., (*See* Beecher, Samuel N., assignor.)	
82,973	Miles, Franklin S., Philadelphia, Pa. Bolt head	Oct. 13, 1868.
80,082	Miles, Frederick B., assignor to Bement & Dougherty, Philadelphia, Pa. Valve gear for steam hammer	July 21, 1868.
73,913	Miles, Mason, M., Aurora, Ill. Vapor inhaler	Jan. 28, 1868.
73,453	Miles, Purches, assignor to Theodore Mace, New York, N. Y. Sausage stuffer	Jan. 21, 1868.
78,114	Milholland, John, New Concord, Ohio. Horse hay fork	May 19, 1868.
	Milks, Giles, *et al.* (*See* Pease, C. C., assignor.)	
79,077	Millar, Carl, Sandoval, Ill. Smut machine	June 23, 1868.
	Millar, Charles C., and Robert M. Barthelmess. (*See* Barthelmess & Millar.)	
85,467	Millard, Joseph, Winslow, Ind. Cultivator	Dec. 29, 1868.
74,570	Millard, S. A., Clayville, N. Y. Process of rolling hoes	Feb. 18, 1868.
80,083	Same.....Machine for rolling hoe blanks	July 21, 1868.
78,810	Miller, Abraham S., Bluffton, Ind. Machine for scutching flax. (Antedated June 5, 1868)	June 9, 1868.
78,811	Same.....Machine for breaking flax. (Antedated June 5, 1868)	June 9, 1868.
76,227	Miller, Alexander, and C. Mason, Chicago, Ill. Wood pavement	Mar. 31, 1868.
	Miller, August, and Fitch Raymond. (*See* Raymond & Miller.)	
	Same.....same.	
79,770	Miller, Benjamin F., New York, N. Y. Pavement	July 7, 1868.
	Miller, Charles, *et al.* (*See* Wack, Charles, assignor.)	
79,142	Miller, Charles E., Indianapolis, Ind. Wash boiler	June 23, 1868.
80,651	Same.....same.	Aug. 4, 1868.
75,444	Miller, Charles G., Springfield, Ohio. Harvester	Mar. 10, 1868.
78,309	Miller, Charles G., assignor to S. M. Spencer & Company, Brattleboro', Vt. Bench drill	May 26, 1868.
81,394	Miller, Charles H., Buffalo, N. Y. Trace buckle	Aug. 25, 1868.
81,395	Same.....Bridle bit	Aug. 25, 1868.
2,869	Miller, Charles J., Philadelphia, Pa. Trade mark.....(Design)	June 28, 1868.
76,229	Miller, David, Allegheny City, Pa. Paint can	Mar. 31, 1868.
78,310	Miller, D. K., Reading, Pa. Permutation lock	May 26, 1868.
75,946	Miller, D. L., Madison, N. J. Pulley for hoisting apparatus. (Antedated March 20, 1868)	Mar. 24, 1868.
	Miller, David L., and Charles Brown. (*See* Brown & Miller.)	
79,491	Miller, David S., West Alexandria, Ohio. Churn dasher	June 30, 1868.
	Miller, E., & Company. (*See* Marcy, J. J., assignor.)	
	Same.....(*See* Langston, Thomas, assignor.)	
	Same.....(*See* Seymour, Frederick J., assignor.)	
	Same.....same.	
75,641	Miller, Edmund B., Greenville, Tenn. Machine for stuffing horse collars	Mar. 17, 1868.
	Miller, Edward. (*See* Pomeroy, Norman W., assignor.)	
	Miller, E. L., *et al.* (*See* Goodes, E. A., assignor.)	
	Same.....same.	
	Same.....same.	
76,095	Miller, E. S., Baltimore, Md. End gate for wagons	Mar. 31, 1868.
75,289	Miller, Francis Bowyer, New South Wales. Process of treating gold bullion to toughen and refine it	Mar. 10, 1868.
77,637	Miller, Frank, Indianola, Ill. Bolt cutter	May 5, 1868.
78,226	Miller, F. C., Evans Center, N. Y. Portable oven	May 26, 1868.
76,934	Miller, F. J., Brooklyn, N. Y. Construction of ice pitchers. (Antedated April 10, 1868)	Apr. 21, 1868.
80,557	Miller, Fred J., Brooklyn, N. Y. Speaking trumpet	Aug. 4, 1868.
	Miller, George, Providence, R. I. Manufacturing leather banding for machinery.....(Extension)	May 5, 1868.
77,515	Miller, G. L., Pontiac, Mich. Trace hook	May 5, 1868.
77,638	Miller, G. L., DeWitt, N. Y. Window-curtain fixture	May 5, 1868.
81,192	Same.....Car brake	Aug. 18, 1868.
	Miller, George L. (*See* Ustick, Stephen, assignor.)	
80,756	Miller, G. W., West Meriden, Conn. Tool for mending belts	Aug. 4, 1868.
77,747	Miller, G. W., and J. D. Stephens, Scranton, Pa. Hub fastening for eccentrics	May 12, 1868.
76,648	Miller, Henry, Cranston, R. I. Metallic bird house	Apr. 14, 1868.
75,181	Miller, Henry J., Nashua, N. H. Boot jack and blacking brush	Mar. 3, 1868.
	Miller, H. J., *et al.* (*See* Sanderson & Shattuck, assignors.)	
	Miller, Howard, and Edward Coogan. (*See* Coogan & Miller.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
83,522	Miller, Jacob, Washington, Pa. Machine for forming the hook or eye on pot bails, &c	Oct. 27, 1868.
83,523	Same.....Machine for bending oval handles for tin ware	Oct. 27, 1868.
84,367	Miller, Jacob, Canton, Ohio. Threshing and grain separating machine	Nov. 24, 1868.
84,368	Same.....Dropping platform for harvesters	Nov. 24, 1868.
77,070	Miller, James, Allegheny City, Pa. Apparatus for distilling petroleum	Apr. 21, 1868.
80,757	Miller, J. D., Springfield, Ohio. Hames fastener	Aug. 4, 1868.
75,947	Miller, James K., New York, N. Y. Post hole borer	Mar. 24, 1868.
81,928	Miller, John C., Bushnell, Ill. Brick machine	Sept. 8, 1868.
82,337	Miller, John C., Danville, Ky. Side-saddle-tree	Sept. 22, 1868.
73,625	Miller, John H., Vernon, Ind. Animal trap	Jan. 21, 1868.
81,929	Miller, John H., Oskaloosa, Iowa. Plane for cutting blind slats	Sept. 8, 1868.
	Miller, J. L., *et al.* (*See* Slagle, Miller & Hoy.)	
85,323	Miller, John M., Cincinnati, Ohio. Carriage spring	Dec. 29, 1868.
78,311	Miller, John P., Somerset, Pa. Curtain fixtures	May 26, 1868.
73,361	Miller, Joseph A., New York, N. Y. Ash sifter	Jan. 14, 1868.
73,362	Same.....Apparatus for singeing cotton cloth	Jan. 14, 1868.
73,363	Miller, Joseph A., Providence, R. I. Steam generator	Jan. 14, 1868.
73,364	Same.....same	Jan. 14, 1868.
	Miller, Joseph B., and Rollin C. Welch. (*See* Welch & Miller.)	
78,389	Miller, Levi, Johnsville, Ohio. Gate	May 26, 1868.
74,929	Miller, Lewis, Akron, Ohio. Harvester rake	Feb. 25, 1868.
84,432	Same.....Harvester	Nov. 24, 1868.
84,433	Same.....making harvester guard fingers	Nov. 24, 1868.
77,306	Miller, L. C., Humphrey, N. Y. Spring brace for carriages, &c	Apr. 28, 1868.
73,742	Miller, L. H., Baltimore, Md. Permutation lock	Jan. 28, 1868.
73,626	Miller, Nicholas B., Orion, Mich. Harrow	Jan. 21, 1868.
75,642	Miller, Peter L., Mechanicsburg, Pa. Gate	Mar. 17, 1868.
	Miller, R. S., and R. M. Gano. (*See* Gano & Miller.)	
	Miller, Samuel, *et. al.* (*See* Gates, Lloyd & Miller.)	
	Miller, S. H. (*See* Kerr, John and Dayton C., assignors.)	
85,118	Miller, Samuel J., and Luna Wright, Economy, Ind. Corn plow	Dec. 22, 1868.
	Miller, Samuel N., Dedham, Mass. Compound anchor.....(Extension)	Nov. 23, 1868.
77,516	Miller, Sarah P. P., Beaver, Pa. Basket	May 5, 1868.
77,829	Miller, Warner, assignor to the National Wood Fiber Company, Herkimer, N. Y. Machine for making paper pulp	May 12, 1868.
76,228	Miller, Warren P., New York, N. Y. Attaching cross-cut saws to their handles	Mar. 31, 1868.
81,811	Same.....Saw	Sept. 1, 1868.
81,812	Same.....same	Sept. 1, 1868.
83,524	Same.....Gauge for circular saws	Oct. 27, 1868.
84,960	Miller, William, Chicopee, Mass. Knife cleaner	Dec. 15, 1868.
74,842	Miller, William, assignor to self and John Boyle, Chicopee, Mass. Animal trap	Feb. 25, 1868.
78,227	Miller, William, John J. Becker, and Abraham Simeox, assignors to selves and Jacob Miller, Fort Wayne, Ind. Peg float. (Antedated May 15, 1868)	May 26, 1868.
	Miller, William B. (*See* Dunn, Dangerfield, assignor.)	
73,454	Miller, William Hartley, Philadelphia, Pa. Piston-rod packing	Jan. 21, 1868.
77,204	Same.....Packing for engines, pumps, &c	Apr. 28, 1868.
77,902	Same.....Manufacture of packing for steam-engines, &c	May 12, 1868.
	Same.....(*See* Bates, James L., assignor).....(Reissue.)	
77,748	Miller, William J., Gettysburg, Pa. Shutter fastening	May 12, 1868.
78,115	Miller, W. J., Washington, D. C. Sash and shutter fastening	May 19, 1868.
	Miller, W. K., and Clement Russell. (*See* Russell & Miller.)	
81,664	Millerd, James C., River Point, R. I. Expanding mandrel, or boring tool	Sept. 1, 1868.
	Millett, J. S., and Erastus Woodward. (*See* Woodward & Millett.)	
	Millett, Needham C. (*See* Wingate, D. B., assignor.)	
80,199	Milligan, George B., assignor to P. Poultney, Baltimore, Md. Horse shoe	July 21, 1868.
	Milligan, James, and Jacob C. Horton. (*See* Horton & Milligan.)	
83,079	Milligan, John F., St. Louis, Mo. Baling press	Oct. 13, 1868.
78,883	Millikan, John S., Thorntown, Ind. Truck for moving houses	June 16, 1868.
75,445	Milliken, J. E., Bridgeton, Maine. Bedstead fastening	Mar. 10, 1868.
75,040	Milliken, William, Cambridge, Mass. Combined book cover and stand	Mar. 3, 1868.
74,239	Millington, Norman, Shaftsbury, Vt. Machine for graduating rules	Feb. 11, 1868.
	Millington, Norman, and Dennis J. George, deceased, by L. J. Mattison, S. M. George and A. B. Gardner, executors, Shaftsbury, Vt. Machine for graduating carpenters' squares.....(Extension)	Aug. 6, 1868.
3,131	Millochau, Adolph, assignor through mesne assignments to the Metropolitan Rotary Engine Company, New York, N. Y Rotary steam engine.....(Reissue)	Sept. 22, 1868.
84,131	Millochau, A., assignor to self, Jules Marcelin, Louis A. Geyer and Edwin D. Barnes, New York, N. Y. Manufacture of lampblack	Nov. 17, 1868.
80,362	Mills, Amzi C., Oaktown, Ind. Corn sheller	July 28, 1868.
	Mills, Benjamin T. (*See* Noble, George H., assignor.)	
	Mills, Benjamin T., and Seldon L. Crockett. (*See* Crockett & Mills.)	
	Mills, C. W., *et al.* (*See* Chichester, Lewis S., assignor.)	
	Same.....(*See* Taggart, Chichester & Mills).....(Reissue.)	
82,431	Mills, C. W., and Lewis S. Chichester, assignors to selves and George H. Nichols, Brooklyn, N. Y. Grain separator. (Antedated Sept. 14, 1868)	Sept. 22, 1868.
82,432	Same.....Grain dryer. (Antedated Sept. 10, 1868)	Sept. 22, 1868.
84,205	Mills, Ezekiel, Baltimore, Md. Sheet metal roofing	Nov. 17, 1868.
76,793	Mills, James R., Macon City, Mo. Weather strip	Apr. 14, 1868.
73,627	Mills, John D., Dayton, Ohio. Paint compound	Jan. 21, 1868.
78,884	Mills, Mortimer Birdsill, De Witt, Iowa. Sewing horse	June 16, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,338	Mills, P. H., Green's Landing, Me. Row lock	Sept. 22, 1868.
78,812	Mills, Samuel, Clinton, Ill. Churn	June 9, 1868.
77,071	Mills, Simeon, Madison, Wis. Car coupling	Apr. 21, 1868.
81,665	Mills, Thomas and George, Philadelphia, Pa. Machine for making candy toys, &c.	Sept. 1, 1868.
73,365	Mills, T. S., Kendallsville, Ind. Combined drill, roller, and cultivator	Jan. 14, 1868.
77,639	Mills, William R., Hartford, Mich. Mop wringer	May 5, 1868.
	Millward, Frank, *et al.* (*See* Nason, Joseph, assignor.)	
84,206	Millward, Frank, assignor to self, Doxter D. Hardy and Henry C. Dart, Cincinnati, Ohio. Oscillating steam engine	Nov. 17, 1868.
80,000	Milner, Cyrus, Des Moines, Iowa. Washing machine	July 14, 1868.
78,752	Milner, T., Houston, Texas. Circular-saw guide	June 9, 1868.
73,988	Milroy, J. W., Galveston, Ind. Corn and cotton cultivator	Feb. 4, 1868.
77,830	Same.....Revolving-spade plow	May 12, 1868.
85,324	Milroy, James W., assignor to self and S. B. Shaner, Galveston, Ind. Corn and cotton plow	Dec. 29, 1868.
74,708	Milroy, J. W., J. Vaughan, and J. Turley, Galveston, Ind. Soda fountain	Feb. 18, 1868.
82,861	Milroy, James W., and John Cook, Galveston, Ind. Machine for making drain tiles	Oct. 6, 1868.
82,260	Mindeleff, Demetry, Washington, D. C. Manufacture of artificial stone	Sept. 15, 1868.
78,990	Miner, Albert C., assignor to self and James Guild, Philadelphia, Pa. Railroad-car heater	June 16, 1868.
79,492	Minges, Simon, Rochester, N. Y. Wear plate for boots and shoes	June 30, 1868.
80,494	Minifie, James, Baltimore, Md. Lamp burner	July 28, 1868.
84,434	Minnich, Simon B., Landisville, Pa. Windlass and horse-power	Nov. 24, 1868.
75,949	Minniss, Thomas S., Meadville, Pa. Sad-iron handle	Mar. 24, 1868.
75,692	Minor, Charles M., Bridgeport, and Henry S. Frost, Watertown, Conn., assignors to selves, Augustus N. Woolson, and Anthony G. Davis. Umbrella	Mar. 17, 1868.
76,340	Minor, John A., Middletown, Conn. Feeding mechanism for sewing machines	Apr. 7, 1868.
77,072	Same.....Illusion toy	Apr. 21, 1868.
75,948	Minor, John W., and David P. Ward, New Bedford, Mass. Carriage hub	Mar. 24, 1868.
80,495	Minster, William, Washington, D. C. Carpet stretcher	July 28, 1868.
	Mishler, Benjamin. (*See* Iske, Anthony, assignor.)	
	Same.....same.	
	Mitchel, William H., New York, N. Y. Machinery for composing typo. (Extension)	May 13, 1868.
	Mitchell & Allen. (*See* Hilton, Richard H., assignor.)	
	Mitchell, Allen & Company. (*See* Ferguson, E., assignor.)	
73,366	Mitchell, George R., Nevada, Col. Stamp mill	Jan. 14, 1868.
74,843	Mitchell, Henry, Racine, Wis. Wagon coupling	Feb. 25, 1868.
79,588	Mitchell, Henry, Osborn, Ohio. Corn planter	July 7, 1868.
82,736	Mitchell, James, Philadelphia, Pa. Rotary blower	Oct. 6, 1868.
81,396	Mitchell, John B., assignor to self and Perez B. Burnham, Portland, Me. Hose nozzle	Aug. 25, 1868.
74,709	Mitchell, N. C., Caledonia, Ohio. Beehive	Feb. 18, 1868.
76,496	Mitchell, N. N., Concord, N. C. Carriage pole	Apr. 7, 1868.
82,339	Mitchell, R. M., Fort Atkinson, Wis. Grain storer	Sept. 22, 1868.
73,628	Mitchell, Rufus S., Elizabeth, Ind. Flour scoop and sifter	Jan. 21, 1868.
	Mitchell, Stevenson & Company. (*See* Geyser, John B., assignor).....(Design.)	
	Mitchell, Thomas A. (*See* Rand, Joseph A., assignor.)	
3,056	Mitchell, Thomas S., Pittsburg, Pa. Cook stove.....(Design)	May 26, 1868.
	Mitchell, Vance & Company. (*See* Vance, Samuel B. H., assignor.)	
	Same.....(*See* Smith, Edgar M., assignor).....(Reissue.)	
	Same.....same.	
	Same.....(*See* Vance & Smith, assignors.)	
	Mitchell, W. H., *et al.* (*See* Rowe, Mitchell & Hamill.)	
82,862	Mitchell, W. H. and J. F., Macomb, Ill. Broadcast seed sower	Oct. 6, 1868.
	Mix, Edmon L., *et al.* (*See* McAvoy, Hugh L., assignor.....(Reissue.)	
75,182	Mix, John, West Cheshire, Conn. Manufacturing gimlets	Mar. 3, 1868.
	Moakley, Francis, and James Sutherland. (*See* Sutherland & Moakley.)	
80,831	Mock, C. H., assignor to self and Israel Dixon, Quiney, Ill. Gridiron	Aug. 11, 1868.
78,312	Moebs, George, Detroit, Mich. Cigar header	May 26, 1868.
	Same.....(*See* Reiniger, G. Albert, assignor).....(Reissue.)	
	Same.....same.....(Reissue.)	
	Same.....same.....(Reissue.)	
84,702	Moffitt, John A., Boston, Mass. Water-proof paint. (Antedated Nov. 25, 1868)	Dec. 8, 1868.
76,794	Moffitt, J. R., Chelsea, Mass. Heel casing	Apr. 14, 1868.
79,589	Mohler, George, Yates City, Ill. Sieve	July 7, 1868.
82,541	Same.....Medical compound	Sept. 29, 1868.
75,041	Mohr, B. F., Mifflinburg, Pa. Machine for boring posts	Mar. 3, 1868.
	Moisan, Napoleon, *et al.* (*See* Michel, A., assignor.)	
73,629	Molby, Horace, Davisburg, Mich. Corn harvester	Jan. 21, 1868.
76,935	Molineaux, Edward L., New York, N. Y. Method of preparing laundry bluing	Apr. 21, 1868.
78,313	Same.....Article of bluing	May 26, 1868.
75,950	Mollenhauer, Edward, assignor to Theodore Ritter, New York, N. Y. Apparatus for regulating the position and movements of the arms of violin players.	Mar. 24, 1868.
74,571	Molleur, Moses Romual, Chicago, Ill. Hay press	Feb. 18, 1868.
74,113	Monach, James, assignor to self, Jeffery Hart and Robert Thorp, Philadelphia, Pa. Treating jute fiber	Feb. 4, 1868.
77,073	Monach, James, assignor to self, John Hutchinson and Jeffery Hart, Philadelphia, Pa. Preparing jute yarn	Apr. 21, 1868.
74,114	Monee, J. H., Hopkinsville, Ohio. Manner of working churns	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,244	Monce, J. H.. Hopkinsville, Ohio. Churn	June 23, 1868.
79,289	Monce, S. G., Marathon, Ohio. Apparatus for motive power	June 23, 1868.
83,873	Monerieff, A., England. Gun carriage. (Patented in England June 4, 1866)	Nov. 10, 1868.
79,590	Monouse, Elie, and Louis Duparquet, New York, N. Y. Stove grate	July 7, 1868.
85,468	Same.....Cooking range	Dec. 29, 1868.
77,749	Monier, Hypolite, France. Gas burner	May 12, 1868.
78,001	Monnier, Alfred, Philadelphia, Pa. Process of separating cobalt and nickel from their ores	May 19, 1868.
	Monod, A. E., *et al.* (*See* Grenier, François, assignor.)	
77,245	Monroe, Benjamin, assignor to self, William E. Chadwick and Nathan N. Cole, Bristol, R. I. Car coupling	June 23, 1868.
75,951	Monroe, James F. and Edwin P., Fitchburg, Mass. Apple parer	Mar. 24, 1868.
75,290	Monroe, Lang, assignor to self and Charles G. Sargent, Lowell, Mass. Rack for carding engines	Mar. 10, 1868.
73,743	Monroe, Myron H., Rochester, N. Y. Potato masher	Jan. 28, 1868.
	Montague, C. H., and Charles Spofford. (*See* Spofford & Montague.)	
	Montague, E. M. (*See* Ames, Nathan, assignor.).....(Reissue.)	
81,525	Montgomery, George B., Winslow, Ind. Saw	Aug. 25, 1868.
78,467	Montgomery, Jas., Croton, N. Y. Car axle and wheel. (Antedated May 16, 1868)	June 2, 1868.
83,196	Montgomery, James, Croton Landing, N. Y. Beam and girder. (Antedated October 10, 1868)	Oct. 20, 1868.
	Montgomery, James, and I. H. Chappell. (*See* Chappell and Montgomery.)	
81,526	Montgomery, John A., Cranford, N. J. Grinding mill. (Antedated Aug. 15, 1868)	Aug. 25, 1868.
85,325	Montgomery, Joseph, Chicago, Ill. Grain cleaner	Dec. 29, 1868.
76,795	Montgomery, Richard, New York, N. Y. Metal beam	Apr. 14, 1868.
85,262	Same.....Machine for corrugating metal	Dec. 22, 1868.
81,666	Montgomery, R. and M. J., New York, N. Y. Bridge	Sept. 1, 1868.
	Montgomery, William. (*See* Mahurin, Stephen, assignor.)	
73,991	Montier, L., New York, N. Y. Artificial leather	Feb. 4, 1868.
	Montu, L., and L. Caldera. (*See* Caldera & Montu.)	
	Monumental Automatic Gas Machine Company. (*See* McAvoy, Hugh L., assignor).....(Reissue.)	
81,397	Mouzert, Leonard, New York, N. Y. Car coupling	Aug. 25, 1868.
84,296	Mood, Lynfred, assignor to Titus and Bostwick, Ithaca, N. Y. Seeding machine.	Nov. 24, 1868.
77,903	Moody, C. D., assignor to self and Horace Billings, St. Louis, Mo. Car brake or starter. (Antedated April 28, 1868)	May 12, 1868.
84,567	Moody, James, Harwick, Mass. Wagon jack	Dec. 1, 1868.
81,523	Moody, Joseph S., Saco, Maine. Lathe chuck. (Antedated July 23, 1868)	Aug. 25, 1868.
85,019	Moody, Loring, Malden, Mass. Spading machine	Dec. 15, 1868.
	Moody, Moses K. (*See* Brown, John H., assignor.)	
	Same.....same.	
83,400	Moody, Rufus, Monmouth, Maine. Hold back	Oct. 27, 1868.
75,183	Moon, Hiram, Red Creek, N. Y. Carriage	Mar. 3, 1868.
81,398	Moon, Hiram, and DeWitt C. Turner, Red Creek, N. Y. Surplus honey boxes in bee hives. (Antedated Aug. 21, 1868)	Aug. 25, 1868.
73,367	Mooney, George, assignor to self, Job Arnold, and James Shaw, jr., Providence, R. I. Manufacture of argand gas burners	Jan. 14, 1868.
81,524	Mooney, George, assignor to self, James Shaw, jr., and Job Arnold, Providence, R. I. Gas burner	Aug. 25, 1868.
84,961	Mooney, George, assignor to Mooney, Arnold and Shaw, Providence, R. I. Gas socket	Dec. 15, 1868.
84,568	Moor, Q. R. and P., and E. L. Patrick. Forest Hill, Ind. Corn planter	Dec. 1, 1868.
77,517	Moore, Albert, and A. D. Howes. South Adams, Mass. Steam globe valve	May 5, 1868.
	Moore, A. D. (*See* Bond, Amos, assignor.)	
79,676	Moore, Andrew J., Samuel Bleistein and Samuel J. Shirk, Lebanon, Pa. Method of cutting boots	July 7, 1868.
84,207	Moore, Charles, Stratford, Conn, Fruit basket	Nov. 17, 1868.
81,399	Moore, Charles A., Westbrook, Conn. Knife and fork handle	Aug. 25, 1868.
85,020	Same.....Manufacture of knives and forks	Dec. 15, 1868.
77,307	Moore, Charles E., Elizabethport, N. J. Fluid meter	Apr. 28, 1868.
	Moore, C. E., *et al.* (*See* Nelson, William, assignor.)	
3,078	Moore, Edward, Portland, Maine. Badge.....(Design)	June 30, 1868.
76,497	Moore, E. J., Westfield, N. Y. Churning apparatus	Apr. 7, 1868.
83,080	Same.....same	Oct. 13, 1868.
81,667	Moore, Ferdinand, and George Hastie, Florence, Ind. Apparatus for handling steamboat stages	Sept. 1, 1868.
78,813	Moore, Freeman, assignor to self and J. H. Tressel, Carrollton, Ohio. Beehive	June 9, 1868.
74,115	Moore, F. D., Edray, West Va. Hand spinning machine	Feb. 4, 1868.
74,572	Moore, George R., Lyons, Iowa. Machine for corrugating sheet metal	Feb. 18, 1868.
75,952	Same.....Valve for water pipes	Mar. 24, 1868.
82,737	Same.....Water meter	Oct. 16, 1868.
75,042	Moore, Halsey, assignor to self and Aaron W. Knapp, Bangall, N. Y. Air condensing apparatus	Mar. 3, 1868.
74,573	Moore, H. A., E. Otis, and S. C. Frink, Indianapolis, Ind. Box for street stop cocks	Feb. 18, 1868.
75,953	Moore H. C., assignor to self and P. H. Derby, Springfield, Mass. Ice carriage.	Mar. 24, 1868.
	Moore, H. K., *et al.* (*See* Hargrave, Thomas C., assignor.)	
75,446	Moore, Jacob B., New York, N. Y. Window-shade fixture	Mar. 10, 1868.
	Moore, James, and William Matthews. (*See* Matthews & Moore.)	
84,503	Moore, Jasper P., assignor through mesne assignments to A. B. Uline and G. G. Kidder, Boston, Mass. Seal bolt for railway cars	Dec. 1, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
74,574	Moore, John, Madison, Ind. Combined cane mill and steam-engine	Feb. 18, 1868.
80,084	Moore, John A., Providence, R. I. Roofing cement	July 21, 1868.
76,498	Moore, J. C., Madison, Ind. Sleigh runners and the mode of attaching them to the axles of vehicles	April 7, 1868.
	Moore, J. C., and George B. Garlinghouse. (*See* Garlinghouse & Moore.)	
77,074	Moore, John H., Binghamton, N. Y. Method of moving buildings	Apr. 21, 1868.
77,397	Moore, J. H., and William Johnston, assignors to Henry Hale & Company, New Haven, Conn. Window holder for carriages	Apr. 28, 1868.
78,814	Moore, John P., Morning View, Ky. Grinding mill	June 9, 1868.
3,200	Moore, Joseph, San Francisco, Cal. Friction pawl (Reissue)	Nov. 17, 1868.
74,240	Moore, Joseph H., and Joseph E. Gary, Chicago, Ill. Car brake	Feb. 11, 1868.
85,326	Same same	Dec. 29, 1868.
76,230	Moore, Joseph W., Cambridgeport, Mass. Paint brush	Mar. 31, 1868.
74,710	Moore, Josephus, Bushnell, Ill. Corn planter	Feb. 18, 1868.
83,721	Moore, Joshua B. and Erwin G., McDonough, N. Y. Apparatus for unloading stone	Nov. 3, 1868.
	Moore, J. S., *et al.* (*See* Cox, Needham, assignor.)	
80,652	Moore, Levi, Baraboo, Wis. Clay mill	Aug. 4, 1868.
	Moore, Marmaduke, *et al.* (*See* Perrin, Abram, assignor.)	
78,116	Moore, Marquis D., Brooklyn, N. Y. Button	May 19, 1868.
84,703	Moore, Mary A., Lisbon, Ill. Catamenial sack. (Antedated Nov. 23, 1868)	Dec. 8, 1868.
73,989	Moore, Oel B., Walled Lake, Mich. Fruit picker	Feb. 4, 1868.
	Moore, Oscar C., administrator of Samuel Yarion, deceased. (*See* Yarion, Samuel.)	
	Moore, O. K., and D. W. Perry. (*See* Perry & Moore.)	
83,874	Moore, Samuel C., Boston, Mass. Lamp	Nov. 10, 1868.
	Same (*See* Sagendorph, Lewis L., assignor.)	
	Moore, Stillman. (*See* Munger, George N., assignor.)	
73,368	Moore, Thomas, New York, N. Y. Horse collar	Jan. 14, 1868.
78,753	Moore, Thomas B., and Garrett De Bow, Bridesburg, Pa. Bed bottom	June 9, 1868.
77,398	Moore, Thomas M., Newton, N. J. Car coupling	Apr. 28, 1868.
73,630	Moore, T. W., New York, N. Y. Culinary apparatus	Jan. 21, 1868.
74,575	Moore, Thomas W., Richmond, Ind. Bolt cutter	Feb. 18, 1868.
83,525	Same same	Oct. 27, 1868.
78,885	Moore, William, Kokomo, Ind. Water indicator for steam generators	June 16, 1868.
82,974	Same Low-water indicator	Oct. 13, 1868.
	Same (*See* Custer, George, assignor.)	
74,711	Moore, William H., Blooming Grove, Ind. Corn planter	Feb. 18, 1868.
3,137	Moore, W. N., Neenah, Wis. Stove (Design)	July 28, 1868.
77,075	Moorehead, James C., and William W. Elliott, New Madrid, Mo. Feather renovator	Apr. 21, 1868.
82,738	Moorehead, James M., Brooklyn, N. Y. Clamp for iron structures	Oct. 6, 1868.
80,200	Mora, Antonio L., New York, N. Y. Bureau trunk	July 21, 1868.
	Moran, J. J., *et al.* (*See* Robbins, Henry R., assignor.)	
2,861	Morandi, Francis, Boston, Mass. Lantern (Reissue)	Feb. 11, 1868.
76,231	Same Malden, Mass. Culinary apparatus	Mar. 31, 1868.
84,839	Morehead, Warren, Parkersburg, West Va. Extension ladder	Dec. 8, 1868.
80,653	Morehouse, A., and A. R. Heath, Danbury, Conn. Tuck creaser for sewing machines	Aug. 4, 1868.
83,081	Morehouse, William, Buffalo, N. Y. Nut-locking device	Oct. 13, 1868.
85,119	Same Making horseshoes	Dec. 22, 1868.
	Moret, Jules, and C. L. Taverdon. (*See* Taverdon & Moret.)	
75,954	Morey, A. F., Greenbush, Ill. Barrel truck	Mar. 24, 1868.
82,975	Morey, Albert G., Chicago, Ill. Mattress. (Antedated Sept. 30, 1868)	Oct. 13, 1868.
84,750	Morey, L. E., Vandalia, Ill. Plow attachment, (doubletree)	Dec. 8, 1868.
	Morford, W. H., *et al.* (*See* Goodes, E. A., assignor.)	
	Same same.	
	Same same.	
85,235	Morgan, A. O., assignor to self and William B. Loller, Nashville, Ohio. Tire tightener	Dec. 22, 1868.
75,562	Morgan, Bevel S., Delhi, Iowa. Clothes pounder	Mar. 17, 2868.
83,987	Morgan, Charles, Waumandee, Wis. Hames fastening	Nov. 10, 1868.
73,369	Morgan, David R., San Francisco, Cal. Eye medicine	Jan. 14, 1868.
3,151	Morgan, Dayton, Chillicothe, Ohio. Bust of Frederick Douglas (Design)	Aug. 4, 1868.
83,782	Morgan, Gerry, Newport, N. H. Wind elevator of grain	Nov. 3, 1868.
77,750	Morgan, Henry, Springfield, Mass. Clothes-line holder	May 12, 1868.
3,219	Morgan, Mirick, deceased, assignor, through his administratrix, to Adam R. Reese, Phillipsburg, N. J. Horse rake (Reissue)	Dec. 1, 1868.
73,990	Morgan, M. S., assignor to self and Geo. C. Coffee, Clintonville, Ind. Stove drum.	Feb. 4, 1868.
80,281	Morgan, William B., and I. H. Terrell, Antioch, Ind. Wagon brake	July 21, 1868.
74,712	Morgenstern, Wm., assignor to Ernst Von Jeinsen, Hartford, Conn. Breech-loading fire-arm	Feb. 18, 1868.
79,291	Morgenstern, William, assignor to Herman Funke, Hartford, Conn. Breech-loading fire-arm	June 23, 1868.
79,677	Morgey, William, Wilmington, Del. Bending fifth wheels	July 7, 1868.
84,297	Morley, F. A., Syracuse, N. Y. Potato digger	Nov. 24, 1868.
75,693	Morrell, James A., assignor to self and Isaac Simmons, Chicago, Ill. Vaginal syringe	Mar. 17, 1868.
75,694	Same Uterine supporter	Mar. 17, 1868.
75,695	Same Abdominal supporter	Mar. 17, 1868.
80,758	Morrett, John W., and Hiram Watts, Shepherdstown, Pa. Roller wagon skein	Aug. 4, 1868.
83,875	Morrill, L. H., West Cumberland, Me. Horse rake	Nov. 10, 1868.
74,401	Morris, David, Bartlett, Ohio. Implement for extracting nails	Feb. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,001	Morris, David, Bartlett, Ohio. Churn motion	July 14, 1868.
74,116	Morris, George M., and John McCreary, Cohoes, N. Y. Lubricator for loose pulleys	Feb. 4, 1868.
76,976	Morris, I., Clinton, Ill. Work stand	Apr. 14, 1868.
83,988	Morris, Issachar, Clinton, Ill. Fire kindler	Nov. 10, 1868.
	Morris, John B. (*See* Allen, Samuel S., assignor.)	
84,435	Morris, John H., and Thomas B. Harrison, Maquoketa, Iowa. Hand corn planter. (Antedated Nov. 18, 1868)	Nov. 24, 1868.
83,526	Morrison, Charles F., Rifton Glen, N. Y. Waste saver for carding engines	Oct. 27, 1868.
82,057	Morrison, David, New York, N. Y. Valves for water closets	Sept. 8, 1868.
73,631	Morrison, Duncan, Portland, Maine. Mode of converting reciprocal into rotary motion	Jan. 21, 1868.
75,043	Same.....Coal sifter	Mar. 3, 1868.
78,886	Same.....Staging	June 16, 1868.
81,527	Morrison, Eli M., and James K. Ross, Noblesville, Ind. Thill coupling	Aug. 28, 1868.
78,117	Morrison, Enoch R., Pittsburg, Pa. Machine for casing tobacco	May 19, 1868.
	Morrison, Henry, and Theodore Scheffler. (*See* Scheffler & Morrison.)	
75,447	Morrison, H. B., Le Roy, N. Y. Car mover	Mar. 10, 1868.
79,493	Same.....Revolving hose nozzle	June 30, 1868.
83,401	Same.....Elbow joint for steam pipes	Oct. 27, 1868.
82,542	Morrison, James B., St. Louis, Mo. Operating chair. (Patented in England Dec. 7, 1867)	Sept. 29, 1868.
80,558	Morrison, John, England. Hemmer for sewing machines	Aug. 4, 1868.
83,082	Morrow, G. M., Clarksville, Ohio. Machine for turning broom handles	Oct. 13, 1868.
74,402	Morse, Cyrus B., Rhinebeck, N. Y. Bobbin for spinning	Feb. 11, 1868.
76,797	Same.....Method of making rings for ring spinning	Apr. 14, 1868.
76,798	Same.....Spinning frame	Apr. 14, 1868.
83,783	Morse, Edmund L., St. Louis, Mo. Cotton compress	Nov. 3, 1868.
76,232	Morse, Edward S., assignor to self and Aaron Goldthwaite, jr., Salem, Mass. Shelf bracket	Mar. 31, 1868.
77,399	Morse, F. B., New Haven, Conn. Packing for carriage shackle	Apr. 28, 1868.
79,494	Same.....Carriage shackle	June 30, 1868.
80,202	Same.....Stump joint for carriages	July 21, 1868.
81,193	Same.....same	Aug. 18, 1868.
	Morse, Henry S. (*See* Roy, Bozil S., assignor.)	
77,076	Morse, Ira, Danbury, Conn. Wrench	Apr. 21, 1868.
77,077	Morse, Ira, West Franklin, Pa. Machine for operating churns, &c	Apr. 21, 1868.
	Morse, James, *et al.* (*See* Wright, Horace H. W., assignor.)	
77,640	Morse, James F., Montgomery, Ill. Extension ladder	May 5, 1868.
	Morse, J. F. (*See* Gitchell, John M., assignor.)	
80,989	Morse, John H., Peoria, Ill. Spring and duster for watches	Aug. 11, 1868.
76,649	Morse, Marshall, and P. W. Sawyer, Gray, Maine. Churn	Apr. 14, 1868.
78,228	Same.....Cheese cutter	May 26, 1868.
79,246	Morse, Melvin M., and M. V. Collins, Buffalo, N. Y. Shear sharpener	June 23, 1868.
	Morse, Moses L,, and Oliver H. Marston. (*See* Marston & Morse.)	
80,203	Morse, Orrin, assignor to C. H. Morse & Co., Rochester, N. Y. Coal scuttle	July 21, 1868.
77,641	Morse, Samuel K., Commerce, Mich. Hay raker and loader	May 5, 1868.
73,255	Morse, William A., Philadelphia, Pa. Pen	Jan. 14, 1868.
78,887	Morse, William A., and John G. Powell, Philadelphia, Pa. Eraser	June 16, 1868.
	Morse, William H., *et al.* (*See* Lamb, Alford, assignor.)	
	Same.....(Reissue.)	
84,896	Morsell, J. Ferguson, Stamford, Conn. Railway-switch signal	Dec. 15, 1868.
73,113	Same.....Railway-switch alarm	Jan. 7, 1868.
	Same. (*See* Hull, Isaac, assignor.)	
85,469	Morter, G. W., and Edward Berry, Hartville, Ohio. Adjustable shovel plow	Dec. 29, 1868.
75,291	Mortimer, James W., Peoria, Ill. Stove-pipe cleaner	Mar. 10, 1868.
73,370	Morton, James, Philadelphia, Pa. Cork extractor	Jan. 14, 1868.
75,563	Same.....Cutting saw teeth	Mar. 17, 1868.
75,044	Morton, Robert, England. Liquid cooler	Mar. 3, 1868.
78,468	Morton, Robert C., West Lubeck, Maine. Ore separator	June 2, 1868.
78,754	Morton, Smith, Valparaiso, Ind.. Attachment for bake-oven doors	June 9, 1868.
74,117	Morton, William F., New Haven, Conn. Carriage wheel	Feb. 4, 1868.
82,739	Moseley, C. H., Winchester, Mass. Machine for desiccating leached tan and other substances	Oct. 6, 1868.
77,078	Moseley, Charles S., Elgin, Ill. Watch	Apr. 21, 1868.
74,118	Moseley, Lycurgus H., Franklin, Tenn. Ointment	Feb. 4, 1868.
	Mosely, Charles S. (*See* Frederick, Marshall N., assignor.)	
	Moses, Alfred H., and William M. Irvine. (*See* Irvine & Moses.)	
78,534	Moses, Judah, Hartford, Conn. Galvanic spectacles	June 2, 1868.
74,764	Moses, Lewis, assignor to self and James C. Walter, New York, N. Y. Manufacture of buttons. (Antedated Feb. 7, 1868.)	Feb. 25, 1868.
81,668	Moses, William, Buffalo, N. Y. Steam generator	Sept. 1, 1868.
80,654	Mosher, Charles W., East Leon, N. Y. Log sled	Aug. 4, 1868.
76,799	Mosher, David B. and Charles C., Seneca Falls, N. Y. Window-blind fastener	Apr. 14, 1868.
81,669	Mosher, George A., Champlain, N. Y. Draught equalizer	Sept. 1, 1868.
	Mosher, Orson. (*See* Woodard, A. B., and Samuel A., assignors.)	
83,083	Mosher, Samuel, Winchester, Ill. Combined hub and box for wheels	Oct. 13, 1868.
75,955	Mosley, John, New Haven, Conn. Pocket knife	Mar. 24, 1868.
83,527	Mosman, E. P., deceased, (Albert S. Bolles and Sarah E. Mosman, administrators,) Norwich, Conn. Steam generator. (Antedated October 24, 1868.)	Oct. 27, 1868.
80,559	Moss, William H., New Richmond, Ohio. Oil for wool	Aug. 4, 1868.
78,991	Mossant, Charles, France. Felting machine	June 16, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,363	Mosser, William F., Allentown, Pa. Machine for dressing slate frames	July 28, 1868.
73,544	Mott, Abil, assignor to self and Warren Kenyon, Scott, N. Y. Hay elevator	Jan. 21, 1868.
77,751	Mott, Benjamin, L., jr., Pawtucket, R. I. Cooking stove	May 12, 1868.
83,120	Mott, Mrs. J. H., Washington, D. C. Table-cloth protector	Oct. 13, 1868.
78,314	Mott, Mary E., Rouse's Point, N. Y. Corpse preserver	May 26, 1868.
81,930	Motte, Simon, assignor to Isaac Hyneman, France. Bellows pumping apparatus	Sept. 8, 1868.
81,813	Motter, George, jr., Henry, Ill. Sliding gate	Sept. 1, 1868.
77,642	Mougey, Peter, Marshallville, Ohio. Railway cattle guard	May 5, 1868.
83,197	Same.....Farm gate	Oct. 20, 1868.
73,914	Moul, C., Hanover, Pa. Harvester	Jan. 28, 1868.
	Mould, Brooks K., and Cheeney Reed. (*See* Reed & Mould) .....(Extension.)	
75,292	Moulton, Joel, Boston, Mass. Manufacture of elastic rolls	Mar. 10, 1868.
77,518	Same.....same	May 5, 1868.
84,208	Same.....Machine for the manufacture of elastic rolls and tubes	Nov. 17, 1868.
84,209	Same.....Method of detaching rubber articles from the molds in which they are vulcanized	Nov. 17, 1868.
	Mount, John W. (*See* Dobson, William, assignor.)	
76,499	Mowbray, George M., Titusville, Pa. Manufacture of nitro-glycerine	Apr. 7, 1868.
75,956	Mowers, P. A., Cleversburg, Pa. Horse hay fork	Mar. 24, 1868.
82,238	Moxey, John G., assignor to self, Henry C. Carey, and Abraham Hart, Philadelphia, Pa. Process of de-branning wheat	Sept. 15, 1868.
73,371	Moxley, Robert, Muscatine, Iowa. Spinning machine	Jan. 14, 1868.
79,247	Moyer, John M., Pittsburg, Pa. Brick dryer. (Antedated December 23, 1867)	June 23, 1868.
77,079	Moyer, J. W., Cherry Valley, N. Y. Saw mill	Apr. 21, 1868.
76,233	Muchmore, William F., Astoria, N. Y. Glue can	Mar. 31, 1868.
73,026	Mudge, Carson, New Orleans, La. Cotton-bale tie	Jan. 7, 1868.
77,308	Mudge, Charles, Ovid, Mich. Builders' and Painters' scaffold	Apr. 28, 1868.
78,535	Mudler, Charles, Cleveland, Ohio. Button. (Antedated May 22, 1868)	June 2, 1868.
	Muelhe, Bernard H. (*See* Sprague, Welcome, assignor.)	
	Mueller, C. B. (*See* Bode, Friedrich Max, assignor.)	
	Mueller, Theodore, and William W. Winter. (*See* Winter & Mueller.)	
80,759	Mulford, Ichabod H., Orange, N. J. Shaft coupling for wagons	Aug. 4, 1868.
77,080	Mulford, N. E., Madison, N. J. Striking attachment to clocks	Apr. 21, 1868.
74,403	Mullally, William, Boston, Mass. Lamp	Feb. 11, 1868.
78,636	Same.....Apparatus for extinguishing fire	June 2, 1868.
76,293	Mullee, William, assignor to Moseby, Ezekiel. Manufacture of hard rubber	Mar. 31, 1868.
73,632	Mullen, John F., New York, N. Y. Top prop for carriages	Jan. 21, 1868.
2,919	Muller, Carl, New York, N. Y. Statuette .....(Design)	Feb. 4, 1868.
2,943	Same.....Clock case .....(Design)	Mar. 3, 1868.
2,944	Same.....Figure and base .....(Design)	Mar. 3, 1868.
2,976	Same.....Clock and case front .....(Design)	Mar. 31, 1868.
3,249	Same.....Clock case .....(Design)	Nov. 17, 1868.
3,109	Muller, Carl, assignor to Nicholas Muller, New York, N. Y. Figure .....(Design)	July 14, 1868.
3,040	Muller, Carl, and John Deacon, New York, N. Y. Figure .....(Design)	May 12, 1868.
3,041	Same.....same .....(Design)	May 12, 1868.
3,296	Muller, Carl, assignor to Nicholas Muller, New York, N. Y. Figure .....(Design)	Dec. 15, 1868.
80,204	Muller, Charles, Albany, N. Y. Cigar machine	July 21, 1868.
78,118	Muller, E. A., and Theodore Stock, Chicago, Ill. Doubler for stills	May 19, 1868.
74,119	Muller, Florent, Hartford, Conn. Breech-loading fire-arm	Feb. 4, 1868.
78,755	Muller, Gustav, Newark, N. J. Doebereiner self-lighting lamp. (Antedated June 4, 1868)	June 9, 1868.
78,815	Muller, Henry, North Cambridge, Mass. Machine for stuffing leather	June 9, 1868.
78,888	Muller, Henry L. C., Bridgeport, Conn. Shoe-lacing device	June 16, 1868.
3,212	Muller, Karl, assignor to Nicholas Muller, New York, N. Y. Clock case .....(Design)	Oct. 20, 1868.
83,989	Muller, L., and C. Hood, Hartford, Conn. Shutter worker	Nov. 10, 1868.
2,920	Muller, Nicholas, New York, N. Y. Base or stand .....(Design)	Feb. 4, 1868.
3,138	Same.....Clock case .....(Design)	July 28, 1868.
3,274	Same.....same .....(Design)	Dec. 1, 1868.
82,146	Müller, T. H., New York, N. Y. Steam generator	Sept. 15, 1868.
83,528	Same.....same	Oct. 27, 1868.
74,404	Mullin, John, S., Port Monmouth, N. J. Steam generator	Feb. 11, 1868.
74,405	Mullin, Joseph H., Schellsburg, Pa. Horse hay fork	Feb. 11, 1868.
76,500	Mullins, William, Pittsburg, Pa. Mode of locking nuts	Apr. 7, 1868.
3,139	Mumford, Joseph M., assignor to self and Auguste F. Mason, South Reading, Mass. Trade mark .....(Design)	July 28, 1868
83,299	Mumford, Josiah, Clarksburg, Ohio. Process of preserving potatoes	Oct. 20, 1868.
	Mundel, Auguste, *et al.* (*See* Pertuiset, Mundel & De Fleron.)	
82,627	Munger, George N., assignor to self and Stillman Moore, New Haven, Conn. Engravers' vise	Sept. 29, 1868.
73,027	Munger, L. F., Rochester, N. Y. Lathe	Jan. 7, 1868.
75,184	Munger, W. T., assignor to Thomas Kennedy, Branford, Conn. Reversible knob latch	Mar. 3, 1868.
81,931	Munger, W. T., assignor to P. and F. Corbin, Branford, Conn. Reversible latch	Sept. 8, 1868.
83,652	Same.....Knob latch	Nov. 3, 1868.
84,704	Same.....Reversible latch	Dec. 8, 1868.
	Munn, Samuel, *et al.* (*See* Green, Jacob, assignor) .....(Reissue.)	
	Same.....same .....(Reissue.)	
77,643	Munn, William A., Milwaukee, Wis. Blank for bodies of sheet metal, tea, and coffee pots	May 5, 1868.
78,469	Munns, Crawford, New York, N. Y. Stump extractor	June 2, 1868.
79,850	Munro, George, Philadelphia, Pa. Instrument for stretching boots and shoes	July 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75,564	Munroe, Hezekiah, Fall River, Mass. Caster for furniture	Mar. 17, 1868.
80,990	Munroe, Hezekiah, assignor to Albert F. Munroe, Fall River, Mass. Caster for furniture	Aug. 11, 1868.
73,114	Munroe, William, Cambridge, Mass. Reed for organs, &c	Jan. 7, 1868.
74,406	Munson, David, Indianapolis, Ind. Lightning rod	Feb. 11, 1868.
84,210	Same ..... same	Nov. 17, 1868.
82,863	Munson, Edward W., and William P. Thomas, Waterbury, Conn. Window spring	Oct. 6, 1868.
	Munson, George A. (*See* Bevans, Samuel W., assignor.)	
78,756	Munson, J. B., Bailey Hollow, Pa. Bed-clothes holder	June 9, 1868
80,301	Munson, Thaddeus, Canandaigua, N. Y. Portable roof for hay stacks, &c	July 28, 1868
82,976	Murch, Charles G., Chicago, Ill. Coffee and tea steamer	Oct. 13, 1868
2,957	Murch, Harvey, assignor through mesne assignments to Colby Brothers & Co., Waterbury, Vt. Mop head ..... (Division A, reissue)	June 2, 1868
2,958	Same ..... same ..... (Division B, reissue)	June 2, 1868
3,188	Same ..... same ..... (Reissue)	Nov. 10, 1868.
	Murdoch, J. E., jr., *et al.* (*See* Smith, Kelley & Murdoch.)	
75,448	Murdoch, Richard, Baltimore, Md. Suspending scale pans	Mar. 10, 1868
78,470	Murdock, Charles, Ellenville, N. Y. Machine for crozing and chamfering barrels. (Antedated May 18, 1868)	June 2, 1868
84,897	Murdock, Charles, Hartford, Conn. Stave machine	Dec. 15, 1868
85,021	Same ..... Cylindrical saw	Dec. 15, 1868.
	Murfey, J. H., and T. A. Lawrence. (*See* Lawrence & Murfey.)	
	Murphy, Edgar W., *et al.* (*See* Kirkland, Wm. P., assignor.)	
	Murphy, Eliza A., and Ellen F. Price. (*See* Price & Murphy.)	
	Murphy, James E., and Timothy Lucey. (*See* Lucey & Murphy.)	
79,377	Murphy, John D., assignor to Julius S. Bohrer & Co., Baltimore, Md. Reversible ordnance	June 30, 1868
84,569	Murphy, Thomas J., Rochester, N. Y. Automatic gate. (Antedated Nov. 18, 1868)	Dec. 1, 1868.
75,959	Murr, Lewis, assignor to Joseph and Bernard Metz, Philadelphia, Pa. Mode of printing and embossing cloth	Mar. 24, 1868.
80,423	Murray, A. B., Henderson, Pa. Snow gate	July 28, 1868.
73,455	Murray, A. K., and A. B. Howland, Titusville, Pa. Argand lamp for burning petroleum	Jan. 21, 1868.
79,378	Murray, C. E., Sugar Valley, Pa. Horse rake	June 30, 1868.
80,002	Same ..... Horse hay fork	July 14, 1868.
82,543	Murray, Edgar, New York, N. Y. Skate	Sept. 29, 1868.
77,752	Murray, George, jr., Cambridgeport, Mass. Meat pounder and ice pick	May 12, 1868.
77,309	Murray, H. E., Chester, N. Y. Clamp for vehicle seats	Apr. 28, 1868.
	Murray, J. B., and Sons. (*See* Combs, George W., assignor.)	
76,501	Murray, Patrick, East Morrisania, N. Y. Horseshoe	Apr. 7, 1868.
85,470	Murray, Peter, Philadelphia, Pa. Grate	Dec. 29, 1868.
75,696	Murray, Thomas W., New York, N. Y. Rudder	Mar. 17, 1868.
83,353	Murrell, John W., assignor to self, Samuel Perry, and Edward R. Jacobs, Seaford, Del. Attachment to spools for cutting thread	Oct. 20, 1868.
76,936	Murrill, James H., assignor to self, Lewis R. Keizer, and Jacob Seeger, Baltimore, Md. Machine for cutting bungs	Apr. 21, 1868.
84,751	Musgrave, James, New Cumberland, West Va. Seed planter	Dec. 8, 1868.
	Myer, Henry B., Cleveland, Ohio. Converting railroad car seats into beds or lounges ..... (Extension)	June 1, 1868.
83,876	Same ..... Philadelphia, Pa. Gas burner	Nov. 10, 1868.
83,990	Same ..... Regulating gas burner	Nov. 10, 1868.
	Same ..... (*See* Thompson, Wm., assignor.)	
74,576	Myers, Adam, Van Wert, Ohio. Carriage jack	Feb. 18, 1868.
84,898	Myers, Daniel F., New York, N. Y. Waiter machine	Dec. 15, 1868.
79,379	Myers, David, Chicago, Ill. Car brake	June 30, 1868.
74,407	Myers, Frederick, New York, N. Y. Machine for bundling kindling wood	Feb. 11, 1868.
85,236	Myers, George H., assignor to S. B. Rowley, Philadelphia, Pa. Fruit jar	Dec. 22, 1868.
78,002	Myers, George W., Hartleton, Pa. Knife for removing the skin from animals	May 19, 1868.
78,679	Myers, Henry M., Alleghany City, Pa. Manufacture of shovels. (Antedated June 5, 1868)	June 19, 1868.
3,118	Same ..... Trade mark ..... (Design)	July 21, 1868.
84,644	Myers, James, jr., assignor to Barrons' Steel Manufacturing Company, Brooklyn, N. Y. Mode of producing steel	Dec. 1, 1868.
82,740	Myers, James H., assignor to self and C. T. Rice, New York, N. Y. Pattern for cutting out shirts	Oct. 6, 1868.
	Myers, James M. (*See* Jenkins, Wm. F., assignor.)	
	Myers, John, and Robert G. Eunson, New York, N. Y. Machine for sawing thin boards, &c ..... (Extension)	May 13, 1868.
	Myers, John, jr. (*See* Lourrentz, Michael J., assignor.)	
	Myers, John F. (*See* Jackson, Allen S., assignor.)	
84,436	Myers, Lewis Y., Roanoke, Ind. Elevator and conveyor	Nov. 24, 1868.
85,394	Myers, Samuel, Hogestown, Pa. Window frame	Dec. 29, 1868.
	Myers, Samuel, and T. M. Herriott. (*See* Herriott & Myers.)	
	Myers, William, and James F. Neall. (*See* Neall & Myers.)	
78,471	Myers, William H., assignor to Sylvester Matthias, Baltimore, Md. Tuyere	June 2, 1868.
73,825	Myrick, Freeman F., Dublin, N. H. Thread and yarn holder	Jan. 28, 1868.
73,456	Nadow, Alexander, Springfield, Mass. Steam-engine piston	Jan. 21, 1868.
74,409	Nacher, Jacob, assignor to self, A. Renggly, and J. Ulrich, La Crosse, Wis. Meat cutter	Feb. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Nagel, C. H., and E. H. Bloebaum. (*See* Bloebaum & Nagel.)	
76, 502	Nagle, A. F., Providence, R. I. Passenger register	Apr. 7, 1868
80, 560	Same.....Expanding mandrel	Aug. 4, 1868
82, 741	Nairn, John, assignor to self and Matthew Pfaffiin, Milton, Ind. Feeding and cooling device for grain mills	Oct. 6, 1868
82, 340	Nale, John H., and John W. Rogers, Decatur, Ill. Spring for wagon seat	Sept. 22, 1868
76, 800	Naramore, E. M., North Underhill, Vt. Gate	Apr. 14, 1868
	Nash, J. W. (*See* Wilcox, B. B., assignor).....(Design.)	
	Nash, Scotto C., and George H. Kitchen. (*See* Kitchen & Nash.)	
83, 402	Nash, William, and Montgomery Kenfield, Malden, Mich. Machine for preparing husks for mattresses	Oct. 27, 1868
	Nason, Joseph, New York, N. Y. Arrangement in cutting screws in lathes. (Extension)	Jan. 2, 1868
74, 045	Same.....Coffee pot	Mar. 3, 1868
82, 239	Nason, Joseph, assignor to self, Charles H. James, and Frank Millward, New York, N. Y. Drop tube steam generator	Sept. 15, 1868.
	Nason, Joseph, & Co. (*See* Saunders, David, assignor.)	
79, 915	Natcher, Gabriel, assignor to self and I. Marks & Co., Sidney, Ohio. Railroad telegraph alarm	July 14, 1868.
77, 831	Nathans, A. H., and Mathew Thornton, Macon, Ga. Car-axle box	May 12, 1868.
75, 958	Nation, John, assignor to self and Absalom B. Hallock, Portland, Oregon. Steam engine lubricator	Mar. 24, 1868.
	National Gas-light Company. (*See* Fryer, Robert M., and Andrew R., assignors.)	
	National Wood Fiber Company. (*See* Miller, Warner, assignor.)	
83, 722	Natorp, Gustavus, New York, N. Y. Car wheel	Nov. 3, 1868.
73, 028	Nauen, H. O., New York, N. Y. Vise clamp	Jan. 7, 1868.
82, 628	Nave, Benjamin F., Fort Wayne, Ind. Bee hive	Sept. 29, 1868.
74, 120	Naylon, John J., Brighton, Mich. Portable hay and grain roof	Feb. 4, 1868.
75, 781	Naylor, Jacob, Hedgesville, West Va. Machine for bending tires	Mar. 24, 1868.
75, 449	Naylor, Peter, New York, N. Y. Tinning	Mar. 10, 1868.
82, 864	Neal, George D., Mt. Vernon, Ohio. Horse rake	Oct. 6, 1868.
77, 400	Neal, H. Walker, Sidney, Ohio. Fruit gatherer	Apr. 28, 1868.
78, 390	Same.....Plow	May 26, 1868.
73, 915	Neal, Jacob, Orleans, Iowa. Beehive	Jan. 28, 1868.
83, 198	Neal, J. W., and A. J. Truxell, Big Lick, Va. Cockle and garlic separator. (Antedated October 9, 1868)	Oct. 20, 1868.
76, 234	Nealey, James, jr., Bangor, Maine. Lacing device	Mar. 31, 1868.
77, 081	Neall, James F., and Wm. Myers, Philadelphia, Pa. Furnace draught regulator.	Apr. 21, 1868.
	Near, George B., *et al.* (*See* Anthony, Cornelius, assignor.)	
73, 192	Nearing, Frederick E., Brookfield, Conn. Combined horse-rake and hay spreader.	Jan. 7, 1868.
74, 713	Nebinger, G. R., assignor to self and William A. Middleton, Lewisburg, Pa. Clothes-line clamp	Feb. 18, 1868.
85, 022	Neckermann, Michael, Pittsburg, Pa. Machine for grinding glass fruit-jars	Dec. 15, 1868.
	Needham, Daniel. (*See* Taft, B. F., assignor.)	
78, 536	Needham, E. P., New York, N. Y. Reed musical instrument	June 2, 1868.
75, 959	Needham, H. K., assignor to self and Richard O'Hearn, Titusville, Pa. Lamp burner	Mar. 24, 1868.
82, 629	Needham, Orwell H., New York, N. Y. Atmospheric knob	Sept. 29, 1868.
84, 570	Neff, Daniel, Amsterdam, N. Y. Road scraper	Dec. 1, 1868.
75, 185	Neff, John, jr., Pultney, N. Y. Cultivator	Mar. 3, 1868.
74, 577	Neff, William, Center Hall, Pa. Harvester	Feb. 18, 1868.
79, 591	Neill, George W., Boston, Mass. Piano-forte	July 7, 1868.
73, 372	Neilson, George, Boston, Mass. Lamp	Jan. 4, 1868.
75, 565	Same.....Lamp burner	Mar. 17, 1868.
75, 566	Same.....same	Mar. 17, 1868.
75, 960	Same.....same	Mar. 24, 1868.
84, 752	Same.....same	Dec. 8, 1868.
	Neilson, Oscar L., and Charles Rich. (*See* Rich & Neilson.)	
77, 644	Nelson, D. B., and M. Dyer, Elmira, N. Y. Scraper	May 5, 1868.
75, 782	Nelson, Franklin, Wyandotte, Mich. Punching machine	Mar. 24, 1868.
	Nelson, John, and W. W. Burson. (*See* Burson & Nelson.)	
83, 991	Nelson, J. K., Green Point, N. Y. Divided ear axle	Nov. 10, 1868.
80, 496	Nelson, Richard, Cincinnati, Ohio. Screen for wash stands	July 28, 1868.
74, 578	Nelson, R. L., Mexico, N. Y, Device for changing feed.	Feb. 18, 1868.
	Nelson, S. W., and George Rowe. (*See* Rowe & Nelson.)	
	Nelson, Thomas, and James Ramage. (*See* Ramage & Nelson.)	
75, 567	Nelson, William, assignor to self, C. E. Moore, and A. J. Prastor, Cachcville, Cal. Gang plow	Mar. 17, 1868.
75, 186	Nesbit, John A., Charlottesville, Ind. Boot crimping machine	Mar. 3, 1868.
80, 760	Nesbit, S. H., assignor to self and James Nesbit, Monmouth, Ill. Quilting frame	Aug. 4, 1868.
75, 187	Nesmith, Milton W. and George W., Metamora, Ill. Grain register	Mar. 3, 1868.
74, 714	Netherwood, Thomas, and J. P. Babcock, Westerly, R. I. Spinning jack. (Antedated February 7, 1868.)	Feb. 18, 1868.
82, 147	Netterfield, William W., Rochester, N. Y. Corset	Sept. 15, 1868
	Nettleton, George D. (*See* Brown, Isaac W., assignor.)	
75, 961	Neuberger, J., and P. J. Illig, Buffalo, N. Y. Die for stamping tin ware	Mar. 24, 1868.
83, 529	Neubrand, Joseph, Green Point, N. Y. Composition for forming tiles, floors, and for other purposes	Oct. 27, 1868.
	Neudecker, Charles W. (*See* King, Ferdinand, assignor.)	
	Same.....same.	
78, 472	Neuhaus, Friedrich, Belleville, Ill. Tailor's seat	June 2, 1868.
80, 991	Same.....Tailor's seat	Aug. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Neuhaus, M. and Julius Nuellens. (*See* Nuellens & Neuhaus.)	
73,633	Neumann, Heimann, New York, N. Y. Buckle	Jan. 21,1868
74,930	Neumann, Marcus, New York, V. F. Lassoe, Brooklyn, and C. W. MacCord, New York, N. Y. Steam generator	Feb. 25, 1868
81,194	Neumann, William, St. Louis, Mo. Adjustable ear step	Aug. 18, 1868
81,670	Neumeyer, Gustav Adolph, assignor to self and August Klein, Saxe-Altenburg. Manufacture of gunpowder and blasting powder. (Antedated Aug. 25, 1868)	Sept. 1, 1868
82,433	Nevergold, F., and D. Brose, Pittsburg, Pa. Rolling mill	Sept. 22, 1868
	Nevins, D. R. B. (*See* Barker, James H., assignor.)	
84,571	Nevison, James, Morgan, Ohio. Corn dropper	Dec. 1, 1868.
79,495	Nevison, James, and Thomas, jr., Morgan, Ohio. Carriage wheel	June 30, 1868.
76,235	Nevison, Thomas, jr., Morgan, Ohio. Hoe seed-dropper	Mar. 31, 1868.
74,579	Nevison, Thomas, jr., and James, Morgan, Ohio. Carriage wheel	Feb. 18, 1868.
	Newark Patent Leather Company. (*See* Van Gieson, A. H., assignor.)	
84,369	Newbrough, J. B., New York, N. Y. Compound of rubber or gutta percha	Nov. 24, 1868.
73,545	Newbrough, J. B., and E. Fagan, New York, N. Y. Treating caoutchouc and other gums	Jan. 21, 1868.
73,916	Same.....Manufacture of articles of rubber, gutta pereha, &c	Jan. 28, 1868.
73,917	Same.....Material produced by treating caoutchouc and other gums	Jan. 28, 1868.
78,315	Newbury, B., Coxsackie, N. Y. Cooking stove	May 26, 1868,
78,003	Newcombe, W. F., Cleveland, Ohio. Wheelbarrow	May 19, 1868.
80,655	Newcomer, Joseph, Baltimore, Md. Composition for destroying insects in wheat	Aug. 4, 1868.
81,932	Newell, Amos, assignor to self, Henry S. Brown, Frederick and Alfred Arnold, Red Wing, Minn. Ore and bone crusher	Sept. 8, 1868.
81,933	Newell, Amos, assignor to self, Henry S. Brown, George F. and Alfred Arnold, Red Wing, Minn. Mill for pulverizing bone, &c	Sept. 8, 1868.
73,634	Newell, Augustus W., Bradford, Pa. Steam generator	Jan. 21, 1868.
73,744	Same.....Spring bed bottom	Jan. 28, 1868.
79,380	Newell, Barnum B., Centerville, Mich. Capstan grubbing machine	June 30, 1868.
73,918	Newell, George E., Pawtucket, R. I. Dumping cart	Jan. 28, 1868.
	New England Steam Heating Company. (*See* Johnson, John, assignor.)	
	Same.....same.	
	New England Vulcanite Hide Company. (*See* Merrick, J. M., assignor.)	
76,236	Newhall, Abner W., Horse Heads, N. Y. Machine for sharpening and gumming saws	Mar. 31, 1868.
79,381	Newhall, Cyrus, Hinsdale, N. H. Tool rest for engine lathes	June 30, 1868.
83,653	Newhall, Henry A., Providence, R. I. Ventilating attachment for ash sifters	Nov. 3, 1868.
74,580	Newhall, Philip A., Lynn, Mass. Slide-block last	Feb. 18, 1868.
	Newhall, Reuben A., and Blinn D. Joslin. (*See* Joslin & Newhall.)	
	New Haven Steam Heating Comp'y. (*See* Hubbard, Calvin L., assignor.) (Design.)	
85,237	Newill, William L., assignor to self and Redway & Burton, Cincinnati, Ohio. Mode of attaching stove legs	Dec. 22, 1868.
73,745	Newkirk, Abram G., Warren, Pa. Lamp-chimney cleaner	Jan. 28, 1868.
82,240	Newman, A. M., Terre Haute, Ind. Saw-sharpening device	Sept. 15, 1868.
77,753	Newman, Esau P., Albany, Ind. Churn	May 12, 1868.
73,029	Newman, Martin, Unadilla, N. Y. Velocipede	Jan. 7, 1868.
	Newman, Martin, and Clark I. Hayes. (*See* Hayes & Newman.) (Reissue.)	
82,148	Newman, Nelson, Springfield, Ill. Corn harvester	Sept. 15, 1868.
78,680	Newman, Thomas, New Orleans, La. Switch for city railroads	June 9, 1868.
78,757	Same.....Rope traces	June 9, 1868.
	New Orleans Pneumatic Propelling Company. (*See* Wailey, C. W., assignor.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
	Newton, Charles E., and Ephraim Elliott. (*See* Elliott & Newton.)	
81,195	Newton, Daniel, Southington, Conn. Friction-brake for sewing machines	Aug. 18, 1868.
74,581	Newton, Don Carlos, Batavia, Ill. Wagon pole support	Feb. 18, 1868.
84,753	Newton, Frederick W., South Orange, N. J. Lappet, or embroidery loom	Dec. 8, 1868.
73,746	Newton, Henry E., Manchester, N. H. Blacking brush	Jan. 28, 1868.
73,919	Newton, Jeremiah L., Boston, Mass. Composition for the soles of boots and shoes	Jan. 28, 1868.
	Newton, Job. (*See* Callaghan, John, assignor.)	
	Newton, John W. (*See* Smith, E. A., assignor.)	
73,784	Newton, John W., Geneva, Wis. Bog cutter and drag	Nov. 3, 1868.
73,785	Same.....Potato digger and vine puller	Nov. 3, 1868.
83,530	Newton, O. G., Edinburg, Mo. Tuyere	Oct. 27, 1868.
	Newton, William A. (*See* Holden, Stephen B., assignor,)	
81,101	Newton, William M., assignor to self and John E. Armendt, Baltimore, Md. Brush	Aug. 18, 1868.
	New York Belting and Packing Company. (*See* Gately, Dennis C., assignor.)	
	New York Rubber Company. (*See* Alden, Henry A., assignor.)	
	Same.....same.	
	New York Tap and Die Company. (*See* Bee, Benjamin F., assignor.)	
	Same.....same.	
83,531	Ney, Baruh, and Henry Hofheimer, Alexandria, Va. Paper file	Oct. 27, 1868.
2,921	Ney, Elemir J., assignor to the Lowell Manufacturing Company, Lowell, Mass. Carpet pattern.....(Design)	Feb. 4, 1868.
2,922	Same.....same.....(Design)	Feb. 4, 1868.
2,923	Same.....same.....(Design)	Feb. 4, 1868.
2,924	Same.....same.....(Design)	Feb. 4, 1868.
2,925	Same.....same.....(Design)	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
2,926	Ney, Elemir J., assignor to the Lowell Manufacturing Company, Lowell, Mass. Carpet pattern ..... (Design)..	Feb. 4, 1868.
3,119	Same.....same..... (Design)..	July 21, 1868.
3,120	Same.....same..... (Design)..	July 21, 1868.
3,121	Same.....same..... (Design)..	July 21, 1868.
3,122	Same.....same..... (Design)..	July 21, 1868.
3,123	Same.....same..... (Design)..	July 21, 1868.
3,278	Same.....same..... (Design)..	Dec. 8, 1868.
3,279	Same.....same..... (Design)..	Dec. 8, 1868.
3,280	Same.....same..... (Design)..	Dec. 8, 1868.
3,281	Same.....same..... (Design)..	Dec. 8, 1868.
3,282	Same.....same..... (Design)..	Dec. 8, 1868.
3,283	Same.....same..... (Design)..	Dec. 8, 1868.
3,284	Same.....same..... (Design)..	Dec. 8, 1868.
3,285	Same.....same..... (Design)..	Dec. 8, 1868.
3,286	Same.....same..... (Design)..	Dec. 8, 1868.
3,287	Same.....same..... (Design)..	Dec. 8, 1868.
3,288	Same.....same..... (Design)..	Dec. 8, 1868.
3,289	Same.....same..... (Design)..	Dec. 8, 1868.
3,290	Same.....same..... (Design)..	Dec. 8, 1868.
84,298	Neymaber, A. F. W., Philadelphia, Pa. Water indicator for steam boilers.....	Nov. 24, 1868.
78,119	Nichols, B. T., Newark, N. J. Manufacture of cart saddles	May 19, 1868.
82,630	Nichols, Freeman, Newport, Ky. Hub for wagon wheels	Sept. 29, 1868.
	Nichols, George H. (*See* Mills & Chichester, assignors.)	
	Same.....same.	
	Same.....(*See* Chichester, Lewis S., assignor.)	
	Same.....(*See* Taggart, Chichester & Mills, assignors) .....(Reissue.)	
	Nichols, Henry P., trustee. (*See* Blunt, E., jr., assignor.)	
76,801	Nichols, John, Gardner, Maine. High chair for children.....	Apr. 14, 1868
83,723	Nichols, John, Paterson, N. J. Machine for burring wool.....	Nov. 3, 1868.
83,302	Nichols, John A., Paterson, N. J. Valve for pumps	Oct. 20, 1868.
78,316	Nichols, Moses H., Hancock, N. Y. Shipping case.....	May 26, 1868.
76,237	Nichols, W. A., West Liberty, Iowa. Ditching machine.....	Mar. 31, 1868
81,196	Nichols, William E., Baldwin, Mo. Gate	Aug. 18, 1868.
74,121	Nichols, William H., East Hampton, Conn. Self-sealing pamphlet cover.....	Feb. 4, 1868
82,434	Same.....Door bell	Sept. 22, 1868.
78,120	Nichols, William R., Philadelphia, Pa. Car spring	May 19, 1868.
73,747	Nichols, W. T., Rutland, Vt. Hay raker and loader.....	Jan. 28, 1868.
73,748	Same.....Hay stacker	Jan. 28, 1868.
74,408	Same.....Portable railway elevator.....	Feb. 11, 1868.
75,450	Same.....Hay raker and loader.....	Mar. 10, 1868.
75,783	Same.....Excavator or shovel	Mar. 24, 1868.
	Nicholson, Ambrose, Poland, N. Y. Self-fastening shutter hinge..(Extension)..	Mar. 12, 1868.
80,992	Nicholson, E., Rockport, Ohio. Road gate.....	Aug. 11, 1868.
82,341	Nicholson, J. S., Anamosa, Iowa. Clothes press	Sept. 22, 1868.
80,993	Nicholson, William T., Providence, R. I. Machine for cutting rasps.....	Aug. 11, 1868.
78,681	Nicholson, William T., assignor to the Nicholson File Company, Providence, R. I. Machine for cutting files. (Antedated June 5, 1868).....	June 9, 1868
78,682	Nickels, M. L., Dunlapsville, Ind. Grain drill.....	June 9, 1868.
83,403	Nickerson, Charles N., assignor to self and William Hodgkins, 3d, Gloucester, Mass. Button	Oct. 27, 1868.
75,568	Nickerson, Hiram B., assignor to self and Stillman B. Allen, Boston, Mass. File	Mar. 17, 1868.
80,656	Nicolai, J., Boston, Mass. Folding chair.....	Aug. 4, 1868.
	Nicolson, Samuel, deceased, by George T. Bigelow, administrator, Boston, Mass. Wooden pavement .....(Extension)..	July 7, 1868.
83,532	Neibel, Abner, Tiffin, Ohio. Beehive	Oct. 27, 1868.
3,047	Nieberg, C. L. L., assignor to Sargent & Company, New Haven, Conn. Coffin handle .....(Design)..	May 12, 1868.
83,300	Niedringhaus, F. G., St. Louis, Mo. Construction of metallic spoons.....	Oct. 20, 1868.
83,301	Niedringhaus, F. G. and W. F., St. Louis, Mo. Coal hod.....	Oct. 20, 1868.
85,023	Niermann, Gerrit, Cincinnati, Ohio. Portable wardrobe.....	Dec. 15, 1868.
3,005	Niffeler, Anna, Chicago, Ill. Sad-iron .....(Design)..	Apr. 21, 1868.
75,451	Niles, Peter H., Boston, Mass. Lunch box. (Antedated March 6, 1868).....	Mar. 10, 1868.
76,503	Same.....Hose coupling	Apr. 7, 1868.
84,899	Niles, P. H., and F. W. Marston, Boston, Mass. Fastening for corsets. (Antedated Dec. 2, 1868)	Dec. 15, 1868.
80,994	Niles, S. R., Rawsonville, Mich. Bean puller	Aug. 11, 1868.
	Nirdlinger, Albert H., and James Bramble. (*See* Bramble & Nirdlinger.)	
73,826	Nishwitz, Frederick, Brooklyn, N. Y. Harvester	Jan. 28, 1868.
73,827	Same .....same.....	Jan. 28, 1868.
	Nissley, Christian H., *et al.* (*See* Arndt, Theophilus, assignor.)	
84,132	Nivert, Charles, France. Steam device for washing buildings.....	Nov. 17, 1868.
73,457	Nivison, Oziel, Hector, N. Y. Horse rake	Jan. 21, 1868.
	Nixon & Company. (*See* O'Bryan & Kreps, assignors).....(Reissue.)	
77,645	Nixon, Daniel M., Danville, Ill. Hames	May 5, 1868.
74,582	Nixon, George and William L., Sandyville, Ohio. Device to prevent hogs from rooting	Feb. 18, 1868.
3,021	Same.....same .....(Reissue)..	July 7, 1868.
79,382	Nixon, Joseph, Altoona, Pa. Flanging forge and furnace for boiler heads.....	June 30, 1868.
	Nixon, N. R., and John Collins, jr. (*See* Collins & Nixon.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Nixon, Thomas, *et al.* (*See* Collins & Nixon, assignors.)	
	Same.....same.	
82,149	Nizer, Thomas A., Hamilton, Ohio. Rotary steam-engine	Sept. 15, 1868
73,115	Noah, George G., Boston, Mass. Machine for making paste	Jan. 7, 1868
78,317	Nobel, Alfred, assignor to Julius Baudmann, Germany. Explosive compound	May 26, 1868
74,241	Noble, Albert U., Kalamazoo, Mich. Spring punch	Feb. 11, 1868
76,937	Noble, George H., assignor to self and Benjamin T. Mills, Lowell, Mass. Spindle bolster	Apr. 21, 1868
82,631	Noble, Hezekiah B., South Windsor, Conn. Horse rake	Sept. 29, 1868
76,938	Noble, James, Pittsburg, Pa. Locomotive cow-catcher	Apr. 21, 1868
73,458	Noble, William H., Bridgeport, Conn. Apparatus for preventing the curculio from ascending fruit trees	Jan. 21, 1868
82,977	Nobles, William H., St. Paul, Minn. Railway frog. (Antedated Oct. 10, 1868)	Oct. 13, 1868
82,978	Same.....Car wheel. (Antedated Oct. 10, 1868)	Oct. 13, 1868
74,410	Nobles, W. H., St. Paul, Minn., and M. V., Elmira, N. Y. Steam generator	Feb. 11, 1868
73,920	Noblit, John, Philadelphia, Pa. Hair cloth	Jan. 28, 1868
81,528	Noek, E. B., assignor to self, O. B. Perdue, Charles F. Mathews and John Long, Cleveland, Ohio. Manufacture of sheet iron	Aug. 25, 1868
	Nodle, George G., and Benjamin Bollinger. (*See* Bollinger & Nodle.)	
81,400	Noel, M. P., St. Cloud, Minn. Saw machine	Aug. 25, 1868
85,120	Noel, Pierre Jules Jacob, France. Breech-loading fire-arm	Dec. 22, 1868
77,082	Noepel. Jacob, and Bernhard Assman, Newark, N. J. Saw set	Apr. 21, 1868
77,754	Noethlich, Charles, Muscatine, Iowa. Wagon lock	May 12, 1868
83,992	Noftz, Charles F., Toledo, Ohio. Potato and corn plow	Nov. 10, 1868
81,671	Nohl, Eugene W., assignor to Charles M. Gray, Chicago, Ill. Furnace for smelting ores of gold, silver, &c	Sept. 1, 1868
75,504	Nolan, Clinton, Niles, Mich. Brick machine	Apr. 7, 1868
77,904	Nolf, John, assignor to self and John D. Williams, Philadelphia, Pa. Composition for refining and toughening iron	May 12, 1868
78,683	Nolin, J. E., Chicago, Ill. Shoe brush	June 9, 1868
73,030	Noreross, I. W., Boston, Mass. Pulley block	Jan. 7, 1868
84,900	Same.....Grommet. (Antedated Nov. 30, 1868)	Dec. 15, 1868
80,657	Norman, Joseph W., Eugene, Ind. Portable fence	Aug. 4, 1868
75,784	Norris, B. S., Ripley, Ohio. Boot-crimping screw	Mar. 24, 1868
78,318	Same.....Press	May 26, 1868
83,199	Norris, John, Mt. Pleasant, Md. Hot-air attachment to stoves	Oct. 20, 1868
78,889	Norris, J. T., Tiffin, Ohio. Harvester cutter	June 16, 1868
74,411	Norris, Omar P., Fostoria, Ohio. Combined sheep rack and shelter	Feb. 11, 1868
84,370	Norris, Richard, deceased, by John Saunders, administrator, Harrisburg, Pa. Exhaust nozzle for steam engines	Nov. 24, 1868
78,603	Norris, Samuel, Springfield, Mass., William Mauser and Paul Mauser, Obern-dorf, Wurtemburg, assignors to Samuel Norris. Breech-loading fire-arm	June 2, 1868
	North, Charles F., and A. H. Lighthall. (*See* Lighthall & North.)	
	North, Frederic H. (*See* Pillard, Oliver E., assignor.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
79,248	North, Henry, New Britain, Conn. Sash fastener	June 23, 1868
	North, Meriam & Company. (*See* Meriam, John N., assignor.)	
	North, Townsend. (*See* Marble, Lansing, assignor).....(Reissue.)	
	Northall, John C. (*See* Lee & Wren, assignors.)	
	Northup, Henry B., and James H. Patterson. (*See* Patterson & Northup.)	
	Norton, A., and J. F. Porter. (*See* Porter & Northup.)	
77,646	Norton, Edward, Boston, Mass. Machine for grinding file blanks	May 5, 1868
76,505	Norton, F. B., and F. Hancock, Worcester, Mass. Combined clay grinding and separating mill	Apr. 7, 1868
77,205	Norton, F. I., assignor to self and William H. Cloud, Tremont, Ohio. Drying apparatus	Apr. 28, 1868
75,569	Norton, Hiram, Delta, Wis. Door lock	Mar. 17, 1868
73,373	Norton, H. and J. S. B., Farmington, Maine. Apple sheer	Jan. 14, 1868
78,473	Norton, H. B., Rochester, N. Y. Potato digger	June 2, 1868
78,474	Same.....Fruit jar	June 2, 1868
74,122	Norton, John K., Flushing, Ohio. Bridle bit	Feb. 4, 1868
73,921	Norton, Luman P., Bennington, Vt. Apparatus for cleaning clay	Jan. 28, 1868
82,241	Norton, Nelson B., Burlington, Wis. Four-wheel plow	Sept. 15, 1868
	Norton, Omer, and Isaac W. Hart. (*See* Hart & Norton.)	
	Norton, William T., *et al.* (*See* Bacon, Thomas K., assignor.)	
78,684	Norton, W. W., Dundee, Ill. Machine for threading thimble skeins	June 9, 1868
	Norwich Lock Company. (*See* Vickers, John H., assignor.)	
	Same.....(*See* Smith & Vickers, assignors.)	
84,437	Notman, Walter, Deerfield, Ohio. Corn and potato plow	Nov. 24, 1868.
75,046	Nott, Benjamin, Albany, N. Y., Cooking stove and range	Mar. 3, 1868.
83,877	Same.....Illuminator for stoves, grates, &c	Nov. 10, 1868.
82,632	Noualhier, Eugene Theodore, France. Chimney cowl	Sept. 29, 1868.
83,993	Nourse, James K. P., West Medway, Mass. Boiler feed-water regulator	Nov. 10, 1868.
77,832	Novek, John, New York, N. Y. Flour sifter	May 12, 1868.
73,635	Nowlan, Samuel B. B. New York, N. Y. Arcade railroad	Jan. 21, 1868.
84,962	Noyes, Amos Knights, Lynn, Mass. Apparatus for turning the leaves of music books	Dec. 15, 1868.
73,636	Noyes, H. J., Ashtabula, Ohio. Tin-ware seaming machine	Jan. 21, 1868.
82,150	Noyes, J. E., New Albany, Ind. Lamp	Sept. 15, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,151	Noyes, J. E., New Albany, Ind. Illuminating oil	Sept. 15, 1868.
76,650	Noyes, Joseph P., Binghamton, N. Y. Toilet comb	Apr. 14, 1868.
76,802	Noyes, Josiah H., Center Abington, Mass. Cap for oil cans	Apr. 14, 1868.
	Noyes, Person. (*See* Haseltine, John, assignor.)	
80,302	Noyes, Person, Lowell, Mass. Lamp. (Antedated July 11, 1868)	July 28, 1868.
	Noyes, Samuel F., *et al.* (*See* Halsey, James E., assignor.)	
74,715	Noyes, Walter B., Dorchester, N. H. Clothes dryer	Feb. 18, 1868.
75,188	Same.....Saw jointer	Mar. 3, 1868.
80,871	Noyes, W. B., and C. S. Baker, Manchester, N. H. Saw set and gauge	Aug. 11, 1868.
	Noyes, William, jr., and Orison Twombly. (*See* Twombly & Noyes.)	
81,814	Nuellens, Julius, and M. Neuhaus, England. Wine cooler. (Patented in England May 29, 1868)	Sept. 1, 1868.
76,506	Nugent, Joseph F., Cannonsburg, Mich. Hay elevating apparatus	Apr. 7, 1868.
75,785	Null, Jonathan, Quincy, Pa. Wood boring machine	Mar. 24, 1868.
81,284	Nulsen, Anthony, Eugen Haneisen and Albert Wagner, assignors to A. Nulsen & Company, Cincinnati, Ohio. Brick machine	Aug. 18, 1868.
75,189	Numsen, Peter, Baltimore, Md. Fruit can	Mar. 3, 1868.
	Nunamacher, John, and Henry Bechtold. (*See* Bechtold & Nunamacher.)	
83,533	Numan, Philip, Sandusky, Ohio. Apparatus for preserving and freezing fish, meat, &c	Oct. 27, 1868.
73,256	Nute, James E., and George H. Hathorn, Lincoln, Me. Hand loom	Jan. 14, 1868.
79,143	Nutting, George F., Randolph, Vt. Pump	June 23, 1868.
85,121	Nutting, George P., Chicago, Ill. Water supply regulator	Dec. 22, 1868.
83,724	Nutting, O. J., Warwick, N. Y. Milk can	Nov. 3, 1868.
83,534	Nye, Charles H., Vineland, N. J. Bag fastener	Oct. 27, 1868.
	Nye, Chauncey, *et al.* (*See* Summers, Alfred F., assignor.)	
	Nye, Lorenzo W. (*See* Thompson, John A., assignor.)	
74,765	Nye, M., and A. J. Knisley, Chicago, Ill. Brick machine	Feb. 25, 1868.
	Nye, S. R., *et al.* (*See* Barnard, Nye & Hewett.)	
81,672	Oakley, Oliver B., and Hiram Rosekrans, San Francisco, Cal. Door bell	Sept. 1, 1868.
74,412	Oaks, W. A. C., assignor to Harbster Brothers & Co., Reading, Pa. Window shade fixture	Feb. 11, 1868.
81,529	Oaks, W. A. C., assignor to W. M. Griscom, Reading, Pa. Reversible knob latch	Aug. 25, 1868.
	Obdyke, William. (*See* Austin, Wm., assignor.)	
79,771	Oborn, William S., Marion, Ohio. Cider mill	July 7, 1868.
79,678	Obrecht, Henry, assignor to Samuel Reinhart and John C. Knapp, Mahanoy City, Pa. Meat cutter	July 7, 1868.
78,121	O'Brian, P., Philadelphia, Pa. Mop and scrubbing brush holder	May 19, 1868.
78,475	O'Brien, Richard, Dalton, Ohio. Railroad car stove	June 2, 1868.
76,507	O'Brien, Robert, Towlesville, N. Y. Harness	Apr. 7, 1868.
84,504	Obrieter, John, assignor to self and Andrew Liebly, Lancaster, Pa. Sash holder.	Dec. 1, 1868.
3,077	O'Bryan, Charles, and Henry Kreps, assignors to Nixon & Co., Alliance, Ohio. Plow.....(Reissue)	Aug. 11, 1868.
78,122	O'Bryan, Volney, assignor to DeWitt C. and Amelia O'Bryan, St. Johns, Mich. Fireman's elevator	May 19, 1868.
80,085	O'Connell, Maurice, Boston, Mass. Apparatus for checking horses attached to vehicles	July 21, 1868.
79,851	O'Connor, Patrick, and Morris Collins, Decatur, Ill. Ditching machine	July 14, 1868.
85,238	Odenatt, William H., Philadelphia, Pa. Swing	Dec. 22, 1868.
83,994	Odenbaugh, Frank, Middletown, Pa. Scaffold	Nov. 10, 1868.
76,508	Oefinger, Christian, and Sebastian Grupp, assignors to selves and Henry Stempleman, San Francisco, Cal. Kiln for drying malt	Apr. 7, 1868.
	Oehler, Paul. (*See* Klinkhardt & Kibnz, assignors.)	
73,637	Oellig, L. A., Martinsburg, Pa. Dry-house for fruit, &c	Jan. 21, 1868.
79,852	Oerllein, George, Utica, Minn. Horse-power	July 14, 1868.
80,086	Oertly, B., and Xaver Fendrich, Washington, D. C. Composition for coating metal, &c	July 21, 1868.
81,197	Same.....Coal stove	Aug. 18, 1868.
81,198	Ofeldt, F. W., and A. W. Almqvist, assignors to selves and Thomas Fitzsimmons, New York, N. Y. Apparatus for the manufacture of illuminating gas.	Aug. 18, 1868.
80,497	Offhaus, Ernst, Newark, N. J. Propelling apparatus	July 28, 1868.
82,152	Offineer, James, Ashland, Ohio. Hay knife	Sept. 15, 1868.
76,509	O'Friel, James, Blair County, Pa. Vitrified compound. (Antedated March 28, 1868)	Apr. 7, 1868.
80,003	Ogburn, Benjamin W., Whittle's Mills, Va. Calculating balance	July 14, 1868.
75,570	Ogden, Elias, Lynchburg, Va. Harvester rake	Mar. 17, 1868.
84,371	Ogden, Ferris, Meadville, Pa. Rotary steam-engine	Nov. 24, 1868.
73,828	Ogden, H. L., Atkinson, Ill. Try square	Jan. 28, 1868.
77,755	Ogdin, James, Philadelphia, Pa. Oil can	May 12, 1868.
82,544	O'Hara, C. J., New Orleans, La. Name-plate for street lamps	Sept. 29, 1868.
76,651	O'Hara, Charles M., New York, N. Y. Propeller	Apr. 14, 1868.
	O'Hearn, Richard. (*See* Needham, H. R., assignor.)	
81,102	Ohlen, James, Columbus, Ohio. Attaching handles to saws	Aug. 18, 1868.
81,934	Okey, Joseph, assignor to self and Ferdinand Lehr, Indianapolis, Ind. Wash boiler	Sept. 8, 1868.
73,829	Okey, Joseph B., Indianapolis, Ind. Spring door holder	Jan. 28, 1868.
81,935	Olden, Lucius M., Pana, Ill. Seeding machine	Sept. 8, 1868.
73,374	Oldfield, Benjamin and Edwin, Newark, N. J. Loom. (Antedated Jan. 4, 1868)	Jan. 14, 1868.
73,749	Olds, A. M., New York, N. Y. Folding basket	Jan. 28, 1868.
82,865	Same.....Portable folding fence. (Antedated Sept. 26, 1868)	Oct. 6, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,257	Olds, E. F., Brighton, and Warren Clark, Green Oak, Mich. Fence	Jan. 14, 1868.
	Olds, E. F., and C. A. Jefferies. (*See* Jefferies & Olds.)	
84,299	Olendorf, Garret J., Middlefield, N. Y. Mode of poling hops	Nov. 24, 1868.
73,750	Olendorf, Garret J., and Albert O. Parshall, Middlefield, N. Y. Poling hops	Jan. 28, 1868.
	Olhaber, Clement, *et al.* (*See* Paris & Davis, assignors.)	
75,190	Olin, J. P., Westfield, Ohio. Corn marker, &c.	Mar. 3, 1868.
79,496	Oliphant, John, Spring Hill Furnace, Pa. Metallic hub	June 30, 1868.
	Oliver, Charles P., and Theodore P. Howell. (*See* Howell & Oliver.)	
83,654	Oliver, Frank L., Scarborough, Maine. Wrench	Nov. 3, 1868.
76,238	Oliver, Henry W., jr., Pittsburg, Pa. Band for baling cotton	Mar. 31, 1868.
	Oliver, Henry W., jr., and William J. Lewis. (*See* Lewis & Oliver.)	
	Same.....same	
76,652	Oliver, James, South Bend, Ind, Mould board for plows	Apr. 14, 1868.
76,939	Same.....Casting mould boards	Apr. 21, 1868.
82,633	Oliver, John S., assignor to John W. Cox and Alexander D. Shaw, New York, N. Y. Refining liquor	Sept. 29, 1868.
76,510	Oliver, Paul A., New York, N. Y. Machinery for the manufacture of gunpowder	Apr. 7, 1868.
80,004	Same.....Powder for blasting and other purposes	July 14, 1868.
3,209	Same.....Machine for the manufacture of gunpowder .....(Reissue)	Nov. 24, 1868.
82,022	Oliver, William F., assignor to the Boston Shoe-stud and Button Company, Lynn, Mass. Shoe lacing	Sept. 8, 1868.
73,031	Olmstead, C. D., Williamsport, Pa. Saw-mill	Jan. 7, 1868.
73,459	Olmsted, L. H., Stamford, Conn. Lubricating bearings for machinery	Jan. 21, 1868.
84,505	Olmsted, L. H., Brooklyn, N. Y. Paper file	Dec. 1, 1868.
82,473	Olney, H. W., R. R. Logan, and J. H. Fisher, Allegheny City, Pa. Lock-nut and tightener	Sept. 22, 1862.
85,239	Olney, James B., New York, N. Y. Gas-generating and carbureting apparatus	Dec. 22, 1868.
74,931	Olsen, Halvor, San Francisco, Cal. Combination of life-preserving and swimming apparatus	Feb. 25, 1868.
77,310	O'Mahony, John, Savannah, Ga, Dray saddle	Apr. 28, 1868.
78,604	O'Neil, John K., Kingston, N. Y. Weighing scoop	June 2, 1868.
82,979	Same.....Horse hay fork.	Oct. 13, 1868.
80,995	O'Neill, Andrew, Portsmouth, Ohio. Wash boiler	Aug. 11, 1868.
83,535	O'Neill, E. F., Prairie-du-Chien, Wis. Washing machine	Oct. 27, 1868.
80,658	Oothoudt, Josiah, assignor to self and Henry C. Jerauld, Minneapolis, Minn. Churn	Aug. 4, 1868.
	Opie, William S., *et al.* (*See* Quick, Opie & Farrand.)	
	Oppenheimer, Seligman, and Henry Hirsh. (*See* Ramuz, Ulysse Humbeet, assignor.)	
84,572	Oppenheimer, Solomon, Peru, Ind. Milk pail	Dec. 1, 1868.
80,303	Orbeton, W. W. S., Bradford, Mass. Culinary apparatus	July 28, 1868.
74,583	Ord, William, Brooklyn, Ohio. Steam-engine valve	Feb. 18, 1868.
81,673	Orm, John, Paducah, Ky. Circular saw mill	Sept. 1, 1868.
	Ormsby, C. W. (*See* Parker, Francis, assignor.)	
	Orner, William B. and B. E., *et al.* (*See* Glover & Orner.)	
76,511	O'Rourke, James, Columbiana, Ohio. Horse hay fork	Apr. 7, 1868.
	Orput, James M., *et al* (*See* Corbit, Orput & Case.)	
75,643	Orr, Adrian, V. B., Steelville, Pa. Spring washer and safety nut	Mar. 17, 1868.
77,905	Orr, Galen, Needham, Mass. Cutting and forming blind hook blanks	May 12, 1868.
	Orr, Johnson. (*See* Hand, John R., assignor.)	
83,404	Orr, Johnson, and Henry H. Martin, Oxford, Ohio. Convertible plow and cultivator	Oct. 27, 1868.
	Orr, Painter & Company. (*See* Martino, Bessley & Currie, assignors). (Design.)	
	Orr, William, jr., and George F. Wright. (*See* Wright & Orr.)	
78,992	Orton, Gerrit V., Cincinnati, Ohio. Hanger for shafting	June 16, 1868.
79,249	Orton, G. V., and John Richards, Cincinnati, Ohio. Mortising machine	June 23, 1868.
81,103	Orton, G. V., and W. H. Doane, Cincinnati, Ohio. Machine for wiring blind slats	Aug. 18, 1868.
80,561	Osborn, Charles L., New York, N. Y. Bird cage. (Antedated July 20, 1868)	Aug. 4, 1868.
82,742	Osborn, Elim, assignor to self and Henry Beard, Economy, Ind. Rotary steam-engine	Oct. 6, 1868.
74,766	Osborn, Erasmus, Rome Center, Mich. Milk and provision rack	Feb. 25, 1868.
76,653	Osborn, George K., Brooklyn, N. Y. Lamp burner	Apr. 14, 1868.
82,435	Osborn, Henry S., Easton, Pa. Refining cast-iron	Sept. 22, 1868.
76,803	Osborn, Lewis E., New Haven, Conn. Indicator for the springing or bending of railway axles	Apr. 14, 1868.
	Osborn, Victoria A., and Charles L. Alexander. (*See* Alexander & Osborn.) (Reissue.)	
83,878	Osborn, William F., Mount Pleasant, Pa. Harrow	Nov. 10, 1868.
	Osborne, David M. (*See* Burdick, Orrin H., assignor.)	
	Osgood, Franklin. (*See* Bartlett, Nathan, assignor.)	
	Same.....same.	
76,096	Osgood, James H., jr., Boston, Mass. Window-sash frame	Mar. 31, 1868.
77,647	Osgood, James M., Somerville, Mass. Machine for casting eyelets	May 5, 1868.
76,341	Osgood, James W., assignor to self and S. V. R. Carpenter, Columbus, Ohio. Brick machine	Apr. 7, 1868.
83,786	Osgood, Joseph H., Peabody, Mass. Process of recovering the material of worn-out printers' rollers	Nov. 3, 1868.
82,153	Osgood, R. F., Rochester, N. Y. Seed planter	Sept. 15, 1868.
78,319	Osier, J. B., Ogdensburg, N. Y. Device for cutting sheet iron	May 26, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,066	Osman, James, and John F. Potter, Linden Hall, Pa. Car coupling	Nov. 17, 1868
85,327	Osmani, Cesare, Tolentino, Italy. Tanning hides and skins. (Patented in England, Jan. 23, 1868)	Dec. 29, 1868
81,674	Osterhout, Joseph, Rock Island, Ill. Washing machine	Sept. 1, 1868
	Ostrander, W. P., *et al.* (*See* Hermance, C. W., assignor.)	
76,240	Otis, Charles R., Yonkers, N. Y. Hoisting apparatus. (Antedated March 25, 1868)	Mar. 31, 1868
83,725	Otis, Charles R. and Norton P., Yonkers, N. Y. Hoisting apparatus	Nov. 3, 1868
80,205	Otis, George W., Lynn, Mass. Lightning rods	July 21, 1868
82,866	Otis, Joel A., and Thomas Barber, Watertown, N. Y. Apparatus for treating milk	Oct. 6, 1868
83,405	Otis, J. L., Leeds, Mass. Grinding machine	Oct. 27, 1868
78,537	Otis, Samuel A., Boston, Mass. Railway track scraper	June 2, 1868
75,293	Ott, Adolph, assignor to Antonio Pelletier, New York, N. Y. Process of extracting the precious metals from ores	Mar. 10, 1868
75,249	Same ..... same	Mar. 10, 1868
	Ott, George. (*See* Martin, Alexander, assignor.)	
81,199	Ott, Joseph J., Washington, D. C. Preparing paper for the manufacture of floor coverings, belting, window shades, and the like	Aug. 18, 1868
2,977	Otterson, Thomas G., assignor, through mesne assignments, to S. B. Rowley. Philadelphia, Pa. Fruit jar ..... (Reissue)	June 9, 1868
	Outcalt, Henry, Wilmington, Ohio. Mode of constructing metallic roofing. (Extension]	June 22, 1868
74,932	Outcalt, Jesse P., Lancaster, Ohio. Ballot box	Feb. 25, 1868
82,634	Outten, J. N., Caseyville, Ky. Bee hive	Sept. 29, 1868
73,193	Overholtzer, Daniel, Polo, Ill. Bag fastener	Jan. 7, 1868
82,342	Overton, C. H. and D. B., Dover, N. J. Valve gear for oscillating engines	Sept. 22, 1868
84,705	Oviatt, S. E., Richfield, Ohio. Grain separator	Dec. 8, 1868
84,706	Same ..... Threshing machine	Dec. 8, 1868
77,206	Same ..... Grain separator	Apr. 28, 1868
85,024	Owen, Benjamin J. F., Memphis, Tenn. Machine for cleaning cotton	Dec. 15, 1868
85,025	Owen, D. J., Springville, Pa. Wagon brake	Dec. 15, 1868
2,977	Owen, George B., Winsted, Conn. Clock case front ..... (Design)	Mar. 31, 1868
2,978	Same ..... same ..... (Design)	Mar. 31, 1868
3,042	Same ..... Clock case ..... (Design)	May 12, 1868.
3,064	Same ..... same ..... (Design)	June 2, 1868
3,224	Same ..... same ..... (Design)	Nov. 3, 1868.
84,438	Owen, John, assignor to self, Henry L. Brown, and A. Barr Irwin, Dayton, Ohio. Patent for stoves and hollow ware	Nov. 24, 1868.
85,026	Owen, S. R., Stewartsville, Mo. Churn	Dec. 15, 1868.
77,083	Owens, G. H., Maysville, Ky. Hoe	Apr. 21, 1868.
78,320	Owens, John A., Little Falls, N. Y. Starch tray	May 26, 1868.
73,259	Owens, John A., assignor to self and Henry I. Petrie, Little Falls, N. Y. Apparatus for the manufacture of starch	Jan. 14, 1868.
	Owens, Lane, Dyer and Company. (*See* Kirk, W. A. L., assignor.)	
76,097	Paar, John, New York, N. Y. Fire escape	Mar. 31, 1868.
	Pack, W. H., and Joseph S. Vanhorn. (*See* Vanhorn and Pack.)	
	Packard, Joseph, *et al.* (*See* Burdick, Norman, assignor.)	
78,758	Packard, Manly, North Easton, Mass. Sole edge plane	June 9, 1868.
	Packard, O. L. (*See* Grunert and Bingham, assignors.)	
79,679	Packard, Ralph G., Brooklyn, N. Y. Globe valve	July 7, 1868.
77,084	Packard, Ralph G., and Michael Hastings, Brooklyn, N. Y. Lock-up safety valve	Apr. 21, 1868.
78,476	Packer, G. W., Toulon, Ill. Extension step ladder	June 2, 1868.
3,022	Packer, George W., jr., Mystic River, Conn. Apparatus for building walls and extracting stumps ..... (Reissue)	July 7, 1868.
75,786	Paddock, Oscar, Watertown, N. Y. Horse hay fork	Mar. 24, 1868.
82,867	Same ..... same	Oct. 6, 1868.
82,980	Same ..... Blind shutter fastening	Oct. 13, 1868.
80,206	Padrick, Oscar D., Shelbyville, Ind. Self-propelling vehicle	July 21, 1868.
82,023	Page, C. D., Rochester, N. Y. Lime-kiln	Sept. 8, 1868.
	Same ..... (*See* McNamara, James, assignor.)	
76,654	Page, Charles Grafton, Washington, D. C. Induction coil apparatus and circuit breakers	Apr. 14, 1868.
81,401	Page, Dudley L., Lowell, Mass. Confection	Aug. 25, 1868.
79,383	Page, Enos, Stroetsboro, Ohio. Sheep table, &c	June 30, 1868.
	Page, George F., *et al.* (*See* Cook, John F., assignor.)	
79,078	Page, Ira, Adams, N. Y. Manufacturing butter from whey	June 23, 1868.
80,087	Page, James T., Rochester, N. Y. Scoop, shovel, &c	July 21, 1868.
85,240	Page, James T., assignor to self and William H. Brown, Rochester, N. Y. Coal scuttle	Dec. 22, 1868.
75,452	Page, Samuel, McAlisterville, Pa. Horse hay fork	Mar. 10, 1868.
79,384	Same ..... same	June 30, 1868.
74,584	Page, T. C., Chicopee, Mass. Sewing machine. (Antedated Feb. 7, 1868)	Feb. 18, 1868.
2,932	Page, William H., assignor to William H. Page & Company, Norwich, Conn. Printer's border ..... (Design)	Feb. 11, 1868.
2,979	Same ..... Alphabet of letters ..... (Design)	Mar. 31, 1868.
2,980	Same ..... same ..... (Design)	Mar. 31, 1868.
2,981	Same ..... Printers' border ..... (Design)	Mar. 31, 1868.
2,982	Same ..... same ..... (Design)	Mar. 31, 1868.
82,154	Page, William M. and E. B. Krausse, St. Louis, Mo. Process of preparing sulphate of barytes	Sept. 15, 1868.
79,592	Paige, W. H., assignor to self and L. O. Hanson, Springfield, Mass. Device for connecting dissimilar hose couplings	July 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
83,536	Paige, W. H., assignor to self, John Sweeny, and James W. Russell, Springfield, Mass. Seat back	Oct. 27, 1868
73,992	Paine, Calvin H., assignor to self and George S. Thompson, Providence, R. I. Carriage jack	Feb. 4, 1868
83,537	Paine, Clinton J., assignor to self and Henry Creswell, Young America, Ill. Corn plow	Oct. 27, 1868
78,229	Paine, Elias A., Sutton, Mass. Shuttle	May 26, 1868
84,372	Paine, Enoch H., Louisville, Ky. Baggage check	Nov. 24, 1868
74,767	Paine, George, Washington, Ohio. Sheep holder and fleece folder combined	Feb. 25, 1868
85,241	Paine, Hiram E., assignor to Henry H. Paine, Troy, N. Y. Cartridge box. (Antedated Dec. 16, 1868)	Dec. 22, 1868
2,854	Painter, William, assignor through mesne assignments to self and Charles Painter, Baltimore, Md. Lamp burner (Reissue)	Feb. 4, 1868
74,585	Paley, John, and Thomas Rawsthorne, Great Britain. Mule for spinning. (Patented in England Nov. 23, 1864)	Feb. 18, 1868
	Palmer, Aaron, and William H. Seymour. (*See* Seymour & Palmer.)	
	Palmer, Aaron, Brockport, N. Y., and Stephen G. Williams, Janesville, Wis. Grain harvester (Extension)	Jan. 6, 1868.
	Palmer, Abel B., and Jesse Tucker. (*See* Tucker & Palmer.)	
84,754	Palmer, Alonzo, assignor to self and N. H. Melcher, Hudson, Mich. Pump	Dec. 8, 1868.
73,032	Palmer, Charles E., Manchester, N. H. Steam trap	Jan. 7, 1868.
80,424	Palmer, Charles E., Newburyport, Mass. Fastening for shirt collars	July 28, 1868.
74,413	Palmer, Charles H., assignor to self, N. Palmer, and J. Heinrich, New York, N. Y. Hanging window sash	Feb. 11, 1868.
79,144	Palmer, Charles T., Norwich, Conn. Spice can	June 23, 1868.
82,024	Same.....Spice box	Sept. 8, 1868.
73,638	Palmer, Charles W., assignor to L. B. Frazier, trustee for C. W. Palmer, L. B. Frazier, H. E. Palmer, and C. Houghton, Lynn, Mass. Machine for finishing the edges of boot and shoe soles	Jan. 21, 1868.
79,250	Palmer, Edwin A., Clayville, N. Y. Cheese-curd rake. (Antedated June 12, 1868)	June 23, 1868.
	Palmer, Frederick W., Albany, N. Y. Hand fork	May 12, 1868.
77,906	Palmer, George. (*See* Havens, Jesse, assignor.)	
	Palmer, George, Littlestown, Pa. Railway-rail joint	Oct. 20, 1868.
83,303	Palmer, George N., Greene, N. Y. Stone-gathering machine	May 12, 1868.
77,838	Same.....Stone drag	Nov. 3, 1868.
83,726	Palmer, George T., Brooklyn, N. Y. Filter. (Antedated Jan. 16, 1868)	Jan. 28, 1868.
73,751	Same.....Mosquito-net frame. (Antedated April 14, 1868)	Apr. 28, 1868.
77,207	Same.....Crib and bedstead. (Antedated May 5, 1868)	May 19, 1868.
78,123	Same.....Bottom for boilers. (Antedated June 6, 1868)	June 16, 1868.
78,993	Palmer, George T., Brooklyn, N. Y., and P. P. Bush, New Haven, Conn. Ma-	
81,200	chine for cutting soap into slabs	Aug. 18, 1868.
78,816	Palmer, Harvey D., assignor to S. O. Kaempfer, David G. Williams, and William C. Wilson, Leonidas, Mich. Horse hay fork	June 9, 1868.
	Palmer, Henry, Evanston, Ill. Voltaic battery	Oct. 13, 1868.
82,981	Palmer, Henry H., Rockford, Ill. Spring seat for wagons	Aug. 4, 1868.
80,562	Same.....Spring-bed bottom	Nov. 24, 1868.
84,300	Palmer, Horace, and A. N. Case. Kingsville, Ohio. Doubletree	Aug. 11, 1868.
80,872	Palmer, Ira A. Monmouth, Ill. Cultivator	Dec. 29, 1868.
85,471	Palmer, Isaac E., Haekensaek, N. J. Mosquito canopy	Feb. 25, 1868.
74,933	Same.....Mechanical movement. (Antedated Sept. 14, 1868)	Sept. 22, 1868.
82,438	Same.....Tackle block (Reissue)	Dec. 8, 1868.
3,226	Palmer, Isaac H., Lodi, Wis. Harvester	Oct. 20, 1868.
83,304	Palmer, John, Mechaniesburg, Pa. Buggy-top roller	Feb. 11, 1868.
74,414	Palmer, Joseph, Concord, N. H. Welding the ears of elliptic springs	May 26, 1868.
78,230	Same.....Mode of manufacturing heads for elliptic springs (Reissue)	July 21, 1868.
3,046	Palmer, J. S., Portland, Me. Goblet (Design)	Aug. 4, 1868.
3,152	Palmer, Milton J. (*See* Sweetland, Alvah, assignor.)	
	Palmer, Nelson, Albany, N. Y. Horse hay fork	Feb. 25, 1868.
74,934	Same.....same	May 12, 1868.
77,907	Palmer, Stewart B., Syracuse, N. Y. Low-water alarm for steam generators	Sept. 8, 1868.
82,025	Palmer, S. W., and J. F., assignors to the Metropolitan Washing Machine Com-	
2,920	pany, Auburn N. Y. Gearing (Reissue)	Apr. 21, 1868.
80,761	Palmer, S. W. and J. F., assignors to E. G. Storke, S. U. Palmer, and Clara M. Palmer, Auburn, N. Y. Machine for grinding cutters of mowing machines. (Reissue)	Aug. 4, 1868.
83,995	Palmer, T. G., Shultzville, N. Y. Brake for horse power	Nov. 10, 1868.
	Palmer, Timothy G., *et al.* (*See* Waldron, John J., assignor.)	
84,506	Palmer, W. H., jr., Middletown, Conn. Cord-covering machine	Dec. 1, 1868.
	Palmer, Wilford L. (*See* Pitts, S. G., assignor.)	
74,768	Palmer, William M., Middlebush, N. J. Water elevator	Feb. 25, 1868.
79,772	Same.....same	July 7, 1868.
77,908	Pancake, George, Harrisburg, Pa. Machine for wiring blind slats	May 12, 1868.
83,305	Panehot, George, Hastings, Minn. Carriage step	Oct. 20, 1868.
80,762	Pannabeeker, Jesse, Durlaeh, Pa. Mode of dressing millstones	Aug. 4, 1868.
84,373	Pape, William Rochester, Great Britain. Fire-arm	Nov. 24, 1868.
77,401	Papin, P. M., St. Louis, Mo. Quartz stamp mill	Apr. 28, 1868.
83,084	Same.....Ladder	Oct. 13, 1868.
85,122	Paradis, Peter, Rochester, N. Y. Coal stove	Dec. 22, 1868.
74,935	Paraf, Alfred, Boston, Mass. Process of separating coloring matter from madder and other plants	Feb. 25, 1868.
80,207	Paraf, Alfred, New York, N. Y. Manufacture of water-proof textile fabric	July 21, 1868.
81,815	Same.....Water-proof cloth	Sept. 1, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery,	Date.
74,769	Pardee, Isaac, Vineland, N. J. Concrete brick machine. (Antedated Feb. 10, 1868)	Feb. 25, 1868.
76,288	Pardee, Isaac, assignor to self and Ariel C. Cotton, Vineland, N. J. Scuffle hoe and garden trimmor	Mar. 31, 1868
80,873	Pardee, Isaac, assignor to self and Orson Reed, Buena Vista, N. J. Stump machine	Aug. 11, 1868.
	Pardee, Moses B. (*See* Gray, H. H., assignor.)	
77,402	Pardee, Phineas, New Haven, Conn. Apparatus for discharging bilge water	Apr. 28, 1868
84,573	Pardee, William B., New Haven, Conn. Top prop for carriages	Dec. 1, 1868.
78,817	Parham, Charles, Philadelphia, Pa. Sewing machine	June 9, 1868.
78,818	Same.....same	June 9, 1868.
	Same.....same.....(Extension)	Nov. 20, 1868.
78,685	Paris, Daniel E., Troy, N. Y. Grate and ash sifter in cooking stoves	June 9, 1868.
78,686	Same.....Water reservoir attachment to cooking stoves	June 9, 1868.
78,687	Same.....Ovens of cooking stoves	June 9, 1868.
78,890	Same.....Warming closet on cooking stoves	June 16, 1868.
78,891	Same.....Earth and ash sifter in cooking stoves	June 16, 1868.
	Same.....(*See* Boynton, N. A., assignor.)	
78,688	Paris, Daniel E., and Charles S. Davis, assignors to D. E. Paris and Clement Olhaber, Troy, N. Y. Hot-water tank on cooking stoves	June 9, 1868.
78,819	Paris, Daniel E., assignor to Burdet, Paris & Company, Troy, N. Y. Hot-water tank on cooking stoves	June 9, 1868.
76,098	Park, Horace, Columbus, Ohio. Ironing table	Mar. 31, 1868.
73,375	Park, James, jr., Pittsburg, Pa. Combining copper and cast iron	Jan. 14, 1868.
78,477	Same.....Manufacture of plates of combined steel and iron	June 9, 1868.
2,976	Park, James A., White House, N. J. Door and gate latch.....(Reissue)	June 9, 1868.
81,936	Park, John, Joliet, Ill, Bedstead and quilting frame	Sept. 8, 1868.
77,648	Park, John H., White House, N. J. Bag holder. (Antedated April 24, 1868)	May 5, 1868.
75,697	Park, R. W., assignor to C. W. Park, Philadelphia, Pa. Lamp burner	Mar. 17, 1868.
80,996	Park, Webster, Norwich, Conn. Fluid meter	Aug. 11, 1868.
80,208	Parker, Andrew, New York, N. Y. Bureau bedstead	July 21, 1868.
	Parker, Charles, Meriden, Conn. Cast-iron vise.....(Extension)	June 19, 1868.
	Same.....(*See* Cummings, George N., assignor).....(Reissue.)	
	Same.....(*See* Richmond, Hiram, assignor.)	
77,649	Parker, Charles and Edmund, assignors to Charles Parker, Meriden, Conn. Coffee mill	May 5, 1868.
	Parker, Charles and C. A. Kinney. (*See* Kinney & Parker.)	
	Parker, E. (*See* Thomas, Ralph, assignor.)	
78,820	Parker, Edward M., Zion, Md. Horse hay fork	June 9, 1868.
77,519	Parker, Edwin A., Horse Heads, N. Y. Coal stove	May 5, 1868.
83,655	Parker, Eliphalet H., Bucksport, Maine. Steam governor	Nov. 3, 1868.
76,512	Parker, E. N., Essex, Conn. Tatting shuttle	Apr. 7, 1868.
83,306	Parker, Francis, assignor to self and C. W. Ormsby, Petaluma, Cal. Mortising machine	Oct. 20, 1868.
78,391	Parker, G. L., Coventryville, N. Y. Boiler for making maple sugar	May 26, 1868.
77,085	Parker, G. W. and W. F., Kalamazoo, Mich. Fur muffler	Apr. 21, 1868.
2,945	Parker, Harrison, and Jonathan C. Sleeper, Boston, Mass. Trade mark.....(Design)	Mar. 3, 1868.
79,251	Parker, Hiram, assignor to H. W. Persing, Salem, Ill. Wagon box	June 23, 1868.
80,364	Parker, Isaac J., Buffalo Grove, Iowa. Fence post driver	July 28, 1868.
76,804	Parker, James L., Harrisonburg, Va. Hollow auger	Apr. 14, 1868.
3,180	Parker, Jefferson, Louisville, Ky. Machine for slaughtering hogs.....(Reissue)	Nov. 3, 1868.
77,650	Parker, John E., Meriden, Conn. Reversible knob latch	May 5, 1868.
77,909	Same.....same	May 12, 1868.
3,140	Same.....Drawer pull.....(Design)	July 28, 1868.
	Parker, Joseph. (*See* Bailey, Ezra, assignor.)	
	Parker, Lewis, jr., *et al.* (*See* Woolverton, Samuel, assignor.)	
84,507	Parker, L. F., Davenport, Iowa. Harvester	Dec. 1, 1868.
81,937	Parker, Quintin, New York, N. Y. Steam generator	Sept. 8, 1868.
73,258	Parker, Samuel J., Ithaca, N. Y. Brick machine	Jan. 14, 1868.
	Same.....Sewing machine.....(Disclaimer filed)	Mar. 10, 1868.
	Same.....same.....(Extension)	Apr. 9, 1868.
75,962	Parker, Simon B., Springfield, Mass. Device for fastening shoe strings	Mar. 24, 1868.
77,910	Parker, Wilbur F., Meriden, Conn. Machine for threading screws	May 12, 1868.
76,513	Parker, William, Washington, Ohio. Straw carrier	Apr. 7, 1868.
80,659	Parker, W. H., Memphis, Tenn. Smoke stack	Aug. 4, 1868.
76,241	Parkerson, Francis, Philadelphia, Pa. Wheelbarrow	Mar. 31, 1868.
83,200	Parkin, Joseph, and James H. Smith, Cleveland, Ohio. Machine for molding sheet-metal window and door caps	Oct. 20, 1868.
75,963	Parks, Benjamin M., St. Louis, Mo. Churn dasher	Mar. 24, 1868.
82,868	Parks, B. M., assignor to self, A. C. Robinson, and William Seymour, St. Louis, Mo. Pruning hook	Oct. 6, 1868.
75,295	Parks, David A., Fairview, Ill. Penstock for underground drains	Mar. 10, 1868.
	Parks, John A., *et al.* (*See* Taylor, O. H., assignor.)	
	Parks, William F., and Louis F. Lannay. (*See* Lannay & Parks.)	
73,376	Parlour, Joseph T., assignor to self and William Beard, Brooklyn, N. Y. Keel and bilge block	Jan. 14, 1868.
84,963	Parmele, D. J., assignor to self and J. H. Currier, San Francisco, Cal. Railway-car brake	Dec. 15, 1868.
	Parrish, William E. (*See* Taylor, O. H., assignor.)	
85,123	Parrott, G. W. and B. F., and E. H. Timson, Lynn, Mass. Machine for folding and cutting material for shoe uppers, &c	Dec. 22, 1868.
	Parrott, Samuel C. (*See* Bowen, George A., assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,834	Parrott, William P., (George Hughes, executor,) and John J. Bordman, Boston, Mass. Mode of removing metallic scale from glass and "moils"	May 12, 1868
79,252	Parrott, William P., assignor to N. F. Bryant, Boston, Mass. Railroad truck	June 23, 1868
	Parshall, Albert O., and Garret J. Olendorf. (*See* Olendorf & Parshall.)	
73,639	Parshall, Charles H., Detroit, Mich. Air whistle	Jan. 21, 1868
77,208	Parson, John T., Washington, D. C. Roadway pavement. (Antedated April 18, 1868)	Apr. 28, 1868
78,689	Parsons, A. B., assignor to self and Edward Redhead, Dunton, Ill. Tube well	June 9, 1868
77,209	Parsons, George W., Harrisburg, Pa. Straw cutter	Apr. 28, 1868
83,201	Parsons, Louis J., New Bedford, Mass. Mode of binding the edges of rein-holders	Oct. 20, 1868
83,202	Same.....Adjustable mosquito bar frame	Oct. 20, 1868
83,203	Same.....Whip socket	Oct. 20, 1868
83,204	Same.....Thill guard	Oct. 20, 1868
83,205	Same.....Mode of fastening apron-hooks to the dasher falls of carriages	Oct. 20, 1868
81,675	Parsons, Louis J., assignor to self, John R. and O. E. Linton, New Bedford, Mass. Whip socket	Sept. 1, 1868
77,835	Parsons, Luther M., Waukan, Wis. Cooking stove	May 12, 1868
78,759	Parsons, William T., Thomasville, Ga. Car brake	June 9, 1868
82,155	Partridge, George F., Adrian, Mich. Corn planter	Sept. 15, 1868
82,156	Passmore, E. G., jr., Philadelphia, Pa. Harvester	Sept. 15, 1868
79,253	Passy, Frederic, France. Andirons and fire-place	June 23, 1868
80,832	Pastorius, Francis D., Philadelphia, Pa. Stove-pipe damper	Aug. 11, 1868
3,301	Same.....Machine frame or housing.....(Design)	Dec. 29, 1868
80,209	Patch, J. V. D., Brownville, Neb. Escapement	July 21, 1868
	Patcher, John, jr., and W. W. Stevens. (*See* Stevens & Patcher.)	
82,343	Pate, Alvah and Edgar W., Mankin, Mich. Wagon	Sept. 22, 1868
	Paterson, S. D., *et al.* (*See* Chamberlin, John V., assignor.)	
82,743	Pathi, Adolphe, Aehille, France. Cigar pipe	Oct. 6, 1868
3,172	Patric, C. E., Macedon, N. Y. Sifting apparatus for grain drills.....(Reissue)	Oct. 27, 1868
85,472	Same.....Grain drill	Dec. 29, 1868
	Patrick, E. L., *et al.* (*See* Moor, Moor & Patrick.)	
81,676	Patrick, James D., San Francisco, Cal. Ball alley. (Antedated Aug. 25, 1868)	Sept. 1, 1868.
81,938	Patrick, Lewis, Shortsville, N. Y. Shaft journal. (Antedated Aug. 27, 1868)	Sept. 8, 1868.
79,853	Pattee, John W., assignor to self and Ephraim Elliott, Thornton, N. H. Paint-ers' hook	July 14, 1868.
81,201	Pattee, Samuel L., Northbridge, Mass. Spindle step	Aug. 18, 1868.
	Pattee, Wyman, *et al.* (*See* Cummings, Pattee & Shaw.)	
	Patten, Ben Adams, and Theodore A. Barry. (*See* Barry & Patten.)	
83,538	Patten, John W., North Greenbush, N. Y. Knife and fork holder	Oct. 27, 1868.
82,868	Patten, Julia W. D., New York, N. Y. Ice preserver	Oct. 6, 1868.
83,656	Patterson, Andrew, Birmingham, Pa. Harrow teeth	Nov. 3, 1868.
78,994	Patterson, Elias C., Rochester, N. Y. Railroad car jack	June 16, 1868.
79,497	Same.....Grain separator	June 30, 1868.
79,854	Same.....Wire and picket fence	July 14, 1868.
82,744	Patterson, E. G., Pit Hole City, Pa. Railway rail joint	Oct. 6, 1868.
73,033	Patterson, George, Augusta, Mich. Rail set	Jan. 7, 1868.
	Patterson, George W. (*See* Duer, E. A., assignor.)	
81,104	Patterson, J. B., Portage City, Ohio. Compound for preserving eggs	Aug. 18, 1868.
76,099	Patterson, James H., Glens Falls, and Henry B. Northup, Sandy Hill, N. Y. Radiating drum stove	Mar. 31, 1868.
74,123	Patterson, James Willard, assignor to Sarah Ellen Patterson, Cincinnati, Ohio. Culinary vessel	Feb. 4, 1868.
76,514	Patterson, James Willard, and Joseph Stacy Hill, Cincinnati, Ohio. Coffee pot	Apr. 7, 1868.
77,836	Patterson, N. A., Winchester, Tenn. Vote register	May 12, 1868.
75,571	Patterson, S. J., Bridgeport, Conn. Apparatus for leeching bark and other materials	Mar. 17, 1868.
77,086	Same.....Knife for removing the skin from animals	Apr. 21, 1868.
81,530	Patterson, Thomas M., Tarr Farm, Pa. Tool extractor for wells	Aug. 25, 1868.
82,745	Pattison, John, Nevada, Cal. Quicksilver feeder for quartz mills	Oct. 6, 1868.
73,640	Pattison, John E., Thibodeaux, La. Apparatus for treating cane juice with sulphurous acid	Jan. 21, 1868.
83,085	Patton, Alexander G., Troy, N. Y. Cooking stove	Oct. 13, 1868.
83,086	Same.....same	Oct. 13, 1868.
82,026	Patton, Charles W., Exeter, Ill. Wheat drill	Sept. 8, 1868.
76,515	Patton, Garret R., Juda, Wisconsin. Fence post	Apr. 7, 1868.
74,415	Patton, Josiah M., Tipton, Iowa. Beehive	Feb. 11, 1868.
85,328	Patton, Nancy, Kansas, Ill. Composition for preserving eggs	Dec. 29, 1868.
81,202	Patton, Samuel, Chatsworth, Ill. Corn harvester	Aug. 18, 1868.
81,285	Same.....Belt tightener	Aug. 18, 1868.
82,982	Patton, William, Springfield, Mass. Apparatus for dyeing hair	Oct. 13, 1868.
73,752	Patton, William P., assignor to self, Theo. Weaver and Isaac Lloyd, Harris-burg, Pa. Railroad switch	Jan. 28, 1868.
75,453	Patton, William P., assignor to James M. Foster, Harrisburg, Pa. Skate buck-ling tongs	Mar. 10, 1868.
	Paul, Charles R. (*See* Quinn, Patrick, assignor.)	
82,545	Pauley, Jason B., assignor to self and Franklin B. Ives, Tiskilwa, Ill. Feed-power machine	Sept. 29, 1868.
3,167	Paulus, Eugene, Philadelphia, Pa. Top plate for a watch.....(Design)	Aug. 25, 1868.
3,168	Same.....same.....(Design)	Aug. 25, 1868.
83,788	Same.....Watch winding click	Nov. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
74,242	Payne, Charles, Brandon, Vt., and Bennet Vandecar, Waterford, N. Y. Cotton picker	Feb. 11, 1868.
78,124	Payne, Charles B., Bloomington, Ill. Harness buckle	May 19, 1868.
83,787	Same.....Clinton, Ill., Gag swivel	Nov. 3, 1868.
84,574	Payne, Edward, England. Composition for cattle food	Dec. 1, 1868.
77,311	Payne, F. C., New York, N. Y. Folding bed	Apr. 28, 1868.
73,377	Payne, Henry T., and William Ayres, San Francisco, Cal. Finish for painted surfaces	Jan. 14, 1868.
75,454	Payne, Ira T., Chester, Conn. Auger. (Antedated Feb. 28, 1868)	Mar. 10, 1868.
	Payne, N. S. (*See* Porter, Amos, assignor.)	
	Payne, R. W., *et al.* (*See* Rogers, Ephraim P., assignor.)	
80,005	Payne, Thomas, Detroit, Mich. Railroad-station indicator	July 14, 1868.
81,939	Same.....Grand Rapids, Mich. Meat chopper	Sept. 8, 1868.
83,087	Payne, William H., Janesville, Wis. Hames fastener	Oct. 13, 1868.
73,194	Payton, Walter, England. Water meter	Jan. 7, 1868.
73,830	Same.....Lathe for turning irregular curved forms	Jan. 28, 1868.
84,707	Peabody, Cyrus, and Patrick H. Delany, Detroit, Mich. Advertising device	Dec. 8, 1868.
80,563	Peabody, Frederic J., Medford, Mass. Button	Aug. 4, 1868.
76,805	Peabody, Henry O., assignor to the Providence Tool Company, Providence, R. I. Breech-loading fire-arm	Apr. 14, 1868.
81,286	Peabody, Joseph A., Philadelphia Pa. Mortising machine	Aug. 18, 1868.
78,821	Peabody, Rufus H., Chelsea. Mass. Botton-hole stitching machine	June 9, 1868.
	Peabody, R. L. (*See* Kline, Calvin, assignor.)	
	Peabody, Sarah A. T., *et al.* (*See* Remington, Wm. H., assignor.)	
84,575	Peabody, S. G., Champaign, Ill. Cultivator	Dec. 1, 1868.
76,940	Peabody, William B. O., Boston, Mass. Scoring games	Apr. 21, 1868.
81,402	Peace, John, Camden, N. J. Pipe cutter	Aug. 25, 1868.
73,116	Peacock, David L., Rockport, Ind. Shingle machine	Jan. 7, 1868.
76,941	Peacock, George H., Fairport, N. Y. Bag fastener	Apr. 21, 1868.
3,225	Peake, William I., New York, N. Y. Trade mark.....(Design)	Nov. 3, 1868.
81,677	Pearce, John W., Suisun, Cal. Car and track for elevating on incline planes	Sept. 1, 1868.
73,378	Pearce, Shadrack H., Boston, Mass. Case for umbrellas	Jan. 14, 1868.
80,763	Pearce, Stephen T., New York, N. Y. Machine for separating ores and other materials	Aug. 4, 1868.
80,764	Same.....Machine for separating ores and other granular substances	Aug. 4, 1868.
79,680	Pearce, Wesley, McLean County, Ill. Sponge and dough raiser	July 7, 1868.
83,088	Pearl, Adolph, New York, N. Y. Damping apparatus for copying presses	Oct. 13, 1868.
74,416	Pearl, Oliver, Lawrence, Mass. Spinning throstle	Feb. 4, 1868.
79,916	Pearne, B. M., and L. Coville, Oxford, N. Y. Axle box	July 14, 1868.
82,983	Pears, John P., Birmingham, Pa. Manufacture of glass ware	Oct. 13, 1868.
	Pearsall, A. H., *et al.* (*See* Hermance, C. W., assignor.)	
	Pearson, G. A., and R. V. Sallada. (*See* Sallada & Pearson.)	
74,586	Pearson, G. W., Billerica, and D. Coburn, Lowell, Mass. Machine for cutting and separating dye woods	Feb. 18, 1868.
73,379	Pearson, Henry G., New York, N. Y. Mechanical toy	Jan. 14, 1868.
80,997	Pearson, William, Windsor Locks, Conn. Clamp nut	Aug. 11, 1868.
78,392	Pearsons, Harrison C., Perrysburg, Mich. Sun dial	May 26, 1868.
73,546	Pease, C. C., assignor to self, Giles Milks, and S. B. Brininstool, Jamestown, N. Y. Instep stretcher	Jan. 21, 1868.
76,516	Pease, Chester M., Monson, Mass. Roof-staging	Apr. 7, 1868.
	Pease, Dexter E. (*See* Richards, George, assignor.)	
2,893	Pease, F. S., Buffalo, N. Y. Hydro-carbon vapor apparatus.....(Reissue)	Mar. 10, 1868.
82,437	Same.....Reciprocating steam-engine	Sept. 22, 1868.
84,211	Same.....Steam valve	Nov. 17, 1868.
78,822	Pease, Henry, Brockport, N. Y. Coal cook-stove	June 9, 1868.
83,657	Pease, Henry, assignor to self and H. W. Seymour, Brockport, N. Y. Cooking stove	Nov. 3, 1868.
83,996	Pease, Henry A., Hartford, Conn. Manufacture of soap	Nov. 10, 1868.
82,635	Pease, Henry A., assignor to self and Jeremy W. Bliss, Hartford, Conn. Manufacture of soap	Sept. 29, 1868.
	Pease, H. F. (*See* Reany & Cornell, assignors.)	
	Pease, H. F. and W. R., *et al.* (*See* Bailey, Henry, assignor.)	
84,901	Pease, J. W., assignor to self and Leonard and Isaac Willets, Belmont, N. Y. Brick machine	Dec. 15, 1868.
77,087	Pease, Lewis P., McCordsville, Ind. Portable fence	Apr. 21, 1868.
81,203	Pease, O. S., Xenia, Ohio. Seal lock	Aug. 18, 1868.
81,204	Same.....same	Aug. 18, 1868.
	Peaslee, Horace W., Malden Bridge, N. Y. Machine for washing paper stocks. (Extension)	Sept. 29, 1868.
82,157	Peck, Ezra, Chicago, Ill. Plow	Sept. 15, 1868.
	Peck, George B. (*See* Chadwick, John H., assignor.)	
75,455	Peck, John D., Triangle, N. Y. Plow	Mar. 10, 1868.
	Peck, Samuel, & Company. (*See* Gardner, John, assignor.)	
	Same.....same.	
81,403	Peck, Thaddeus, Stratford, Conn. Trace fastener	Aug. 25, 1868.
82,158	Peck, Theodore P., Savannah, Ga. Smoke stack	Sept. 15, 1868
81,816	Peck, Walter, assignor to William Jobes, Seth H. Hills, and Amelia C. Peck, Rockford, Ill. Windmill	Sept. 1, 1868.
77,911	Peckham, George F., Grafton, Ohio. Hair dye and dressing compound	May 12, 1868.
81,678	Peckham, George R., Worcester, Mass. Wheel for animal cages	Sept. 1, 1868.
82,746	Peckham, Jethro and John, Middletown, R. I. Ventilator	Oct. 6, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,312	Peckham, William H., New York, N. Y. Machine for bending rings	Apr. 28, 1868.
82,546	Same.....Finger ring	Sept. 29, 1868.
	Peckover, J., and F. C. Adams. (*See* Adams & Peckover.)	
	Peddie, T. B. (*See* Wakenshaw, Wm., assignor.)	
82,547	Pedrick, John C., Washington, D. C. Combined high and low pressure steam-engine. (Antedated Sept. 17, 1868)	Sept. 29, 1868.
82,027	Pedrick, Joseph B., assignor to self and Joseph F. Gent, Lowell Mills, Ind. Reciprocating steam-engine	Sept. 8, 1868
76,242	Peevy, Joseph, Orono, Maine. Rock drill	Mar. 31, 1868.
81,940	Peffer, Philip, Milroy, Pa. Shaft coupling	Sept. 8, 1868.
	Peirce, I. Newton, and Catharine Maxwell. (*See* Maxwell & Peirce.)	
78,004	Peirce, James M., Mokena, Ill. Blind-slat fastening. (Antedated Apr. 30,1868)	May 19, 1868.
75,787	Peirce, William H., Bangor, Maine. Egg beater	Mar. 24, 1868.
83,307	Peirce, W. N., West Boylston, Mass. Wash boiler	Oct. 20, 1868.
80,006	Peirson, C. C. and G. F., Philadelphia, Pa. Apparatus for condensation of vapor in lard boiling, &c	July 14, 1868.
	Pelisse, Augustus, *et al.* (*See* Griswold, Pelisse & Hook.)	
73,641	Pell, Henry W., Rome, N. Y. Harvester	Jan. 21, 1868.
73,642	Same.....same	Jan. 21, 1868.
73,643	Pelletier, Antonio, Washington, D. C. Barrel and cask for containing oils, &c	Jan. 21, 1868.
74,587	Same.....Composition for manufacturing stone, and for other purposes	Feb. 18, 1868.
76,806	Same.....Cement for coating wood, &c	Apr. 14, 1868.
77,705	Same.....Cement for roofing, artificial stone, coating iron, wood, &c	May 5, 1868.
	Same.....(*See* Smoot, W. G., assignor.)	
	Same.....(*See* Ott, Adolph, assignor.)	
	Same.....same.	
77,088	Pellett, John J., Oconomowoc, Wis. Gate	Apr. 21, 1868.
76,517	Pelton, William N., New London, Conn. Connecting link	Apr. 7, 1868.
75,964	Pember, Henry H., New York, N. Y. Hanging rudders	Mar. 24, 1868.
78,823	Same.....Boiling kettle	June 9, 1868.
78,005	Pemberton, Henry, Alleghany City, Pa. Manufacture of sulphate of alumina	May 19, 1868.
82,747	Same.....Porous alum	Oct. 6, 1868.
	Pence, W. H., and S. H. Cox. (*See* Cox & Pence.)	
73,993	Pender, John. Let-off and take-up for looms	Feb. 4, 1868.
85,473	Pendergast, T., St. Louis, Mo. Pole for horse cars	Dec. 29, 1868.
78,995	Pendexter, Benjamin P., assignor to self and George W. Horner, Minot, Maine. Machine for sharpening saws	June 16, 1868.
	Pendleton, John M., *et al.* (*See* Bishop, Pendleton & Aiken.)	
79,773	Penington, Philip, Union City, Ind. Churn	July 7, 1868
76,243	Penning, Mathias, Leavenworth City, Kansas. Plow	Mar. 31, 1868
78,824	Pennington, L. D., and J. G. Woodfill, Vernon, Ind. Horse rake	June 9, 1868.
	Pennock, O. H. and Ira G. W. (*See* Hammond, Everett C., assignor.)	
75,698	Pennoyer, George, New York, N. Y. Thill coupling	Mar. 17, 1868.
80,365	Pennoyer, Hobart D., Athens, N. Y. Auger handle	July 28, 1868.
	Penny, John H., and Jacob J. Wright. (*See* Wright & Penny.)	
84,212	Pentz, Levi, Canton, Ohio. Thill coupling	Nov. 17, 1868.
3,014	Pepper, Daniel W., assignor to N. G. Taylor & Co., Philadelphia, Pa. Fireman's stove.....(Design)	May 5, 1868.
	Pepper, John, Lake Village, N. H. Circular knitting machine..(Disclaimer filed)	Dec. 3, 1868.
	Same.....Gilford, N. H. Circular knitting machine.....(Extension)	Dec. 4, 1868.
76,809	Pepper, T. W., New York, N. Y. Sewing machine	Apr. 14, 1868.
81,205	Percival, E. F., and N. S. True, Hammonton, N. J. Fruit basket	Aug. 18, 1868.
82,028	Percival, George Gilman, Philadelphia, Pa. Apothecaries' label	Sept. 8, 1868.
78,321	Percival, Thomas, Augusta, Me. Corn husker	May 26, 1868.
	Perdue, O. B., *et al.* (*See* Nock, E. B., assignor.)	
84,374	Perfater, G. S., Camp Point, Ill. Root cutter	Nov. 24, 1868
80,210	Perham, John, Rockton, Ill. Stove pipe shelf	July 21, 1868.
	Perkins, Alfred T., and Nehemiah Waterman. (*See* Waterman & Perkins.)	
	Perkins, Belmont, and Andrew M. Leonard. (*See* Leonard & Perkins.)	
74,936	Perkins, B. B., Chestertown, Md. Combined boiler and hot air register	Feb. 25, 1868
82,870	Perkins, B. F., Holyoke, Mass. Globe valve for steam-engines	Oct. 6, 1868.
76,518	Perkins, Charles B., assignor to self and Barnabas Burseley, Kenduskeag, Me. Horse rake	Apr. 7, 1868.
75,456	Perkins, Charles H., Providence, R. I. Forming horseshoe blanks	Mar. 10, 1868.
78,892	Same.....Construction of toe calks for horseshoes	June 16, 1868.
82,159	Perkins, P., Fond du Lac, Wis. Metallic shutter	Sept. 15, 1868
	Perkins, F. B., and E. J. Smith. (*See* Smith & Perkins.)	
77,313	Perkins, F. J., Salem, Mass. Button	Apr. 28, 1868
81,531	Perkins, George B., Utica, N. Y. Floor clamp	Aug. 25, 1868.
75,047	Perkins, George F., New York, N. Y. Collar and neck-tie combined	Mar. 3, 1868
77,651	Perkins, George F., and S. F. Gibbs. Door fastener	May 5, 1868
82,636	Perkins, Howard, assignor to self and Benjamin S. Leonard, Mansfield, Mass. Portable adjustable elastic seat	Sept. 29, 1868
80,304	Perkins, Jesse S., Lake Village, N. H. Machine for making knitting-machine needle shanks	July 28, 1868
78,538	Perkins, John B., and Ai Colburn, Hollis, N. H. Seed-sowing machine	June 2, 1868
76,244	Perkins, John M., Plainfield, N. J. Compound fabric for covering walls, &c	Mar. 31, 1868.
76,342	Perkins, John M., assignor to R. R. Perkins, Plainfield, N. J. Aromatic lining for carpets, chests, drawers, wardrobes, &c	Apr. 7, 1868
82,438	Same.....Fruit box	Sept. 22, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Perkins, Livingston & Post. (*See* Durand, John, assignor.)	
	Perkins, M. R., and John V. Bogert. (*See* Bogert & Perkins.)	
79,593	Perkins, Osker C., and John R. Richards, assignors to selves and Joseph H. Ferguson, Mt. Joy, Pa. Clothes-line holder	July 7, 1868.
78,125	Perkins, William, and George Granger Tandy, England. Material for insulating telegraph conductors	May 19, 1868.
82,871	Perl, M., Houston, Texas. Mode of preserving meat	Oct. 6, 1868.
75,048	Perley, Charles, New York, N. Y. Shoe	Mar. 3, 1868.
75,049	Pernot, Hypolite, New York, N. Y. Billiard cue trimmer	Mar. 3, 1868.
	Perpente, John, and Charles A. Flesche. (*See* Flesche & Perpente)..(Design.)	
82,029	Perrie, William B., Horse Head, Md. Martingale	Sept. 8, 1868.
	Perrigo, Lyman, and Isaac Starks. (*See* Starks & Perrigo).....(Extension.)	
72,254	Perrin, Abram, assignor to self, Charles L. Rowand, George S. Solden, and Marmaduke Moore, Cleveland, Ohio. Car coupling	June 23, 1868.
78,760	Perrin, J. D., and Joseph Saunders, Brooklyn, N. Y. Retort for concentrating sulphuric acid	June 9, 1868.
	Perrine, G. W. (*See* Hoekert, S. L., assignor.)	
	Perry, Albert D., and Alonzo T. Boon. (*See* Boon & Perry.)	
74,588	Perry, Benjamin P., Richmond, Ind. Head block for saw mills	Feb. 18, 1868.
81,523	Perry, Charles W., Providence, R. I. Well curbing	Aug. 25, 1868.
84,964	Perry, D. W., assignor to self and O. K. Moore, Wilkesbarre, Pa. Tool for cutting moulding	Dec. 15, 1868.
85,395	Perry, Edward L., New York, N. Y. Hose	Dec. 29, 1868.
3,025	Perry, Eli, Baldwinsville, N. Y. Pump.....(Reissue)..	July 7, 1868.
77,314	Perry, Edward L., New York, N. Y. Gas tube	Apr. 28, 1868.
	Perry, E. L. (*See* Manhoim, Charles, assignor.)	
74,417	Perry, Georgo, Georgetown, Conn. Mode of cultivating grape vines	Feb. 11, 1868.
82,548	Perry, Georgo W., Shenandoah City, Pa. Steam pumping engine	Sept. 29, 1868.
84,755	Perry, G. W., and J. D. Billings, Wilmington, Del. Seat for railway cars	Dec. 8, 1868.
84,756	Same.....Door rotainer	Dec. 8, 1868.
79,385	Perry, Horatio O., Buffalo, N. Y. Feed water heater for boilers. (Antedated June 16, 1868)	June 30, 1868.
78,231	Perry, James, Brooklyn, N. Y. Combined oven and bath	May 26, 1868.
78,232	Same.....Apparatus for apportioning, expanding, and shaping dough for the manufacture of bread	May 26, 1868.
	Perry, Jerome, and W. F. Higgins. (*See* Higgins & Perry.)	
75,965	Perry, John G., Kingston, R. I. Sausage filler	Mar. 24, 1868.
75,966	Same.....same	Mar. 24, 1868.
83,308	Same.....Moat cutter	Oct. 20, 1868.
	Same.....(*See* Glover, Charles W., assignor).....(Reissue.)	
	Same.....same.....(Reissue.)	
77,520	Perry, J. R. and D. W., Wilkesbarre, Pa. Railroad car truck	May 5, 1868.
79,594	Perry, John S., assignor to John S. Perry, trustee and executor, and Nathan B. Perry, Albany, N. Y. Base-burning stove	July 7, 1868.
	Perry, John S., trustee and executor, and N. B. Perry. (*See* Spitzmiller, Ambrose, assignor.)	
85,124	Perry, John S., and James Easterly, Albany, N. Y. Magazine cook stove	Dec. 22, 1868.
74,716	Perry, Oliver and Clark, Ortonville, Mich. Gate	Feb. 18, 1868.
77,756	Perry, Samuel, assignor to self and John L. Coulborn, Seaford, Del. Lifting jack.	May 12, 1868.
	Perry, Samuel, *et al.* (*See* Murrell, John W., assignor.)	
84,301	Perry, William G., Manchester, N. H. Machine for producing weavers' cut marks	Nov. 24, 1868.
	Pershing, John F. (*See* Ames, D. S., assignor.)	
84,757	Pershing, H. W., Centralia, Ill. Wagon box	Dec. 8, 1868.
	Same.....(*See* Parker, Hiram, assignor.)	
78,322	Pertuiset, E., Auguste Mundel, and Jean Etiene Armido de Fleron, France. Igniting explosive projectiles	May 26, 1868.
	Peter, W. T., and R. A. Carson. (*See* Carson & Peter.)	
73,380	Peters, G. M., Lancaster, Ohio. Dropping platform for harvesters	Jan. 21, 1868.
81,941	Same.....Dropper for harvesters	Sept. 8, 1868.
84,133	Peters, G. M. and A. L., Lancaster, Ohio. Droppor for harvesters	Nov. 17, 1868.
	Peters, Theodore H., *et al.* (*See* Lazell, Edwin E., assignor.)	
79,386	Peterson, J. B., Brooklyn, (E. D.,) N. Y. Machine for mixing flour, &c	June 30, 1868.
78,825	Peterson, Nelson, and Georgo W. Jones, Antioch, Cal. Forging apparatus	June 9, 1868.
	Peterson, Peter M., *et al.* (*See* Hunt & Wright, assignors.)	
	Same.....samo.	
76,519	Petrie, A. S., Hudson City, N. J. Wrench	Apr. 7, 1868.
	Petrie, Henry I. (*See* Owens, John A., assignor.)	
74,937	Petsch, Julius, Prussia; and Stephen N. Buynitzki, Russia. Coffee-making apparatus	Feb. 25, 1868.
	Pettengill, D., and William W. Gordon. (*See* Gordon & Pettengill.)	
	Pettibone, R. J., and Benjamin Garvin. (*See* Garvin & Pettibono.)	
73,644	Pettierew, David, Westville, Ohio. Garden plow	Jan. 21, 1868.
82,242	Pettijohn, William C., St. Louis, Mo. Lime kiln	Sept. 15, 1868.
	Pettingell, William, administrator of J. F. Single. (*See* Single, J. F.)	
	Pettit, C. H., and N. L. Chappell. (*See* Chappell & Pettit.)	
	Pfafflin, Matthew. (*See* Nairn, John, assignor.)	
78,605	Pfau, Jacob, Cincinnati, Ohio. Manufacturing fruit can bodies	June 2, 1868.
	Pfeifer, John. (*See* Fallows, James, assignor.)	
76,343	Pfeil, John C., Arenzville, Ill. Rotary cutter for plows	Apr. 7, 1868.
78,996	Pfleegor, L. H., Milton, Pa. Safety hook	June 16, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75,699	Pfleghar, F. P.. New Haven, Conn. Brace for bits	Mar. 17, 1868
82,372	Pfrimmer, Jacob S., Lanesville, Ind. Wagon brake	Sept. 22, 1868
77,521	Pfrimmer, William H., Lanesville, Ind. Measuring and registering grain	May 5, 1868
76,655	Phelan, William, Peoria, Ill. Condenser	Apr. 14, 1868
83,309	Same.....same	Oct. 20, 1868
84,758	Phelps, E. B., New York, N. Y. Gridiron	Dec. 8, 1868
80,998	Phelps, George W., Conneaut, Ohio. Bolt holder	Aug. 11, 1868
73,994	Phelps, Harvey and Alvah, Albany, N. Y. Apparatus for separating soap bars	Feb. 4, 1868
	Phelps, Wallace, and Abram Shoemaker. (*See* Shoemaker & Phelps.)	
83,789	Phelps, William, jr., Salem, Mass. Blind fastener	Nov. 3, 1868
78,997	Phelps, W. E., Elmwood, Ill. Corn marker	June 16, 1868
83,727	Same.....Combined seeder and harrow	Nov. 3, 1868
77,757	Phelps, W. H., Boston, Mass. Suspensory bandage	May 12, 1868
79,498	Phelps, William J., Springfield, Mass. Ticket punch	June 30, 1868
	Phelps, William M., and A. R. Ball. (*See* Ball & Phelps.)	
76,245	Phetoplace, David, Lewiston, Maine. Varnish for the surface of rolls used in textile machinery	Mar. 31, 1868
79,387	Phifer, Edward, Trenton, N. J. Cultivator. (Antedated June 16, 1868)	June 30, 1868.
	Philadelphia Wood and Hollow Ware Manufacturing Company. (*See* Tingley, John, assignor.)	
73,922	Philbrick, Warren C., Lynn, Mass. Composition for kindling fire	Jan. 28, 1868
	Philip, George W. (*See* Houghtaling, Ambrose L., assignor.)	
78,126	Philippi, A., Elizabethport, N. J.,, Railway switch plate	May 19, 1868.
79,855	Philips, David, Cordova, Ill. Wagon brake	July 14, 1868.
82,344	Same.....same	Sept. 22, 1868.
	Philips, Alfred, *et al.* (*See* Vander Weyde, P. H., assignor.)	
	Phillips, Charles E., and John Hyslop, jr. (*See* Hyslop & Phillips.)	
83,658	Phillips, C. T., Jordan, N. Y. Smut mill	Nov. 3, 1868.
74,124	Phillips, Ezekiel, and Henry C., assignor to selves and Daniel B. Pond, Blackstone, Mass. Picker-staff check for looms	Feb. 4, 1868.
84,576	Phillips, George, Cadet, Mo, Rock drill	Dec. 1, 1868.
76,808	Phillips, George B., assignor to Alexander G. Hues, Poughkeepsie, N. Y. Mortising machine	Apr. 14, 1868.
83,790	Phillips, George H., Troy, N. Y. Reservoir cooking stove	Nov. 3, 1868.
	Phillips, Henry D., jr., and Ephraim R. Green, (*See* Green & Phillips.)	
81,105	Phillips, Henry F., and Henry W. Leonard, Auburn, N. Y. Machine for grinding the cutters of mowing machines	Aug. 18, 1868.
80,211	Phillips, John, jr., Georgetown, Mo. Washing machine	July 21, 1868.
73,034	Phillips, Joshua L., Washington County, Miss. Cotton-bale tie	Jan. 7, 1868.
	Phillips, Luke, and Franklin A. Deland. (*See* Deland & Phillips.)	
78,478	Phillips, M. E., assignor to self, Paul and George Wetzel, Lena, Ill. Table and quilting frame	June 2, 1868.
80,498	Phillips, Nathan M., New York, N. Y. Tag fastening. (Antedated July 18, 1868)	July 28, 1868.
75,572	Phillips, Philetus, Matteawan, N. J. Musical notation	Mar. 17, 1868.
	Phillips, P., and L. L. Rinehart. (*See* Rinehart & Phillips.)	
73,923	Phillips, Thomas J., Washington, D. C. Tool for opening barrels	Jan. 28, 1868.
80,660	Phillips, W. A., Perry Center, N. Y. Compound for destroying insects on plants	Aug. 4, 1868.
77,403	Phinney, Hugh M., Cambridgeport, Mass. Register	Apr. 28, 1868.
	Phreaner, Daniel, *et al.* (*See* Reakirt, John, assignor.)	
74,125	Pickens, William, Chicago, Ill. Bolt feeder and cooler	Feb. 4, 1868.
	Pickering, Daniel N. (*See* Barden, John S., assignor.)	
	Same.....same.	
84,508	Pickering, James, New Hope, Pa. Bench vise	Dec. 1, 1868.
84,577	Pickering, Jonathan, England. Apparatus for raising weights	Dec. 1, 1868.
	Pickernell, Albert, *et al.* (*See* Wright, Horace H. W., assignor.)	
81,679	Pickersgill, Wm. C., Providence, R. I. Boiler feeder	Sept. 1, 1868.
81,942	Pickett, Darius G., Stockton, N. Y. Grass-seed sower	Sept. 8, 1868.
74,418	Pickett, O. E., North Auburn, and R. S. Luce, Lowville Center, Pa. Fire and burglar alarm	Feb. 11, 1868.
73,924	Picket, Rufus S., New Haven, Conn. India-rubber soles	Jan. 28, 1868.
80,833	Picot, Leonce, Hoboken, N. J. Comb	Aug. 11, 1868.
2,841	Pierce, Bradford S., New Bedford, Mass., and Mason R., Woodstock, N. Y. Machine for making drain pipes .....(Reissue)	Jan. 14, 1868.
	Pierce, Bradford S., and Charles M., New Bedford, Mass., Mold for cement or earthen tubes .....(Extension)	July 29, 1868.
75,050	Pierce, C. E., St. Charles, Ill. Fire heater	Mar. 3, 1868.
73,117	Pierce, Charles W., Albany, N. Y. Friction roller	Jan. 7, 1868.
	Pierce, Crawford and Joseph R. (*See* Lothrop, Henry O., assignor.)	
74,126	Pierce, Dennis, Waverly, Iowa. Pattern for draughting sleigh bodies	Feb. 4, 1868.
73,035	Pierce, D. C., Clayton, N. Y. Anchor. (Antedated Dec. 28, 1867)	Jan. 7, 1868.
73,036	Same.....same. (Antedated Dec. 25, 1867)	Jan. 7, 1868.
74,717	Pierce, Elijah S., Hartford, Conn. Apparatus for conveying screw blanks	Feb. 18, 1868.
75,051	Same.....Connecting rod	Mar. 3, 1868.
81,404	Same.....Apparatus for feeding screw blanks	Aug. 25, 1868.
79,079	Pierce, George H., and Martin T. Glimsetal, Mineral Point, Wis. Extension trestle or horse	June 23, 1868.
78,893	Pierce, George Willis, Boston, Mass. Umbrella	June 16, 1868.
75,573	Pierce, John W., Millbury, Mass. Mowing machine	Mar. 17, 1868.
83,879	Pierce, Joseph J., Maquoketa, Iowa. Wagon brake	Nov. 10, 1868.
77,315	Pierce, M., Winona, Minn. Clothes wringer	Apr. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,007	Pierce, Samuel, Boston, Mass. Base-burning stove	July 14, 1868
80,661	Pierce, S. B., Homer, N. Y. Fence. (Antedated July 29, 1868)	Aug. 4, 1868
73,645	Pierce, Samuel B. and Pembroke, Homer, N. Y. Concrete roofing	Jan. 21, 1868
83,310	Piercy, James T,, Mechaniesburg, Ohio. Ironing table	Oct. 20, 1868
	Pierrez, Gustavus. (*See* White, Gilbert, assignor.)	
73,995	Pierson, Albert C., Rahway, N. J. Calculating machine	Feb. 4, 1868
74,718	Pierson, Isaac, Hartford, Conn. Window sash fastener	Feb. 18, 1868
78,127	Pierson, J. S., Brooklyn, N. Y. Machine for cutting and stamping soap	May 19, 1868
85,125	Pietsch, Herman, New York, N. Y. Cooler for water, milk, and other liquids	Dec. 22, 1868
3,201	Pigeon, Narcisse, Brooklyn, N. Y. Manufacture of starch sugar (Reissue)	Nov. 17, 1868
78,323	Piguet, L. V., New York, N. Y. Watch	May 26, 1868
	Pike, Emery M., and William Smith. (*See* Smith & Pike.)	
80,874	Pike, O. M., assignor to self and S. S. Graves, North Leverett, Mass. Water wheel	Aug. 11, 1868
85,396	Pike, Ozi M., assignor to self, Wendell T. Davis, and Austin DeWolf, Leverett, Mass. Machine for cutting vitreous substances	Dec. 29, 1868
73,381	Pike, William G., Philadelphia, Pa. Valve for steam-engines	Jan. 14, 1868.
81,287	Piland, Anderson H., and Andrew H. Turner, Indianapolis, Ind. Stock pump	Aug. 18, 1868
73,037	Pilkington, Joseph, Frankford, Pa. Picker motion for looms	Jan. 7, 1868.
73,831	Pillard, Oliver E., assignor to Frederic H. North, New Britain, Conn. Permutation lock	Jan. 28, 1868.
75,967	Same.....Permutation lock	Mar. 24, 1868.
79,388	Same.....same	June 30, 1868.
82,032	Same.....Adjustable tumbler for permutation locks	Sept. 8, 1868.
78,826	Pillings, George T., assignor to self and John W. Massey, England. Shade fixture	June 9, 1868.
84,965	Pinckard, F., New Orleans, La. Sanitary brace to keep the mouth closed during sleep	Dec. 15, 1868
75,052	Pine, Benjamin, assignor to Charles E. Hartshorn, New York, N. Y. Extension ladder	Mar. 3, 1868
75,968	Pine, George, assignor to self and E. R. Cook, Trenton, N. J. Napkin ring and salt cup combined	Mar. 24, 1868.
2,927	Pine, Robert G., assignor to Emanuel Andrews, Williamsport, Pa. Machine for polishing buckles (Reissue)	May 12, 1868
	Pine, William E., and George A. Mandeville. (*See* Mandeville & Pine.)	
	Pinkerton, Jacob. (*See* Caldwell, A. B., assignor.)	
78,479	Pinnell, Isaac A., Booneville, Mo. Nail extractor	June 2, 1868.
83,539	Pinner, M., Buffalo, N. Y. Roofing compound	Oct. 27, 1868.
	Pinney, Russel W. and Forrest L. (*See* Adams, Abel A., assignor.)	
	Pintard, H. A., and Jane Quantin, administrators of Alphonse Quantin, deceased. (*See* Quantin, Alphonse) (Reissue.)	
78,606	Piper, Enoch, Camden, Me. Refrigerator	June 2, 1868.
76,309	Piper, Truman, assignor to the Howe Manufacturing Company, Birmingham, Conn. Pin book	Apr. 14, 1868.
77,912	Pipe, Truman, and E. F. Bradley, assignors to the Howe Manufacturing Company, Birmingham, Conn. Machine for sticking pins	May 12, 1868.
75,788	Pipo, J. A., and W. Walbaum, Hoboken, N. J. Shutter fastening	Mar. 24, 1868.
83,540	Piquet, H. E., France. Machine for shuffling and dealing cards	Oct. 7, 1868.
74,127	Pirz, Anthony and Mannel, New York, N. Y. Station indicator	Feb. 4, 1868.
80,212	Pitcher, Leman B., Salina, N. Y. Shafting	July 21, 1868.
77,758	Pitcher, Samuel, Barnstable, Mass. Medicine	May 12, 1868.
	Pitt, John W. (*See* Hall, William, assignor.)	
85,126	Pitt, William H., Philadelphia, Pa. Safety bathing apparatus	Dec. 22, 1868.
	Pitts, James, Clinton, Mass. Cotton picker cylinder (Extension)	Feb. 11, 1868.
	Pitts, John A., deceased, by James Brayley and Mary Pitts, administrators, Buffalo, N. Y. Horse power (Extension)	July 3, 1868.
82,243	Pitts, S. G., assignor to self and Wilford L. Palmer, Leominster, Mass. Machine for forming buttons	Sept. 15, 1868.
74,844	Place, George, New York, N. Y. Snow plow	Feb. 25, 1868.
	Place, George and Charles. (*See* Hayes, Newman, assignor) (Reissue.)	
73,460	Plaisted, Caleb, Kenoekee, Mich. Hay raker and loader	Jan. 21, 1868
73,925	Plaisted, Charles C., Hartford, Conn. Window screen	Jan. 28, 1868
79,255	Plant, Amzi P., and Amos Shepard, Plantsville, Conn. Machine for forging nuts	June 23, 1868.
2,973	Plant, Paseal, assignor, through mesne assignments, to Hudson Taylor, trustee, Washington, D. C. Lamp (Division A, reissue)	June 9, 1868.
2,974	Same.....same (Division B, reissue)	June 9, 1868.
	Plantz, W. A. (*See* Chapman, G. W., jr., assignor.)	
82,244	Plass, John T. and Reuben H., New York, N. Y. Apparatus for carbureting air	Sept. 15, 1868.
78,607	Platt, Anson H., Philadelphia, Pa. Lamp burner	June 2, 1868.
	Platt, Anson H., and Eli Slater. (*See* Slater and Platt.)	
83,541	Platt, Cornelius, New Haven, Conn. Chair seat	Oct. 27, 1868.
78,998	Platt, David B., Madison, Ind. Combined harrow, drill, planter, and roller	June 16, 1868.
80,875	Platt, Edwin A. and George, assignors to selves and Linus Wilcox, East Hartford, Conn. Well tube	Aug. 11, 1868.
	Platt, James L. (*See* Kerr, Edwin R., assignor.)	
85,127	Platt, N. M., North Fairfield, Ohio. Gate	Dec. 22, 1868.
82,549	Platt, William, Baltimore, Md. Shaft-bearer	Sept. 29, 1868.
77,210	Player, John, England. Manufacture of balls, blooms, and slabs of malleable iron	Apr. 28, 1868.
79,681	Same.....New York, N. Y. Manufacture of iron from titaniferous iron ores	July 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,160	Playle, E. R., Great Bend, Pa. Furnace for melting steel, iron, &c	Sept. 15, 1868.
75,191	Plum, Thomas W., England. Syphon faucet	Mar. 3, 1868.
75,969	Plumb, S. H., Davenport, Iowa. Automatic feeder and cut-off for cisterns	Mar. 24, 1868.
83,089	Plumbly, F. K., Buffalo, N. Y. Planing machine	Oct. 13, 1868.
79,682	Plummer, Frank J., assignor to R. Ball & Company, Worcester, Mass. Circular saw mill	July 7, 1868.
79,856	Plummer, Hiram, assignor to self and William E. Doubleday & Company, Brooklyn, N. Y. Sewing-machine	July 14, 1868.
80,876	Plummer, Osgood, and James Schofield, Worcester, Mass. Mechanism for operating harness in looms	Aug. 11, 1868.
81,680	Plummer, Roswell, Brooklyn, N. Y. Quartz mill	Sept. 1, 1868.
	Plummer, S. A. (*See* Marable, T. E., assignor.)	
74,589	Plympton, G. M., New York, N. Y. Carriage step	Feb. 18, 1868.
82,345	Poage, C. H., Perry, Mo. Horse rake	Sept. 22, 1868.
84,134	Poché, S. A., St. James Parish, La. Apparatus for evaporating cane juice	Nov. 17, 1868.
74,590	Pohl, Anthony, Detroit, Mich. Brick and mortar elevator	Feb. 18, 1868.
77,089	Pohl, Richard, assignor to Oswald Unger, Port Huron, Mich. Skate	Apr. 21, 1868.
77,316	Pohle, Charles R. M., Richmond, Va. Envelope	Apr. 28, 1868.
84,840	Same.....same	Dec. 8, 1868.
73,832	Poirel, Auguste, assignor to self and Pierre Bernard, New York, N. Y. Boiler scraper	Jan. 28, 1868.
	Poland, William, and Thomas J. Rowley. (*See* Rowley & Poland.)	
83,659	Pole, Benjamin C., assignor to self and George F. McLellan, Richmond, Va. Butt hinge	Nov. 3, 1868.
2,954	Polhamus, John, New York, N. Y. Handle of a fork or spoon.....(Design)	Mar. 17, 1868.
73,038	Pollard, William H., assignor to Downs & Company's Manufacturing Company, Seneca Falls, N. Y. Pump valve	Jan. 7, 1868.
78,128	Polley, Clark, Sinking Spring, Ohio. Mole trap	May 19, 1868.
82,748	Polley, Starr, Brooklyn, N. Y. Machine for stretching and blocking hats	Oct. 6, 1868.
83,660	Pollock, John, and Theodore J. Diedrich, Philadelphia, Pa. Manufacture of metal cans	Nov. 3, 1868.
79,499	Pollock, Julius, Morrisania, N. Y. Purifying wood spirits	June 30, 1868.
75,574	Pollock, J. W., Cross Bridges, Tenn. Wagon-hub, axle, and box	Mar. 17, 1868.
	Pomeroy, D. R. (*See* David, V. R., assignor.)	
	Pomeroy, E. C., *et al.* (*See* Meyers, Nicholas, assignor.)	
	Pomeroy, Emerson C., and Edward L. Chamberlayne. (*See* Meyers, Nicholas, assignor.)	
	Same.....same.	
3,006	Pomeroy, Noah, Hartford, Conn. Clock case.....(Design)	Apr. 21, 1868.
3,154	Pomeroy, Norman W., assignor to Edward Miller, Meriden, Conn. Lubricator. (Reissue)	Oct. 6, 1868.
81,533	Pomeroy, William, Brooklyn, N. Y. Hernia pad. (Antedated Aug. 15, 1868)	Aug. 25, 1868.
	Pond, Daniel B. (*See* Phillips, Ezekiel and Henry C., assignors.)	
80,662	Pond, Henry E., Franklin, Mass. Carriage and curtain fastener	Aug. 4, 1868.
73,996	Pond, Joseph F., Cleveland, Ohio. Washing machine	Feb. 4, 1868.
80,663	Pond, Levi W., assignor to self and the Eau Claire Lumber Company, Eau Claire, Wis. Device for shearing booms	Aug. 4, 1868.
74,243	Pond, Martin W., jr., and Alexander T. Ballantine, Titusville, Pa. Wedge buckle	Feb. 11, 1868.
	Pond, Moses, & Company. (*See* Highton, Wm., assignor.)	
	Same.....(*See* Albee, James, assignor.)	
75,575	Pond, O. M., Independence, Iowa. Combined seeding machine and cultivator	Mar. 17, 1868.
83,542	Ponsard, A., France. Furnace for the manufacture of iron and steel	Oct. 27, 1868.
78,006	Ponton, John, assignor to self and Jacob F. Hayen, Buffalo, N. Y. Gas apparatus	May 19, 1868.
73,382	Pool, J. F., Monroe, Wis. Separator	Jan. 14, 1868.
81,206	Same.....Beehive	Aug. 18, 1868.
81,288	Same.....Grain separator	Aug. 18, 1868.
81,534	Poole, H., Richmond, Ind. Culinary vessel	Aug. 25, 1868.
73,753	Poole, Henry Ward, South Danvers, Mass. Enharmonic key-board for organs, &c	Jan. 28, 1868.
79,683	Poole, J. Morton, assignor to self, William T. Porter, and Thomas S. Poole, Wilmington, Del. Machine for turning cylinders	July 7, 1868.
74,419	Poole, O., Detroit, Mich. Culinary boiler	Feb. 11, 1868.
3,233	Poole, Robert, Baltimore, Md. Machine for rubbing and mixing paint, chemicals, fertilizers, &c .....(Reissue)	Dec. 15, 1868.
77,837	Pooler, Charles T., Deansville, N. Y. Perpetual calendar	May 12, 1868.
74,719	Pooley, Henry and Henry, jr., Thomas Roberts, and Louis Luc, England. Grain-weighing machine	Feb. 18, 1868.
77,317	Pope, Alexander, jr., Dorchester, Mass. Device for preventing horses from dragging weights	Apr. 28, 1868.
	Pope, F. W., *et al.* (*See* Blood & Pope.)	
78,324	Pope, M. H., Susquehanna Depot, Pa. Horse hay fork	May 27, 1868.
	Pope, Samuel W. (*See* Wiard, Edward, assignor.)	
81,681	Poppe, John, Green Point, N. Y. Pump	Sept. 1, 1868.
	Poppenhusen, Hermann, and George Achelis. (*See* Achelis & Poppenhusen.)	
74,770	Porter, Amos, assignor to self and N. S. Payne, Charlestown, Mass. Coal hod and screen	Feb. 25, 1868.
85,128	Porter, A. A., Griffin, Ga. Cotton gin	Dec. 22, 1868.
81,405	Porter, Benjamin, assignor to self, John George, Thomas E. Lusk, Alfred E. and Oscar Vandercook, Jackson, Mich. Brick mould safety guard	Aug. 25, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
83,406	Porter, D'Arcy, assignor to self and Thomas H. White, Cleveland, Ohio. Tension device for sewing machines	Oct. 27, 1868.
75,192	Porter, D. H., Bridgeport, Conn. Pivoting teeth	Mar. 3, 1868.
74,420	Porter, E. N., and P. P. Roberts, Morrisville, Vt. Potato washer	Feb. 11, 1868.
80,664	Same.....Swift or reel	Aug. 4, 1868.
	Porter, Henry E., and William Gray. (*See* Gray & Porter.)	
75,193	Porter, Henry G., Grand Rapids, Mich. Hay elevator	Mar. 3, 1868.
79,917	Porter, J. F., and A. Norton, Tidioute, Pa. Gang plow	July 14, 1868.
3,120	Porter, James S., and Russell, Waterford, N. Y. Alarm lock.....(Reissue)	Sept. 15, 1868.
74,244	Porter, Robert, Philadelphia, Pa. Vent for sheet metal cans	Feb. 11, 1868.
	Same.....(*See* Hickey, Patrick, assignor.)	
	Porter. S. W. (*See* Cranston, James F., assignor.)	
75,970	Porter, T. W., Boston, Mass. Belt clasp	Mar. 24, 1868.
78,827	Same.....Shaft coupling	June 9, 1868.
79,971	Porter, T. W., assignor to self and Charles L. Marston, Boston, Mass. Sleigh	Mar. 24, 1868.
75,972	Same.....Express wagon	Mar. 24, 1868.
75,973	Porter, T. W. and H. K., assignors to selves and Charles L. Marston, Boston, Mass. Carriage	Mar. 24, 1868.
85,129	Porter, T. W. and H. K., Boston, Mass. Shawl and blanket strap	Dec. 22, 1868.
	Porter, William, Williamsburg, N. Y. Securing lamps to lanterns.(Extension)	Oct. 22, 1868.
81,682	Porter, William B., Plattsmouth, Neb. Iron pier	Sept. 1, 1868.
	Porter, William E. (*See* McCarty, James C., assignor.)	
75,457	Porter, William P., Pittsburg, Pa. Machine for rolling axles	Mar. 10, 1868.
84,902	Porter, William S., Boston, Mass. Button-hole cutter	Dec. 15, 1868.
79,080	Porter, William T., Wilmington, Del. Device for stopping and starting calender rolls	June 23, 1868.
	Porter, William T., *et al.* (*See* Poole, J. Morton, assignor.)	
84,759	Porterfield, D. A., New Paris, Ohio. Wash boiler	Dec. 8, 1868.
74,128	Portlock, Warren, Pleasant Grove, and John H. Smith, Toolesborough, Iowa. Floor clamp	Feb. 4, 1868.
83,661	Portlock, Warren, and J. R. Dodds, New London, Iowa. Railway car brake	Nov. 3, 1868.
80,499	Portner, Louis, Chicago, Ill. Reflector	July 28, 1868.
81,406	Post, Andrew J., Hudson City, N. J. Bridge	Aug. 25, 1868.
81,817	Same.....same	Sept. 1, 1868.
84,302	Post, Charles C., Hinesburg, Vt. Sap spile	Nov. 24, 1868.
78,999	Post, Frederick, Plano, Ill. Scraper	June 16, 1868.
81,535	Same.....Water wheel	Aug. 25, 1868.
83,311	Same.....Pulverizing land roller	Oct. 20, 1868.
81,536	Post, Henry A. V., Cincinnati, Ohio. Spring	Aug. 25, 1868.
74,129	Post, John W., Castile, N. Y. Skate	Feb. 4, 1868.
74,421	Same.....Skate	Feb. 11, 1868.
78,480	Poth, Henry, Pittsburg, Pa. Wheel	June 2, 1868.
81,943	Same.....Wheel for vehicles	Sept. 8, 1868.
79,918	Pototsky, Augustus, assignor to Fisk, Clark & Flagg, New York, N. Y. Buckle for suspenders	July 14, 1868.
85,474	Potter, Albert J., Omaha, Neb. Farm gate	Dec. 29, 1868.
	Potter, Alonzo, and James D. Bryson. (*See* Bryson & Potter.)	
73,646	Potter, A. H., Williamsburg, N. Y. Chronometer escapement	Jan. 21, 1868.
73,195	Potter C., jr., Westerly, R. I. Printing press	Jan. 7, 1868.
73,196	Same.....Feed gauge for printing presses	Jan. 7, 1868.
76,344	Potter, Collins, Pawlet, Vt., and Eleazer Jones, Middle Granville, N. Y. Coffin	Apr. 7, 1868.
73,197	Potter, E. M., Kalamazoo, Mich. Clevis	Jan. 7, 1868.
80,999	Potter, E. O., Chicopee, Mass. Method of forming stockings	Aug. 11, 1868.
85,475	Potter, Elisha O., Pawtucket, R. I. Apparatus for feeding cloth to printing machinery	Dec. 29, 1868.
77,522	Potter, Frederick A., assignor to Fales, Jenks & Sons, North Providence, R. I. Tool holder	May 5, 1868.
80,213	Potter, Isaac R., Dartmouth, Mass. Horseshoe	July 21, 1868.
80,214	Same.....Thill coupling	July 21, 1868.
73,997	Potter, James, Portland, Maine. Bed-bottom	Feb. 4, 1868.
83,880	Same.....Railway rail. (Antedated Oct. 28, 1868)	Nov. 10, 1868.
79,857	Potter, Jerome, Pierceton, Ind. Gate	July 14, 1868.
	Potter, John F., and James Osman. (*See* Osman & Potter.)	
73,383	Potter, Joseph, and Olif Abell, Whitehall, N. Y. Boxed hone	Jan. 14, 1868.
75,194	Potter, J. C., Alfred, N. Y. Indicator for knitting machines	Mar. 3, 1868.
80,008	Potter, Nathaniel F., Providence, R. I. Clay mill	July 14, 1868.
	Potter, Orland B., and J. G. Gordon. (*See* Sweet & Elliott, assignors.)	
	Potter, R. W. (*See* Corduan, Joseph, assignor.)	
3,125	Potter, R. W., assignor to Garrett P. Bergen, New York, N. Y. Picture card frame.....(Reissue)	Sept. 22, 1868.
77,318	Potter, Warren B., Boston, Mass. Check-rein slide	Apr. 28, 1868.
77,759	Potter, William W., Buffalo, N. Y. Stencil plate	May 12, 1868.
78,898	Potts, William, England. Ventilating apparatus	June 16, 1868.
83,791	Same.....Moulding screws	Nov. 3, 1868.
84,645	Same.....Hook and cornice for suspending pictures	Dec 1, 1868.
73,998	Potts, William W., Bridgeport, Pa. Lime-kiln	Feb. 4, 1868.
78,233	Poullain, Philip, Greensboro', Ga. Cultivation of cotton and other plants	May 26, 1868.
82,346	Poulot, D., France. Machine for cutting screw-threads	Sept. 22, 1868.
80,215	Poulson, Niels, Washington, D. C. Movable window blind	July 21, 1868.
82,031	Same.....Window shutter	Sept. 8, 1868.
82,032	Same.....Awning	Sept. 8, 1868.
	Poultney, T. (*See* Mulligan, George B., assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
74,130	Powe, Moses, Belvidere, N. J. Carriage brace	Feb. 4, 1868
77,913	Powell, James, Cincinnati, Ohio. Globe valve	May 12, 1868
	Powell, John G., *et al.* (*See* Schartau, Eilert O., assignor.)	
	Powell, John G., and William A. Morse. (*See* Morse & Powell.)	
3,141	Powell, Morris B., and Charles W. Stutenroth, Naperville, Ill. Bottle..(Design)..	July 28, 1868
85,180	Powell, Palemon, Cincinnati, Ohio. Cartridge charger	Dec. 22, 1868.
83,343	Powelson, Louis B., Pittsburg, Pa. Feed-water heater	Oct. 27, 1868.
79,595	Power, Fielder, St. Louis, Mo. Brick-kiln	July 7, 1868.
	Powers, Abijah, *et al.* (*See* Walker, Sylvester G., assignor.)	
2,938	Powers, Albert E., assignor to D. Powers & Sons, Lansingburg, N. Y. Floor oil-cloth pattern.....(Design)..	Feb. 18, 1868.
2,939	Same.....same.....(Design)..	Feb. 18, 1868.
76,246	Powers, Cyrus, Greenwich Village, Mass. Clamp for holding palm-leaf warp...	Mar. 31, 1868.
	Powers, D., & Sons. (*See* Christie, Hugh, assignor).....(Design.)	
	Same.....same.....(Design.)	
82,872	Powers, D. J., Madison, Wis. Harvester rake. (Antedated Sept. 28, 1868)	Oct. 6, 1868.
82,347	Powers, E. K., Grand Rapids, Mich. Machine for molding candy	Sept. 22, 1868.
75,644	Powers, John, and J. B. Van Deusen, New York, N. Y. Fluid meter	Mar. 17, 1868.
80,009	Powers, L. A., Meriden, Conn. Table fork	July 14, 1868.
77,090	Prall, William E., Washington, D. C. Hot-water elevator	Apr. 21, 1868.
	Praster, A. J., *et al.* (*See* Nelson, Wm., assignor.)	
75,458	Pratt, Aaron W., Pultneyville, N. Y. Armlet porte-monnaie	Mar. 10, 1868.
	Pratt, Charles. (*See* Seimel, Conrad, assignor.)	
	Same.....(*See* Bliss, Eliphalet W., assignor.)	
	Pratt, Charles C. (*See* King, Gamaliel, assignor).....(Reissue.)	
	Same.....same.....(Reissue.)	
80,500	Pratt, Daniel J., assignor through mesne asignments to self and Michael P. Cavort, Albany, N. Y. Parallel ruler	July 28, 1868.
74,720	Pratt, E. L., Boston, Mass. Pen	Feb. 18, 1868.
76,247	Same.....Nut-cracker	Mar. 31, 1868.
	Pratt, Frank E., and Andrew F. Lapham. (*See* Lapham & Pratt.)	
	Pratt, Frederick. (*See* Rogers, Junius, assignor.)	
	Pratt, George A., *et al.* (*See* Bacon, Thomas K., assignor.)	
83,544	Pratt, James D., Cleveland, Ohio. Bed-lounge	Oct. 27, 1868.
81,000	Pratt, John, Greenville, Ala. Mechanical typographer	Aug. 11, 1868.
73,260	Pratt, M. D., Copley, Ohio. Fence	Jan. 14, 1868.
83,090	Pratt, R. P., Hartford, Conn. Awning. (Antedated Oct. 6, 1868)	Oct. 13, 1868.
81,001	Pratt, Seymour Clesson, Boston, Mass. Furniture caster	Aug. 11, 1868.
74,245	Pratt, Thomas, Valparaiso, Ind. Wrench. (Antedated Feb. 5, 1868)	Feb. 11, 1868.
79,684	Pratt, William, Providence, R. I. Tool-holder	July 7, 1868.
	Pratt, William F., *et al.* (*See* Hunt & Knight, assignors.)	
	Same.....same.	
81,683	Pray, E. K., Holderness, N. H. Knitting machine	Sept. 1, 1868.
77,838	Pray, Lewis, Portland, Me. Seat for vehicles	May 12, 1868.
73,647	Pray, Onsville E., Portsmouth, N. H. Machine for cutting dyewood	Jan. 21, 1868.
81,684	Prentice, George W., Providence, R. I. Eyelet. (Antedated Aug. 15, 1868)	Sept. 1, 1868.
80,088	Prentice, James H., Ashtabula, Ohio. Lamp extinguisher	July 21, 1868.
	Same.....(*See* Richardson, John C., assignor.)	
	Same.....(*See* Stout & Richardson, assignors.)	
75,576	Prentiss, Mason, Cambridge, N. Y. Vise	Mar. 17, 1868.
80,501	Prentiss, Phineas, Chester, Mass. Washing machine	July 28, 1868.
73,648	Prescott, Andrew J., Catawissa, Pa. Tool	Jan. 21, 1868.
	Prescott, Edward. (*See* Sterrett, Charles, assignor.)	
82,749	Prescott, Peter, assignor to Isaac and William J. Hall, and C. M. Prescott, Boonville, N. Y. Horse hay rake	Oct. 6, 1868.
75,789	Prescott, William H., and Whitcomb Judson, Bangor, Me. Odometer	Mar. 24, 1868.
	Pressey, Samuel I. (*See* Leach, Wm. H., assignor.)	
75,790	Preston, A. J., Guilford, N. Y. Hay raker and loader	Mar. 24, 1868.
77,652	Preston, Hiram, Oxfordville, Wis. Gauge for weather-boarding	May 5, 1868.
80,502	Same.....Cultivator	July 28, 1868.
81,002	Preston, H. M., Unionville, Conn. Journal box	Aug. 11, 1868.
83,312	Preston, James P., Monroe, Wis. Fanning mill	Oct. 20, 1868.
81,685	Preston, K. H. C., assignor to self, Stephen Cheney, and M. B. Snook, Manlius, N. Y. Harvester rake	Sept. 1, 1868.
81,686	Same.....same	Sept. 1, 1868.
	Preston, O. W., jr., and David Dick. (*See* Dick & Preston.)	
	Same.....same.	
	Same.....same.	
73,118	Prettyman, R. F., Alexandria, Va. Skate sharpener	Jan. 7, 1868.
82,984	Prevear, Edward, Leominster, Mass. Meridian time indicator	Oct. 13, 1868.
	Price, Charles E., and Joseph Haythorn. (*See* Haythorn & Price.)	
3,142	Price, Ellen F., and Eliza A. Murphy, New Haven, Conn. Embossed design for paper, &c .....(Design)..	July 28, 1868.
74,591	Price, John, New York, N. Y. Shackle for platform springs of wagons	Feb. 18, 1868.
3,079	Price, J. A., Scranton, Pa. Cook range.....(Design)..	June 30, 1868.
78,007	Prickett, William P., Philadelphia, Pa. Furnace for melting metal, glass, &c ...	May 19, 1868.
73,926	Pridham, George A., Newark, N. J. Spool stand	Jan. 28, 1868.
77,404	Priest, David H., Watertown, Mass. Ready solder	Apr. 28, 1868.
79,774	Priest, D. H., and H. S. Walcott, Boston, Mass. Fastening lining to soles of boots and shoes	July 7, 1868.
74,131	Priest, Joram, Detroit, Mich. Dumping wagon	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,537	Priest, Joseph K., and William Earl, jr., Nashua, N. H. Belt lacer	Aug. 25, 1868.
	Prince, George A., & Company. (*See* Hoddick, Frederick, assignor.)	
77,523	Prindle, D. R., East Bethany, N. Y. Field roller	May 5, 1868.
79,685	Same.....Agricultural boiler	July 7, 1868.
77,211	Prindle, E. T., Aurora, Ill. Cutting tool for planing and milling machine	Apr. 28, 1868.
	Prindle, George S. (*See* Ketchum, W. Jay, assignor.)	
73,833	Prindle, Lyman B., Litchfield, Conn. Lifting jack	Jan. 28, 1868.
76,942	Same.....Railroad rail	Apr. 21, 1868.
73,999	Prindle, L. C., Chicago, Ill. Door spring	Feb. 4, 1868.
82,245	Prindle, R. B., Norwich, N. Y. Blind hinge	Sept. 15, 1868.
	Pringle, George, and Robert Y. McConnell. (*See* McConnell & Pringle.)	
	Pritchland, Hiram, *et al.* (*See* Rogers, Ephraim, assignor.)	
74,132	Pritchard, Iva, assignor to self and Joseph Raiber, Terre Haute, Ind. Gas machine	Feb. 4, 1868.
83,545	Proctor, George K., Salem, Mass. Photographic room	Oct. 27, 1868.
82,246	Prouty, Henry W., assignor to self and Howard Tilden, Boston, Mass. Animal trap	Sept. 15, 1868.
79,596	Prouty, William H., Hanson, Mass. Combined card and brush	July 7, 1868.
	Providence Tool Company. (*See* Peabody, Henry O., assignor.)	
73,834	Pruden, Samuel C., Harmony, Ohio. Burner	Jan. 28, 1868.
80,834	Prussia, Eliza W., Marlboro', Mass. Clasp for boots and shoes, belts for ladies' dresses, &c.	Aug. 11, 1868.
	Prutzman, J. E. and J. P. (*See* Lafferty, Robert M., assignor.)	
77,653	Pruyne, George W., Mexico, N. Y. Channeling tool	May. 5, 1868.
77,319	Pudigon, A., Charleston, S. C. Gathering turpentine	Apr. 28, 1868.
84,439	Puffer, A. D., Somerville, Mass. Beer cooler	Nov. 24, 1868.
78,690	Pugh, John W., Grand Rapids, Mich. Caster	June 9, 1868.
	Pugh, T. R., *et al.* (*See* Grant, Van Dyne & Pugh.)	
	Pullman, George M., and Ben Field. (*See* Field & Pullman)....(Reissue.)	
76,520.	Pullman, Nathaniel. New Oregon, Iowa. Car replacer	Apr. 7, 1868.
2,902	Purchase, Thomas E., Reading, Pa. Fagot for railway rails.....(Reissue)	Mar. 24, 1868.
82,985	Purdy, Elijah K., Schoolcraft, Mich. Clamp	Oct. 13, 1868.
76,345	Purdy, Stephen, assignor to self and Ellis Ellis, Whitestown, N. Y. Cheese hoop	Apr. 7, 1868.
75,974	Purdy, Thomas E., Brooklyn, N. Y. Window shade	Mar. 24, 1868.
79,389	Purdy, Z. V., Washington, D. C. Horse shoe	June 30, 1868.
78,691	Purinton, Amos D., Dover, N. H. Composition for setting posts, timber, &c.	June 9, 1868.
	Purinton, Charles P., *et al.* (*See* Barnett, Purinton & Seibert.)	
74,133	Purmort, H. F., Saginaw City, Mich. Connecting pump rods. (Antedated Jan. 29, 1868)	Feb. 4, 1868.
73,754	Purple, George, Wellington, Ohio. Neck yoke slide. (Antedated Jan. 16, 1868)	Jan. 28, 1868.
2,927	Pusey, Joshua, Philadelphia, Pa. Top.....(Design)	Feb. 4, 1868.
77,320	Same.....Toy	Apr. 28, 1868.
80,216	Pusey, J. M., Lea, and Edward, Wilmington, Del. Spinning machine	July 21, 1868.
76,810	Putnam, Amos, Vernon, Wis. Swing sheep feeder	Apr. 14, 1868.
81,687	Putnam, Eliza, Boston, Mass. Book-case bedstead	Sept. 1, 1868
82,750	Putnam, George W., Boston, Mass. Lantern. (Antedated Sept. 26, 1868)	Oct. 6, 1868.
84,213	Putnam, George W., Peterboro', N. Y. Pocket lantern	Nov. 17, 1868
77,212	Putnam, I. Atwood, Mexico, Maine. Chute for river navigation. (Antedated April 18, 1868)	Apr. 28, 1868
82,247	Putnam, Jane C., Worcester, Mass. Table	Sept. 15, 1868
81,106	Putnam, Joel, Danvers, Mass. Shoe	Aug. 18, 1868
74,134	Putnam, Silas S., Dorchester, Mass. Self lubricating axle for carriages	Feb. 4, 1868.
74,135	Same.....Curtain fixture	Feb. 4, 1868.
79,597	Same.....Attaching door knobs to their spindles	July 7, 1868
83,546	Pyle, Robert, Wilmington, Del. Thill coupling	Oct. 27, 1868.
83,313	Pyne, J. Walter, Danville, Ill. Fruit dryer	Oct. 20, 1868.
75,791	Pyott, Louis T., Philadelphia, Pa. Cooking stove	Mar. 24, 1868.
80,765	Quackenbush, J. H., assignor to self and J. H. Riley, Springfield, Mass. Harness round knife	Aug. 4, 1868.
3,175	Quantin, Alphonse, deceased, assignor by his administrators, Jane Quantin and H. A. Pintard, to Paul Schmidt, New York, N. Y. Method of bottling fluids under gaseous pressure.....(Reissue)	Oct. 27, 1868.
74,246	Quartley, Charles, Baltimore, Md. Cigar	Feb. 11, 1868.
81,538	Queal, W. G., Otego, N. Y. Shield for carriage curtain button holes	Aug. 25, 1868.
74,845	Quick, Abraham, William S. Opie, and A. J. Farrand, Raritan, N. J. Harvester rake	Feb. 25, 1868.
	Quick, C., and E. B. Lawrence. (*See* Lawrence & Quick.)	
83,407	Quimby, Julius F., Troy, N. Y. Reservoir cooking stove	Oct. 27, 1868.
	Quin, William, and John I. Cassel. (*See* Cassel & Quin.)	
	Quincy, Boyd P. (*See* Adams, A. J., assignor.)	
79,775	Quincy, Edmund W., Lacon, Ill. Corn harvester	July 7, 1868
82,033	Quincy, Edmund W., assignor to self and William H. Copp, Lacon, Ill. Wrench	Sept. 8, 1868.
76,943	Quincy, Edmund W., and William Fisher, Lacon, Ill. Operating ferry boats	Apr. 21, 1868.
	Quincy, George H., and George S. Harwood. (*See* Sampson, Thomas, assignor.)	
80,564	Quinlan, E., Sheboygan Falls, Wis. Machine for polishing wooden handles	Aug. 4, 1868
83,662	Quinn, David, Chicago, Ill. Raft	Nov. 3, 1868.
75,296	Quinn, Patrick, assignor to self and Charles R. Paul, South New Market, N. H. Steam generator	Mar. 10, 1868
74,938	Quinn, William J., assignor to Furbush & Gage, Philadelphia, Pa. Loom	Feb. 25, 1868
77,839	Raber, Emanuel, Lake, Ohio. Horse hay fork	May 12, 1868
80,217	Race, John Edwin, Chicago, Ill. Earth-boring machine	July 21, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,903	Race, John Edwin, and Aaron Smith, Chicago, Ill. Cloth measuring apparatus.	Dec. 15, 1868
80,766	Racey, J. H., jr., New York, N. Y. Refrigerating chamber	Aug. 4, 1868.
83,304	Rackham, Joshua S., Waterport, N. Y. Corn shelling machine	Oct. 20, 1868
74,939	Raddin, John, Lynn, Mass. Car wheel	Feb. 25, 1868.
76,814	Same.....same	Apr. 14, 1868.
82,248	Rader, S. D., Williamsport, Pa. Brick kiln	Sept. 15, 1868.
78,692	Rae, Julio H., Syracuse, N. Y. Lumber dryer	June 9, 1868.
83,091	Same.....Electrical amalgamator	Oct. 13, 1868.
	Raffington, Matthew G., and Fisher Spofford. (*See* Spofford & Raffington.)	
	Same.....same.	
	Same.....same.	
79,000	Raft, George, Erie, Pa. Device for fitting wrist pins	June 16, 1868.
85,476	Raftery, John T., Eldara, Ill. Water elevator	Dec. 29, 1868.
83,547	Ragsdale, James M., McCoy's Station, Ind. Road grader	Oct. 27, 1868.
	Rahm, Frank, and Thomas J. Lewis. (*See* Wilson, John T., assignor.)	
	Raiber, Joseph. (*See* Pritchard, Iva, assignor.)	
79,686	Rain, Samuel S., Lowville, N. Y. Animal trap. (Antedated June 27, 1868)	July 7, 1868.
82,986	Rairigh, William K., Rural Valley, Pa. Clamp for saddles, &c	Oct. 13, 1868.
83,997	Same.....Implement	Nov. 10, 1868.
83,998	Rais, Adrian, assignor to the Scovill Manufacturing Company, Waterbury, Conn. Machine for spinning sheet metal	Nov. 10, 1868.
	Rais, Adrian, and C. P. Goss. (*See* Goss & Rais.)	
79,257	Rakestraw, Albert, Peoria, Ill. Cherry stoner	June 23, 1868.
83,206	Rakestrow, Yarnall, Whitehouse, Ohio. Plow	Oct. 20, 1868.
83,315	Ralph, Ellery P., and James Hannan, Gallipolis, Ohio. Straw cutter	Oct. 20, 1868.
80,089	Ralph, William, Utica, N. Y. Curd mill	July 21, 1868.
74,475	Ralston, Andrew, West Middletown, Pa. Portable animal tether	Feb. 11, 1868.
75,700	Ramage, James, and Thomas Nelson, Scotland. Production of plates for printing. (Patented in England March 26, 1866)	Mar. 17, 1868.
74,940	Rambaut, G. V., Petersburg, Va. Medical compound or bitters	Feb. 25, 1868.
	Ramsey, Charles F., and Beauman Butler. (*See* Butler & Ramsay.)	
80,218	Ramsay, James S., assignor to self and William G. Hillman, Baltimore, Md. Lock label holder	July 21, 1868.
82,873	Ramsburgh, John, jr., New Madrid, Mo. Medical compound	Oct. 6, 1868.
77,840	Ramsburgh, John S., New Market, Md. Fertilizer	May 12, 1868.
79,858	Ramsdell, Reuben, Rindge, N. H. Machine for making wooden boxes	July 14, 1868.
79,687	Ramsdell, W. H., assignor to self and H. J. Sawyer, Lowell, Mass. Bobbin	July 7, 1868.
81,944	Ramsey, Charles C., Chicago, Ill. Gas-pressure regulator	Sept. 8, 1868.
77,524	Ramsey, Jo, Milford, Texas. Harvester	May 5, 1868.
2,945	Ramsey, Robert. New Wilmington, Pa. Fence-post.....(Reissue)	May 26, 1868.
77,213	Ramuz, Ulysse, Humbert, assignor to Henry Hirsh and Seligman Oppenheimer, Switzerland. Self-winding watch	Apr. 28, 1868.
73,198	Raneevau, John, Carthage, Ohio. Ice sleigh	Jan. 7, 1868.
78,129	Rand, A. C., Westfield, Mass. Process of covering whips	May 19, 1868.
79,776	Same.....Whip holder	July 7, 1868.
79,081	Rand, A. C., New York, N. Y. Gas burner	June 23, 1868.
79,390	Same.....Coal stove	June 30, 1868.
81,945	Rand, Joseph A., assignor to Thomas A. Mitchell, Morrisville, Vt. Clothes pin. (Antedated Aug. 27, 1868)	Sept. 8, 1868.
78,325	Rand, J. W., Charlestown, Mass. Pattern for cutting out shirts	May 26, 1868.
79,598	Rand, N. A., Winslow, Ill. Cultivator	July 7, 1868.
76,656	Randall, Bellvill L., Roxbury, Mass. Vise	Apr. 14, 1868.
76,657	Randall, Benjamin, Adams, N. Y. Sulky harrow	Apr. 14, 1868.
76,658	Same.....Corn planter	Apr. 14, 1868.
85,242	Randall, Darius C., Niles City, Mich. Liniment or medical compound	Dec. 22, 1868.
73,927	Randall, David F., Chicopee, Mass. Metallic band for trimming ear seat	Jan. 28, 1868.
79,859	Same.....Padlock	July 14, 1868.
	Randall, H. W. (*See* Buckingham, Isaac, assignor.)	
82,874	Randall, John H. and Charles E., Boston, Mass. Steam-engine governor	Oct. 6, 1868.
	Randall, Joseph S. (*See* Chase and Devendorff, assignors.)	
74,136	Randall, Oliver E., Lewiston, Me. Horse rake	Feb. 4, 1868.
83,728	Randall, Stephen, Centerville, R. I. Railway-car brake	Nov. 3, 1868.
81,207	Randall, William, May, Mich. Sash supporter	Aug. 18, 1868.
80,219	Randleman, Benjamin D. Port Louisa, Iowa. Clasp for joining belts	July 21, 1868.
	Randolph, Abram F. (*See* Stone, Jacob, assignor.)	
77,654	Raney, James, assignor to self, Leander and Bostic Raney, New Castle, Pa. Elevating flour, feed, grain, &c	May 5, 1868.
77,321	Rank, Amos, Salem, Ohio. Platform bridge for railroad cars	Apr. 28, 1868.
77,525	Same.....Harvester	May 5, 1868.
77,526	Same.....same	May 5, 1868.
79,500	Same.....same	June 30, 1868.
81,208	Same.....Harvester rake	Aug. 18, 1868.
3,155	Same.....Harvester.....(Reissue)	Oct. 6, 1868.
82,987	Rank, Amos, and J. H. Cox, Salem, Ohio. Harvester	Oct. 13, 1868.
84,375	Rank, Gottfried, Greenleaf, Minn. Seed sower	Nov. 24, 1868.
78,828	Ranke, D. Webster, Limestoneville, Pa. Gas generator. (Antedated June 4, 1868)	June 9, 1868.
79,391	Rankin, Charles S., Cincinnati, Ohio. Fire-place grate	June 30, 1868.
77,091	Rankin, John, Taunton, Mass. Harrow	Apr. 21, 1868.
77,655	Rankin, John S., Detroit, Mich. Fall-leaf table	May 5, 1868.
83,316	Rankin, Thomas L., New Richmond, Ohio. Refrigerating house	Oct. 20, 1868.
85,477	Rankin, Thomas L., New Richmond, Ohio, and Charles W. Grassmuck, Peru, Ill. Beer cooler	Dec. 29, 1868.
83,317	Ranney, Isaac, Delaware, Ohio. Varnish	Oct. 20, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77, 214	Ransom, Franklin, Buffalo, N. Y. Hydraulic engine	Apr. 28, 1868.
83, 092	Same.....Condenser	Oct. 13, 1868.
74, 422	Ransom, Hiram W., Lawrenceburg, Ind. Fifth wheel for carriages	Feb. 11, 1868.
74, 000	Ransom, Loomis E., Trenton, Mich. Brick machine	Feb. 4, 1868.
82, 988	Ransom, Lewis, assignor through mesne assignments to self and Eugene Hyatt, Lansingburg, N. Y. Clasp for trunks, &c	Oct. 13, 1868.
	Rapp, Matthew D. (*See* Hamilton, Edward, assignor.)	
80, 305	Rasar, Peter, and D. J. Mayes, Illiopolis, Ill. Hanging for gates	July 28, 1868.
81, 209	Same.....Gate latch	Aug. 18, 1868.
	Rashcoe, Heinore, *et al.* (*See* Sebold, George, assignor.)	
83, 093	Rate, Edward F., Cedar County, Iowa. Corn cultivator	Oct. 13, 1868.
	Rathbone, J. F. (*See* Hailes, William, assignor.)	
	Rathbone, John F. & Company. (*See* Hailes, William, assignor) .....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
74, 846	Rattenbury, Thomas, Detroit, Mich. Self-acting bolt	Feb. 25, 1868.
83, 318	Rau, Emanuel, New York, N. Y. Fastening for collars and neck ties	Oct. 20, 1868.
80, 220	Raub, H. R., Pymatuning, Pa. Gate	July 21, 1868.
77, 656	Ravn, Charles F., Milwaukee, Wis. Wagon skein	May 5, 1868.
80, 877	Rawson, George W., assignor to self and Michael Hittinger, Cambridgeport, Mass. Hydraulic press	Aug. 11, 1868.
82, 751	Same.....Cut-off for steam engines	Oct. 6, 1868.
	Rawson, Homer. (*See* Austin, Dinsmore, assignor.)	
	Same.....same.	
74, 592	Rawson, Homer, assignor to self and O. H. Shaw, Jericho, Vt. Ox yoke	Feb. 18, 1868.
	Rawson, M. E., and H. P. Andrews. (*See* Andrews & Rawson.)	
	Rawsthorne, Thomas, and John Paley. (*See* Paley & Rawsthorne.)	
	Ray, Edwin, *et al.* (*See* Reynolds, C. H., assignor.)	
3, 132	Ray, George W., Springfield, Mass. Manufacture of paper collars, &c. (Reissue)	Sept. 22, 1868.
	Ray, G. W., *et al.* (*See* Denison, C. H., assignor.)	
75, 975	Ray, N. M., Ellsworth, Me. Shoe knife	Mar. 24, 1868.
82, 550	Same.....Boat-detaching apparatus	Sept. 29, 1868.
	Ray, Samuel, and M. R. Shalters. (*See* Shalters & Ray.)	
78, 008	Ray, William C., Pleasant Run, and Gideon Leigh, Clinton Station, N. J. Fanning mill	May 19, 1868.
73, 649	Rayhill, William, Pana, Ill. Corn planter	Jan. 21, 1868.
	Rayment, William L., and George W. Thrall. (*See* Thrall & Rayment.)	
84, 214	Raymer, Nat., New Sterling, N. C. Fruit jar	Nov. 17, 1868.
83, 408	Raymond, Fitch, and August Miller, Cleveland, Ohio. Compound for preserving cheese	Oct. 27, 1868.
83, 831	Same.....Gate	Nov. 10, 1868.
	Raymond, Frederick A. S., and Carl C. T. Thomas. (*See* Thomas & Raymond.)	
	Raymond, Frederick O., and Benjamin B. Savary. (*See* Lynch, Isaac F. A. A., assignor).....(Reissue.)	
77, 914	Raymond, George, assignor to self and Oliver P. Conklin, Fitchburg, Mass. Detachable nose for bowls, &c	May 12, 1868.
89, 565	Raymond, George, assignor to self and Samuel E. Crocker, Fitchburg, Mass. Attaching handles to tools	Aug. 4, 1868.
78, 481	Raymond, J. C., and F. T. Allyn, assignors to F. T. Allyn, Brooklyn, N. Y. Low-water indicator	June 2, 1868.
75, 645	Raymond, Levi B., and William Hanley, Lockport, Ill. Coupling for sectional vessels	Mar. 17, 1868.
84, 841	Raymond, Liberty, Green, Ohio. Water elevator	Dec. 8, 1868.
73, 461	Raymond, Louis, Rockland, Del. Method of making barrels	Jan. 21, 1868.
84, 578	Raynard, Joseph H., Lynn, Mass. Machine for manufacturing paperling	Dec. 1, 1868.
74, 941	Raynor, John B., Mazo Manie, Wis. Churn	Feb. 25, 1868.
3, 012	Same.....same.....(Reissue)	June 30, 1868.
83, 319	Rea, John J., Cadiz, Ohio. Elevator	Oct. 20, 1868.
82, 551	Read, Christopher, Jersey City, N. J. Key-hole guard	Sept. 29, 1868.
76, 346	Read, George P., Boston, Mass. Chronometer escapement	Apr. 7, 1868.
83, 663	Read, Joseph, Philadelphia, Pa. Gutter in foot pavements	Nov. 3, 1868.
79, 777	Read, Josiah M., Boston, Mass. Boot crimper	July 7, 1868.
81, 003	Read, William, Vernon, Ind. Horse rake	Aug. 11, 1868.
74, 771	Read, William, jr., Boston, Mass. Cord retainer for pictures and mirrors. (Antedated Oct. 10, 1867)	Feb. 25, 1868.
	Same.....(*See* Bacon, Charles H., assignor.)	
	Read, William M., and William S. Widger. (*See* Widger & Read.)	
81, 004	Read, W. T. B., Chicago, Ill. Ice elevator	Aug. 11, 1868.
75, 976	Reading, John, Samuel A., George E., and Frederick Francis, England. Belt clasp	Mar. 24, 1868.
2, 991	Ready, William B., Sacramento, Cal. Gang plow.....(Reissue)	June 16, 1868.
80, 503	Same.....Cultivator tooth	July 28, 1868
79, 599	Reakirt, John, assignor to self, Daniel Phreaner, and Tryon Reakirt, Philadelphia, Pa. Putting up alkalies	July 7, 1868.
74, 721	Ream, B. F., Ada, Ohio. Shovel plow and cultivator	Feb. 18, 1868.
75, 459	Reaney, Robert L., Jersey City, N. J., and John S. Cornell, Brooklyn, N. Y., assignors to John S. Cornell and H. F. Pease. Valve gear for steam engines	Mar. 10, 1868.
73, 755	Rear, Barney, Toronto, Canada. Spring bed-bottom	Jan. 28, 1868.
73, 928	Recht, Carl, New York, N. Y. Machine for threading sheet-metal pipe	Jan. 28, 1868.
73, 929	Same.....Sheet-metal pipe	Jan. 28, 1868.
76, 812	Same.....Stove-pipe elbow	Apr. 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,034	Reck, William L., Darke County, Ohio. Tile machine	Sept. 8, 1868
77,841	Reckards, William, assignor to self and Leonard Gattman, New York, N. Y. Bedstead, chair, secretary, and wardrobe	May 12, 1868
	Reckendorfer, Joseph. (*See* Bartholomew, W. N., assignor.)	
82,989	Recker, P. N. and Joseph, Dayton, Ohio. Grain separator	Oct. 13, 1868.
78,482	Rector, George, Sodus, Mich. Harvester	June 2, 1868
	Redding, B. B., and Lucy A. Hansbrow, executors of Thomas Hansbrow, deceased. (*See* Hansbrow, Thomas.)	
76,813	Redding, Jerome, Charlestown, and John B. Coe, Boston, Mass. Pastry jigger	Apr. 14, 1868.
84,966	Redding, William F., Saratoga Springs, N. Y. Stove door handle	Dec. 15, 1868.
80,665	Reddy, Edward J., Bayville, N. Y. Bundling machine	Aug. 4, 1868
	Redfield, J. H., and M. W. Hilton. (*See* Hilton & Redfield.)	
74,847	Redfield, J. H., and W. J. Cox, Salem, Ind. Harvester	Feb. 25, 1868
80,306	Redfield, Richard and James, Salem, Ind. Smut mill	July 28, 1868
	Redmayne, Charles, and John P. Courtney. (*See* Courtney & Redmayne.)	
75,297	Redmond, Owen, Rochester, N. Y. Harvester rake	Mar. 10, 1868
84,509	Same.....Machine for rounding barrel heads	Dec. 1, 1868.
82,637	Redway, Albert J., Cincinnati, Ohio. Coal stove	Sept. 29, 1868
82,638	Same.....Cooking stove	Sept. 29, 1868
	Redway & Burton. (*See* Newill, William L., assignor.)	
	Reed & Barton. (*See* Brabrook, George, assignor.)	
	Same.....(*See* Lawrence, Nathan, assignor.)	
	Same.....(*See* Wright, Howell W., assignor.)	
	Same.....same.	
	Same.....(*See* Leach, Thomas, assignor.)	
	Same.....(*See* Kauffman, Ernest, assignor.)	
	Reed, Almet. (*See* Slayton, Phineas L., assignor.)	
76,659	Reed, Benjamin, Alleghany City, Pa. Clothes wringer	Apr. 14, 1868.
83,548	Reed, Byron, Kokomo, Ind. Photographic printing frame	Oct. 27, 1868
	Reed, Cheeney, deceased, by Sarah W. Reed, executrix; and Brooks K. Mould, deceased, by Jane E. Mould, administratrix, Chicago, Ill. Ventilating railroad cars.....(Extension)	July 22, 1868.
	Reed, Clanthus A., *et al.* (*See* Bowen, Reed & Whelan.)	
84,708	Reed, Cullen W., Chagrin, Ohio. Horse hay fork	Dec. 8, 1868.
85,478	Reed, Daniel, Birmingham, Conn. Nail-plate feeder. (Antedated Dec. 24, 1868)	Dec. 29, 1868.
80,010	Reed, David R., Tekonsha, Mich. Apple corer and slicer	July 14, 1868.
81,107	Reed, George P., Boston, Mass. Watch	Aug. 18, 1868.
	Reed, G. R., *et al.* (*See* Bell, Thomas S., assignor.)	
83,729	Reed, G. W., assignor to self, Reuben S. Middleton, and Henry Rothfelder, Brooklyn, N. Y. Watch	Nov. 3, 1868.
	Reed, Herbert, *et al.* (*See* Mallary, G. H., assignor.)	
	Reed, H. C., and A. J. Smith. (*See* Smith & Reed.)	
3,302	Reed, H. G., assignor to Reed & Barton, Taunton, Mass. Spoon or fork handle. (Design)	Dec. 29, 1868.
77,527	Reed, Oliver H., Washington, D. C. Guide gauge for printing presses	May 5, 1868.
84,904	Reed, O. H., and Asa L. Carrier, Washington, D. C. Machine for washing printers' ink rollers	Dec. 15, 1868.
	Reed, Orson. (*See* Pardee, Isaac, assignor.)	
73,384	Reed, Samuel, Whitestown, Pa. Animal trap	Jan. 14, 1868.
79,001	Reed, Samuel, Rising Sun, Md. Cultivator	June 16, 1868.
80,221	Reed, Samuel J., Camden, Ohio. Sulky plow	July 21, 1868.
83,999	Same.....Middletown, Ohio. Plow fender	Nov. 10, 1868.
73,039	Reed, Thomas L., Providence, R. I. Lock coupling for gas fixtures	Jan. 7, 1868.
73,040	Same.....Gas socket	Jan. 7, 1868.
84,067	Reed, U. H., Jeremy Lake, and Luther Sisson, North Easton, Mass. Anti-friction washer	Nov. 17, 1868.
82,875	Reeder, Simon B., Meacham, Ill. Corn planter	Oct. 6, 1868.
75,195	Reeder, William S., St. Louis, Mo. Head block for saw mills	Mar. 3, 1868.
78,829	Reedy, Henry J., Cincinnati, Ohio. Hoisting machine	June 9, 1868.
	Rees, Charles B., and J. S. Houghton. (*See* Houghton & Rees.)	
83,207	Reese, Abram, Pittsburg, Pa. Rolling horse-shoe blanks	Oct. 20, 1868.
85,130	Same.....McClure Township, Pa. Mode of manufacturing toe-calk blanks	Dec. 22, 1868.
84,760	Reese, Adam R., Phillipsburg, N. J. Horse rake	Dec. 8, 1868.
	Same.....(*See* Morgan, Mirick, assignor).....(Reissue.)	
	Same.....(*See* Lee, George W., assignor).....(Reissue.)	
	Reese, Adam R., and George W. Lee. (*See* Lee & Reese).....(Reissue.)	
79,002	Reese, Christian C., Attica, Ind. Churn	June 16, 1868.
82,990	Reese, Francis, Elyton, Ala. Plow	Oct. 13, 1868.
	Reese, F., *et al.* (*See* Baierle, Hartman & Reese.)	
82,876	Reese, Jacob, Pittsburg, Pa. Machine for working iron. (Antedated Oct. 2, 1868)	Oct. 6, 1868.
76,100	Reese, Jacob, assignor to self and Robert C. Totten, Pittsburg, Pa. Ore crusher	Mar. 31, 1868.
84,440	Reese, Leolf and Harry, assignors to selves and William McHenry, Philadelphia, Pa. Printing press	Nov. 24, 1868.
80,011	Reese, Thomas, St. Louis, Mo. Steam-engine	July 14, 1868.
80,307	Reeves, Thaddeus S., Chicago, Ill. Measuring faucet	July 28, 1868.
82,991	Reeves, Thaddeus S., and Charles D. Smith, assignors to selves and William Schwartz, Chicago, Ill. Harvester rake	Oct. 13, 1868.
3,023	Reeves, Alexander D., Portland, Maine. Female supporter.....(Reissue)	July 7, 1868.
75,977	Reeves, Samuel J., Philadelphia, Pa. Railway-rail joint	Mar. 24, 1868.
76,347	Reeves, W. C., Boston, and Louis L. Solomon, Charlestown, Mass. Button hole for paper articles of wearing apparel	Apr. 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Reeves, W. C., Boston, and Louis L. Solomon, Charlestown, Mass. (*See* Solomon, Martha B., assignor.)	
82,161	Regester, Joshua, Baltimore, Md. Stop-cock	Sept. 15, 1868.
	Reguin, C. F., and Emile Loiseau. (*See* Loiseau & Reguin.)	
73,119	Rehfuss, George, assignor to the American Button-hole, Cording, Braiding, and Embroidering-Machine Company, Philadelphia, Pa. Sewing machine	Jan. 7, 1868.
73,930	Rehfuss, George, assignor to the American Button-hole Overseaming and Sewing-Machine Company, Philadelphia, Pa. Braid-making machine	Jan. 28, 1868.
83,090	Same.....Hemmer for sewing machines	July 21, 1868.
83,208	Rehn, C. L., Philadelphia, Pa. Machine for soldering sheet-metal boxes	Oct. 20, 1868.
83,209	Same.....Machine for making metal boxes	Oct. 20, 1868.
76,660	Rehn, Isaac, Philadelphia, Pa. Mode of printing photographic pictures	Apr. 14, 1868.
2,952	Same.....Mode of printing photographic pictures (Reissue)	May 26, 1868.
77,528	Reiber, John, and John Schrader, assignors to selves and W. M. Lewis, Bridgeport, Ill. King bolt for carriages	May 5, 1868.
73,120	Reiber, Reuben, Lebanon, Pa. Hinge	Jan. 7, 1868.
83,094	Reichard, Edward, Washington, Mo. Animal trap	Oct. 13, 1868.
81,108	Reichard, Jacob, Fayetteville, Pa. Cultivator	Aug. 18, 1868.
83,792	Reichard, John J., Canton, Ill. Saw-set	Nov. 3, 1868.
83,793	Same.....saw-set	Nov. 3, 1868.
	Reiche, Julius, and Albert Gerdes. (*See* Gerdes & Reiche.)	
78,009	Reichert, Adam, Cogan Station, Pa. Spring-wagon seat	May 19, 1868.
82,552	Reichert, John J., Delaware, Ohio. Corpse preserver	Sept. 29, 1868.
	Reichert, Louis P. and Andrew Fuller. (*See* Fuller & Reichert.)	
3,082	Reichmann, Christian, assignor to Rufus Spaulding Merrill, and William Carleton, Boston, Mass. Lamp (Reissue)	Aug. 11, 1868.
74,593	Reichmann, Joseph, Dubuque, Iowa. Valve for steam-engines	Feb. 11, 1868.
85,329	Reid, Charles H., Danbury, Conn. Tool holder	Dec. 29, 1868.
81,210	Reid, Hiram A., Beaver Dam, Wis. Sheep-shearing machine	Aug. 18, 1868.
84,905	Same.....Apparatus for shearing sheep	Dec. 15, 1868.
83,095	Reid, Hugh, St. Louis, Mo. Valve motion for steam-engines	Oct. 13, 1868.
84,761	Same.....Steam-engine valve gear	Dec. 8, 1868.
73,835	Reid, J. S., Orange, Ind. Single harness	Jan. 28, 1868.
75,701	Reid, William, North Britain. Method of supplying cattle with food and water on railroad cars	Mar. 17, 1868.
76,521	Reid, William I., Brooklyn, N. Y. Electro-magnetic log	Apr. 7, 1868.
3,241	Reiff, Jacob G., Lancaster, Pa. Carriage spring (Reissue)	Dec. 22, 1868.
	Reigel, David. (*See* Fosdick, Levi, assignor.)	
77,092	Reight, Charles A., assignor to self, Henry B. Dill, and George A. Swalm, Middletown, N. Y. Milk can	Apr. 21, 1868.
84,068	Reiher, Frank A., assignor to Frank A. Reiher & Company, Cincinnati, Ohio. Window shutter	Nov. 17, 1868.
85,243	Reilley, John O., Baltimore, Md. Door fastener	Dec. 22, 1868.
	Reilley, John O., and Thomas Smith. (*See* Smith & Reilly.)	
76,944	Reilly, Frank W., assignor to self, George F. and Ebenezer T. Root, and Chauncey M. Cadey, Chicago, Ill. Lifting apparatus	Apr. 21, 1868.
75,053	Reilly, Joseph L., Chester, Pa. Furnace door latch	Mar. 3, 1868.
83,882	Reilly, Robert, Baltimore, Md. Hydrant. (Antedated Oct. 27, 1868)	Nov. 10, 1868.
	Reimann, Henry, and Charles Weber. (*See* Weber & Reimann.)	
77,915	Reiner, John F., Columbus City, Iowa. Joint for shackles	May 12, 1868.
	Reinhardt, John, and Anton Hacupel. (*See* Hacupel & Reinhardt.)	
79,003	Reinhart, Christian, New Haven, Conn. Escapement for clocks	June 16, 1868.
	Reinhart, J. J., and H. Henley. (*See* Henley & Reinhart.)	
	Reinhart, Samuel, and John C. Knapp. (*See* Obrecht, Henry, assignor.)	
81,818	Reinig, John, Fond-du-Lac, Wis. Eaves trough	Sept. 1, 1868.
2,989	Reiniger, G. Albert, assignor through mesne assignments to George Moebs, Detroit, Mich. Machine for making the bodies of cigars (Reissue)	June 16, 1868.
2,990	Same.....Machine for putting on the wrappers of cigars (Reissue)	June 16, 1868.
3,011	Same.....Cigar machine (Reissue)	June 30, 1868.
	Reinstein, Samuel and Alexander. (*See* Canter, Wm., assignor.)	
	Reisinger, George W., and W. O. Hickok. (*See* Hickok & Reisinger.)	
77,657	Reisinger, James H., Vinton, Ohio. Animal trap	May 5, 1868.
	Reist, Abraham H., and John S. Henry. (*See* Henry & Reist.)	
73,462	Reist, John, Philadelphia, Pa. Shoemaker's trimming knife	Jan. 21, 1868.
77,215	Reistle, Charles, Brooklyn, N. Y. Tumbler holder	Apr. 28, 1868.
80,767	Reith, John B., New York, N. Y. Sofa and bed	Aug. 4, 1868.
83,816	Relyea, George U., Watkins, N. Y. Machine for spreading plaster, lime, &c.	Nov. 3, 1868.
74,590	Rembert, S. S., Memphis, Tenn. Breech-loading fire-arm	Feb. 18, 1868.
	Rembert, S. S., and H. Schevenell. (*See* Schevenell & Rembert.)	
	Rementer, Albert, *et al.* (*See* Hollingsworth, James S., assignor.)	
74,423	Remington, Benjamin W., Providence, R. I. Currycomb	Feb. 11, 1868.
	Remington, E., & Sons. (*See* Rider, Joseph, assignor.)	
	Same.....same.	
82,877	Remington, William H., assignor to self, Sarah A. T. Peabody, and George D. Allen, Boston, Mass. Process of electroplating with nickel	Oct. 6, 1868.
	Remsen, George W., and Charles M. Miles. (*See* Miles & Remsen.)	
84,069	Reneky, Gustavus, and Samuel Kiess, Edgerton, Ohio. Spring bed bottom	Nov. 17, 1868.
	Renggly, A., *et al.* (*See* Nacher, Jacob, assignor.)	
	Renick, James H. (*See* Falconer & Graham, assignors.)	
83,836	Rennie, A. H., Binghampton, N. Y. Scissors	Jan. 28, 1868.
84,135	Rennyson, William M., Pottsville, Pa. Lubricator	Nov. 17, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,093	Renshaw, Arthur Dallison, England. Apparatus for clipping the hair of animals.	Apr. 21, 1868.
81,109	Renwick, Edward Sabine, New York, N. Y. Grate for hot-air furnaces. (Design).	Aug. 18, 1868.
	Same.....(*See* Goddard, E., assignor.)	
	Renwick, James H. (*See* Martin, Henry, assignor.)	
80,835	Renz, Ferdinand, assignor to self and John A. Bayly, Poughkeepsie, N. Y. Process of manufacturing sulphuric ether	Aug. 11, 1868
80,091	Replogle, S. B., Martinsburg, Pa. Beehive	July 21, 1868
77,094	Requa, Charles W., Albany, N. Y. Still for distilling hydro-carbons	Apr. 21, 1868.
75,646	Requa, E. B., Jersey City, N. J. Balanced valve	Mar. 17, 1868
75,978	Same....South Bergen, N. J. Lamp burner	Mar. 24, 1868
73,385	Resley, Horace, Cumberland, Md. Car coupling	Jan. 14, 1868.
79,392	Resor, William, Cincinnati, Ohio. Stove door	June 30, 1868.
	Resor, William, & Company. (*See* Vedder & Ritchie, assignors).....(Design.)	
	Same.....(*See* Truesdale, Charles, assignor.)	
85,397	Restein, James, Philadelphia, Pa. Fabric for the manufacture of paper collars, cuffs, &c	Dec. 29, 1868
85,398	Reuben, George, San Francisco, Cal. Cover for pots, kettles, &c	Dec. 29, 1868
3,250	Reuter, Conrad, Cincinnati, Ohio. Printer's flourish.....(Design)	Nov. 17, 1868
76,522	Rex, Stephen, Orefield, Pa. Harvester	Apr. 7, 1868
77,405	Rexford, Homer, Sandy Hill, N. Y. Canal-lock gate step	Apr. 28, 1868.
84,762	Rexford, Isaac, Malone, N. Y. Seed planter	Dec. 8, 1868.
84,376	Rexford, W. W., Lochsheldrake, N. Y. Extension pole and holdback for carriages	Nov. 24, 1868
75,647	Reynerson, J. H., Pleasant Plains, Iowa. Cultivator	Mar. 17, 1868.
81,539	Reynerson, James H., Pleasant Plains, Iowa. Rotating fan	Aug. 25, 1868.
76,661	Reynolds, Andrew, Rock Springs, Md. Horse hay fork	Apr. 14, 1868
75,648	Reynolds, Andrew J., Sturgis, Mich. Marine propulsion	Mar. 17, 1868
83,549	Reynolds, Andrew J., Chicago, Ill. Steam pump	Oct. 27, 1868.
78,895	Reynolds, B. H., Canterbury, and J. Bachelder, Norwich, Conn. Lubricating device	June 16, 1868.
78,010	Reynolds, C. H., assignor through mesne assignments to Albert Bridges and Edwin Ray, New York, N. Y. Knife sharpener. (Antedated May 7, 1868)	May 19, 1868.
82,878	Reynolds, David M., Port Deposit, Md. Lubricator	Oct. 6, 1868.
73,463	Reynolds, E. D. and O. B., North Bridgewater, Mass. Seed sower	Jan. 21, 1868.
75,460	Same.....Wheel hoe	Mar. 10, 1868.
80,222	Reynolds, F. M., Mile Strip, N. Y. Hay loader	July 21, 1868.
81,289	Reynolds, George H., New York, N. Y. Hoisting machine	Aug. 18, 1868.
	Reynolds, G. H., *et al.* (*See* Rider, Alex. K., assignor.)	
80,425	Reynolds, Harvey A., Brooklyn, N. Y. Velocipede	July 28, 1868.
79,393	Reynolds, Henry E., Bristol, R. I. Sewing machine for button-holes	June 30, 1868.
	Reynolds, James. (*See* Evans, Owen V., assignor.)	
	Reynolds, Jesse. (*See* Steffe, Wm., assignor.)	
73,756	Reynolds, John, San Francisco, Cal. Preparation of dyes	Jan. 28, 1868.
	Reynolds, John D., *et al.* (*See* Fry, Henry C., assignor).....(Design.)	
	Same.....(*See* Cutter, Thomas, assignor).....(Design.)	
3,103	Reynolds, John P., Salem, Mass. Army and navy emblem.....(Design)	July 14, 1868.
84,842	Reynolds, Joseph S., Wauconda, Ill. Flour cooler	Dec. 8, 1868.
85,181	Reynolds, Lester, Owatonna, Minn. Grain-weighing and registering machine	Dec. 22, 1868.
82,639	Reynolds, Lewis H., Goshen, N. Y. Self-adjusting telegraphic relay	Sept. 29, 1868.
	Reynolds, Otis S. and G. W. (*See* Bunnell, Isaac S., assignor.)	
	Reynolds, William, *et al.* (*See* Utley, Kimball & Reynolds.)	
76,523	Reynolds, William W., assignor to the Howe Scale Company, Brandon, Vt. Platform scales for weighing	Apr. 7, 1868.
74,140	Rheutan, Abram A., Worcester, Mass. Envelope machine	Feb. 4, 1868.
85,399	Rheydt, Ferdinand, Chicago, Ill. Making screw nuts	Dec. 29, 1868.
84,763	Rhinehart, W. C., and Robert Gaston. Oskaloosa, Iowa. Corn plow	Dec. 8, 1868.
80,504	Rhoades, Albert, and John Adams, Pontiac, Mich. Deep-well tube	July 28, 1868.
73,650	Rhoades, Elias, sr., Clyde, Ohio. Horse hay fork	Jan. 21, 1868.
84,215	Rhoades, J. W., Clyde, Ohio. Oil box	Nov. 17, 1868.
77,760	Rhoades, S. H., Clyde, Ohio, and W. Carroll, Hillsdale, Mich. Horse hay fork	May 12, 1868.
78,011	Rhoads, E. D. and J. P., Dayton, Ohio. Trace fastener	May 19, 1868.
	Rhoads, Joathan M. (*See* Rutt, Henry W., assignor.)	
73,041	Rhoads, Thomas, Ottawa, Ill. Apparatus for separating gold from ores	Jan. 7, 1868.
76,814	Rhoads, Thomas, Tiskilwa, Ill. Propelling vehicles	Apr. 14, 1868.
78,761	Rhodes, Amos H., Fall River, Mass. Gib	June 9, 1868.
	Rhodes, Eli T., and Robert Saylor. (*See* Saylor & Rhodes.)	
73,794	Rhodes, Elias, jr., Clyde, Ohio. Horse hay fork	Nov. 3, 1868.
73,386	Rhodes, James C., Stillwater, Minn. Crutch	Jan. 14, 1868.
80,223	Same.....Damper	July 21, 1868.
78,393	Rhodes, John H., Brooklyn, N. Y. Fire plug	May 26, 1868.
	Rice & Guy. (*See* Guy, John R., assignor.)	
73,042	Rice, Archibald, and Lewis Leach, Fresno, Cal. Driving bridle	Jan. 7, 1868.
74,848	Rice, C. H., Port Henry, N. Y. Boot-crimping machine	Feb. 25, 1868.
84,216	Rice, C. K., Marlboro, Mass. Coal sifter	Nov. 17, 1868.
74,424	Rice, Charles L., Dunmore, Pa. Spring for vehicles	Feb. 11, 1868.
	Rice, C. T. (*See* Myers, James H., assignor.)	
83,409	Rice, Edwin T., New York, N. Y. Preventing mildew or injury to fibrous materials during their manufacture	Oct. 27, 1868.
	Rice, Edwin T., *et al.* (*See* Fuller, Jim B., assignor.)	
84,303	Rice, Eli, assignor to self and N. H. Richardson, West Northfield, Mass. Device for preventing hens from scratching	Nov. 24, 1868.
75,054	Rice, E. S., Paw Paw, Mich. Plow wheel	Mar. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,505	Rice, John, Bloomington, Ind. Railroad-car heater	July 28, 1868.
82,553	Rice, John D., Cyrus B., and Lanson N., and Elisha Briggs, jr., Detroit, Mich. Combined stalk cutter and husker	Sept. 29, 1868.
75,702	Rice, Lewis, Stockbridge, Mich. Shoe lace	Mar. 17, 1868.
84,579	Rice, L. G., Montague, Mass. Device for measuring skirts	Dec. 1, 1868.
81,005	Rice, Michael, Upland, Pa. Loom—actuating shuttle boxes	Aug. 11, 1868.
78,693	Rice, O. P., and J. H. Gerry, Springfield, Mass. Stem-winding and setting watch	June 9, 1868.
78,762	Rice, Rodney, assignor to self and J. H. Spaulding, Pittsfield, Vt. Wagon and carriage brake	June 9, 1868.
80,768	Rice, Samuel, Westford, Vt. Wagon jack	Aug. 4, 1868.
79,258	Rice, T. C., Worcester, Mass. Tubular axle. (Antedated June 9, 1868)	June 23, 1868.
82,992	Rich, Charles, assignor to Sarah A. Rich, Poughkeepsie, N. Y. Baby jumper	Oct. 13, 1868.
73,547	Rich, Charles, and Oscar L. Neilsen, Poughkeepsie, N. Y. Combined cultivator and harrow	Jan. 21, 1868.
77,658	Rich, Christian, Marshallsville, Ohio. Farm gate	May 5, 1868.
	Rich, D. B., *et al.* (*See* Capron, E. P. H., assignor.)	
79,004	Rich, F. A., and H. W. Bassett, assignors to Hall, Elton & Company, Wallingford, Conn. Die for cutting spoon blanks	June 16, 1868.
77,322	Rich, Granvil, Smithville, Mo. Mechanical movement	Apr. 28, 1868.
77,323	Same.....Compound for tempering cast-steel	Apr. 28, 1868.
74,001	Rich, John T., Philadelphia, Pa. Process of generating gases and in the application of the same. (Antedated Jan. 23, 1869)	Feb. 4, 1868.
82,249	Same.....Gas-burning furnace for steam generators. (Antedated July 8, 1868)	Sept. 15, 1868.
82,035	Rich, M. L., Sand Bank, N. Y. Bin for sugar, &c	Oct. 8, 1868.
80,666	Rich, Otis, N., assignor to self and William H. Howell, Geneva, Ill. Grain separator	Aug. 4, 1868.
76,815	Rich, Thomas, Kingston, N. Y., Churn	Apr. 14, 1868.
83,730	Richard, Joseph, assignor to self and G. W. Baker, New York, N. Y. Apparatus for carbureting air. (Antedated Oct. 28, 1868)	Nov. 3, 1868.
81,290	Richards, C. B., Hartford, Conn. Breech-loading fire-arm	Aug. 18, 1868.
	Richards, Edmund J. (*See* Draper, Virgil, assignor.)	
78,012	Richards, George, Boston, Mass. Throttle valve for locomotive engines	May 19, 1868.
79,005	Richards, George, Richland, Centre, Wis. Wagon bolster	June 16, 1868.
83,410	Richards, George, assignor to self and Dexter E. Pease, Richland Centre, Wis. Bit stock	Oct. 27, 1868.
83,096	Richards, George, and David Strickland, Richland Centre, Wis. Fanning mill	Oct. 13, 1868.
82,640	Richards, H., and J. A. Traut, assignors to J. A. Traut and J. W. Bliss, New Britain, Conn. Endless belt	Sept. 29, 1868.
	Richards, Ira & Company. (*See* Franklin, James D., assignor.)	
74,722	Richards, Ira A., Brookfield, Mass. Butter dish	Feb. 18, 1868.
77,842	Richards, Ira D., and Henry D. Snyder, Carbondale, Pa. Fence post	May 12, 1868.
78,013	Richards, John, Cincinnati, Ohio. Bearing for spindles	May 19, 1868.
78,608	Same.....Hanger for shafting	June 2, 1868.
81,407	Same.....Mortising machine	Aug. 25, 1868.
85,131	Richards, John, Philadelphia, Pa. Expansive gearing for feeding rolls	Dec. 22, 1868.
	Richards, John, and V. Orton. (*See* Orton & Richards.)	
	Richards, John D., and A. E. Herrington. (*See* Herrington & Richards.)	
	Richards, John R., and Osker S. Perkins. (*See* Perkins & Richards.)	
	Richards, John S., *et al.* (*See* Sangster, Richards & Dobbins.)	
	Same.....(*See* Dobbins, Richards & Sangster.)	
84,646	Richards, John W., Newark, N. J. Low-water indicator	Dec. 1, 1868.
3,098	Richards, M., and J. Vandegrift, Princeton, Ill. Plow.....(Reissue)	Aug. 25, 1868.
85,027	Richards, S. C., St. Louis, Mo. Steering apparatus	Dec. 15, 1868.
81,291	Richards, Thomas, assignor to Edward D. Manning, Milford, Mass. Machine for manufacturing fuse	Aug. 18, 1868.
2,936	Richards, Thomas C., New York, N. Y. Attaching ornamental heads to nails and screws.....(Reissue)	May 19, 1868.
78,130	Richards, Warren, jr., assignor to self and Shipley & Smith, Cincinnati, Ohio. Gauge for embossing presses	May 19, 1868.
	Richards, William D., and William A. Garloch. (*See* Garloch & Richards.)	
73,043	Richards, William H., Auburndale, Mass. Device for securing stoppers to bottles, &c	Jan. 7, 1868.
82,993	Richards, W. T., Bridgeport, Conn. Punching machine	Oct. 13, 1868.
	Richardson, Abijah. (*See* Whitmore, Wm. C., assignor.)	
74,942	Richardson, Charles, Auburn, N. Y. Machine for grinding reaper knives	Feb. 25, 1868.
74,247	Richardson, C. E., Cambridge Mass. Preserving and packing meat	Feb. 11, 1868.
74,849	Richardson, David C., Lawrence, Mass. Car ventilator	Feb. 25, 1868.
78,014	Richardson, Edmond, and James H. Cole, assignors to James H. Cole, Adrian, Mich. Device for rolling roofing	May 19, 1868.
	Richardson, Edward, and Newton Trowbridge. (*See* Trowbridge & Richardson.)	
73,121	Richardson, E. J., Lowell, Mass. Ticket holder	Jan. 7, 1868.
77,529	Richardson, Frederick, New Bedford, Mass. Boot heel	May 5, 1868.
75,196	Richardson, George, Lowell, Mass. Machine clock	Mar. 3, 1868.
84,764	Same.....Reverse motion for winding on bobbins	Dec. 8, 1868.
83,320	Richardson, George W., Troy, and Henry Waterman, Hudson, N. Y. Steam safety-valve	Oct. 20, 1868.
	Richardson, Henry. (*See* Scott, Edwin M., assignor).....(Reissue.)	
	Same.....(*See* Case, Henry J., assignor.)	
	Richardson, Joel F. (*See* Britton, Hiram M., assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or diseovery.	Date.
74,425	Richardson, John, New York, N. Y. Machine for bundling kindling wood	Feb. 11, 1868.
84,377	Richardson, J. C., Ilion, N. Y. Fork blank	Dec. 29, 1868.
85,400	Same.....same	Nov. 24, 1868.
73,044	Richardson, John C., assignor to self and James H. Prentice, Newark, N. J. Machine for pouncing hats	Jan. 7, 1868.
	Richardson, John C., and George W. Stout. (*See* Stout & Richardson.)	
77,530	Richardson, J. H., Chicago, Ill. Screw-cutting machine	May 5, 1868.
78,326	Richardson, L. T., Clayville, N. Y. Manufacture of hoes	May 26, 1868.
76,816	Richardson, M. A., Sherman, N. Y. Horse-power	Apr. 14, 1868.
80,308	Same.....same	July 28, 1868.
73,464	Richardson, Nathan, Gloucester, Mass. Bait or meat cutter	Jan. 21, 1868.
78,830	Richardson, Nathan, assignor to the Richardson Mill Company, Gloucester, Mass. Ice crusher	June 9, 1868.
	Richardson, N. H. (*See* Rice, Eli, assignor.)	
76,524	Richardson, Paris, jr., Warren county, Ill. Wagon wheel	Apr. 7, 1868.
85,401	Richardson, S. L., Webster City, Iowa. Bechive	Dec. 29, 1868.
76,248	Richardson, William, Baltimore, Md. Limb and basket holder	Mar. 31, 1868.
73,837	Richardson, William, and Louis Ber Muller, Baltimore, Md. Bending machine	Jan. 28, 1868.
80,667	Richardson, William D., Springfield, Ill. Lead pipe connection	Aug. 4, 1868.
81,540	Same.....Wooden pavement	Aug. 25, 1868.
81,110	Richers, Charles F., New York, N. Y. Harness rosette	Aug. 18, 1868.
3,275	Same.....Spoon or fork handle.....(Design)	Dec. 1, 1868.
79,501	Richey, James, Cincinnati, Ohio. Lubricator. (Antedated June 10, 1868)	June 30, 1868.
	Richman, Charles H., *et al.* (*See* Ambruster, Charles S., assignor.)	
74,137	Richman, E. F., Muscatine, Iowa. Woven fabric. (Antedated Aug. 5, 1867)	Feb. 4, 1868.
77,761	Richmond, Charles, assignor to Gaynor, Stiles & Company, Memphis, Tenn. Cotton planter	May 12, 1868.
82,752	Richmond, Hiram, assignor to Charles Parker, West Meriden, Conn. Match safe	Oct. 6, 1868.
74,426	Richmond, Isaac C., assignor to H. C. Hull, West Meriden, Conn. Snap hook	Feb. 11, 1868.
73,387	Richmond, Peter, assignor to self and James Lamb, Aberdeen, Ind. Roofing scaffold	Jan. 14, 1868.
78,131	Richmond, Peter, Aberdeen, and Abner McFarland, Allensville, Ind. Boot crimper	May 19, 1868.
84,647	Richmond, Seelye, Annapolis, Md. Last-block elevator and instep stretcher	Dec. 1, 1868.
84,136	Rickard, L., Danville, Ill. Ditching machine	Nov. 17, 1868.
74,595	Rickard, W., Chicago, Ill. Pearl barley machine	Feb. 18, 1868.
74,138	Rickerd, John C., Lewisville, Ind. Cultivator	Feb. 4, 1868.
	Riddel, Daniel, and Benjamin D. Vanderveer. (*See* Vanderveer & Riddel.)	
77,095	Ridcout, C. T., Boothbay Harbor, Maine. Rudder gear	Apr. 21, 1868.
78,483	Rider, Alexander K., assignor to self, C. H. Delamater, and G. H. Reynolds, Nazareth, Pa. Valve for steam-engines	June 2, 1868.
	Rider, B. P., and C. D. Wrightington. (*See* Wrightington & Rider.)	
74,427	Rider, Joseph, Newark, Ohio, assignor to self and E. Remington & Sons. Strap ring for fire-arms	Feb. 11, 1868.
74,428	Same.....Breech-loading fire-arms	Feb. 11, 1868.
73,388	Ridgaway, Samuel C., Baltimore, Md. Harvester rake	Jan. 14, 1868.
2,855	Ridge, Joseph, Richmond, Ind. Coal oil lamp.....(Reissue)	Feb. 4, 1868.
76,249	Ridgely, P. R., Iron Mountain, Mo. Wagon wheel	Mar. 31, 1868.
73,389	Ridgley, Heber R., Mansfield, Ohio. Harness pad	Jan. 14, 1868.
78,234	Ridgway, Charles Lowell, Boston, Mass. Water gauge for steam boilers	May 19, 1868.
81,292	Same.....Cork-screw	Aug. 18, 1868.
	Same.....(*See* Clapp, Seth E., assignor.)	
	Ridgway, John J. (*See* Clapp, Seth E., assignor.)	
84,765	Ried, C. M., Greensboro, Ala. Lubricator for journals	Dec. 8, 1868.
81,006	Riegel, F. T., Philadelphia, Pa. Pressure indicator	Aug. 11, 1868.
74,850	Rigg, William, England. Screw cap for oil cans. (Patented in England Feb. 6, 1867)	Feb. 25, 1868.
85,330	Riggs, Charles G., Turin, and Homer C. Markham, West Turin, N. Y. Milk cooler	Dec. 29, 1868.
78,132	Riggs, Charles H., Windsor Locks, Conn. Planer chuck	May 19, 1868.
3,121	Same.....same.....(Reissue)	Sept. 15, 1868.
81,408	Riggs, Charles H., Warwick, N. Y. Liquid meter. (Antedated Aug. 17, 1868)	Aug. 25, 1868.
74,851	Riggs, Homer, Oxford, Conn. Boot and shoe sole. (Antedated Feb. 12, 1868)	Feb. 25, 1868.
73,390	Riggs, Lyman, Lansing, Mich. Convertible fork and hook	Jan. 14, 1868.
	Riker, Daniel J., and J. Hall Dow. (*See* Dow & Riker.)	
84,510	Riker, E. J., Lewiston, Maine. Grappling hook	Dec. 1, 1868.
76,525	Rikert, Matthias, Oneida, N. Y. Rotary steam-engine	Apr. 7, 1868.
79,600	Riley, Christian F., assignor to self and Jacob P. David, Philadelphia, Pa. Track-clearer for railroads	July 7, 1868.
	Riley, George P. (*See* Evans, George F., assignor.)	
77,762	Riley, James, Detroit, Mich. Straw cutter	May 12, 1868.
77,216	Riley, John D., deceased, by Jane Riley, administratrix, assignor to Henry G. Dayton, Cincinnati, Ohio. Distilling apparatus	Apr. 28, 1868.
	Riley, J. H. (*See* Quackenbush, J. H., assignor.)	
85,402	Riley, William, assignor to H. Carpenter, Salem, Oregon. Shackle and supporter	Dec. 29, 1868.
75,792	Riley, W. W., Columbus, Ohio. Gate	Mar. 24, 1868.
74,002	Rinehart, L. L., and P. Phillips, Evansburg, Ohio. Device to prevent hogs from rooting	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84, 441	Rinehart, Martin, Lockport, Ill. Compound for treating piles	Nov. 24, 1868.
79, 919	Rink, Peter, and James Docherty, Wertsville, N. J. Adjustable barrel head	July 14, 1868.
75, 577	Ripley, Daniel C., Pittsburg, Pa. Manufacture of glass	Mar. 17, 1868.
83, 210	Same.....Birmingham, Pa. Manufacture of glass ware	Oct. 20, 1868.
73, 122	Ripley, Daniel C., assignor to Ripley & Co., Pittsburg, Pa. Glass lamp	Jan. 7, 1868.
3, 035	Same.....Glass lamp.....(Division 2, reissue)	July 14, 1868.
3, 078	Same.....same.....(Division 1, reissue)	Aug. 11, 1868.
80, 224	Ripley, Ezra, Troy, N. Y. Button fastener	July 21, 1868.
81, 111	Same.....Screw-handle attachment	Aug. 18, 1868.
83, 211	Same.....Toy pistol	Oct. 20, 1868.
79, 860	Ripley, Ezra, assignor to self and W. C. Davis, Troy, N. Y. Tea-kettle	July 14, 1868.
79, 006	Ripley, E. H., North Chelmsford, Mass. Machine for planing mouldings	June 16, 1868.
82, 641	Ripley, John L., Fremont, Ohio. Hay knife	Sept. 29, 1868.
82, 250	Ripley, M. H., and W. N. Temple, Minneapolis, Minn. Combined corn-sheller and apple-grinder	Sept. 15, 1868.
77, 324	Risch, Conrad F. L., Huntingburg, Ind. Heliometer	Apr. 28, 1868.
78, 133	Same.....same	May 19, 1868.
81, 946	Risher, Daniel, jr., Dravosburg, Pa. Device for loading coal	Sept. 8, 1868.
84, 906	Risley, Seldon N., Brooklyn, N. Y. Cigar case	Dec. 15, 1868.
82, 348	Rist, J. W., assignor to self and Ira A. Hebbard, Rochester, N. Y. Knitting machine	Sept. 22, 1868.
82, 554	Same.....Indicator for knitting machines. (Antedated Sept. 16, 1868)	Sept. 29, 1868.
82, 555	Rist, J. W., assignor through mesne assignments to self and Ira A. Hebbard, Rochester, N. Y. Register for knitting machines. (Antedated Sept. 24, 1868)	Sept. 29, 1868.
77, 916	Ritchel, Charles F., Chicago, Ill. Can opener	May 12, 1868.
80, 769	Same.....Serial crank	Aug. 4, 1868.
81, 947	Ritchel, Charles F., assignor to self and Henry S. Haynes, Chicago, Ill. Chalk and sand-paper holder for billiard tables	Sept. 8, 1868.
76, 101	Ritchie, Charles O., and James H., North Madison, Ind. Press	Mar. 31, 1868.
74, 139	Ritchie, E. S., Brookline, Mass. Holtz electrical machine	Feb. 4, 1868.
77, 763	Same.....Paint for liquid compasses, &c	May 12, 1868.
	Ritchie, Francis, and Nicholas S. Vedder. (*See* Vedder & Ritchie).....(Design.)	
	Ritchie, William, and Alexander C. Martin. (*See* Martin & Ritchie.)	
81, 293	Rittenhouse, Alvah, Philadelphia, Pa. Clamp for holding leather	Aug. 18, 1868.
82, 349	Same.....Female syringe and bed pan	Sept. 22, 1868.
	Rittenhouse, H. N., *et al.* (*See* Meyer, Berck A., assignor.)	
	Rittenhouse, John P. (*See* Thompson, M. L., assignor.)	
84, 907	Ritter, Henry M., Covington, Ky. Machine for riveting hinges	Dec. 15, 1868.
	Ritter, Theodore. (*See* Mollenhauer, Edward, assignor.)	
	Ritterhoff, F. W., and Nicholas H. Borgfeldt. (*See* Borgfeldt & Ritterhoff.)	
75, 973	Ritz, Adam G., assignor to self, John B. Carter, and William Lindley, Elizabethtown, Ind. Shingle machine	Mar. 24, 1868.
74, 429	Rivera, Geronimo, Cambridgeport, Ind. Pine-apple beer	Feb. 11, 1868.
78, 015	Rivers, T. L., St. Louis, Mo. Animal trap. (Antedated May 13, 1868)	May 19, 1868.
82, 642	Rives, Jacques, France. Method of casting metal	Sept. 29, 1868.
73, 838	Rivot, Louis Edouard, assignor to Jacques Gaillardon, France. Method and means for treating ores of gold and silver	Jan. 28, 1868.
73, 839	Same.....Apparatus for amalgamating gold and silver ores	Jan. 28, 1868.
73, 840	Same.....Treating ores with superheated steam	Jan. 28, 1868.
78, 831	Same.....Process of treating gold and silver ores	June 9, 1868.
82, 440	Rix, Alfred, San Francisco, Cal. Fastening for buttons	Sept. 22, 1868.
81, 948	Roach, Francis, assignor to self and Joseph Zane, Boston, Mass. Faucet	Sept. 8, 1868.
80, 668	Roath, Lorenzo W., Lexington, Ohio. Bedstead	Aug. 4, 1868.
81, 409	Robbins, A. H., Copenhagen, N. Y. Horse rake	Aug. 25, 1868.
	Robbins, C. G. (*See* Maxham, Norman, assignor.)	
3, 251	Robbins, Edgar A., Wrentham, Mass. Trade mark.....(Design)	Nov. 17, 1868.
83, 731	Robbins, Edward Y., Cincinnati, Ohio. Passenger railway car	Nov. 3, 1868.
73, 045	Robbins, Elisha, Worcester, Mass. Check for picker staff	Jan. 7, 1868.
75, 979	Same.....Railway snow-plow	Mar. 24, 1868.
76, 348	Same.....Railway	Apr. 7, 1868.
76, 349	Same.....Scroll saw-mill	Apr. 7, 1868.
77, 096	Robbins, Henry R., assignor to self and W. H. Green, Baltimore, Md. Tobacco pipe	Apr. 21, 1868
78, 134	Robbins, Henry R., assignor to self, J. J. Moran, and G. Colton, Baltimore, Md. Steam-pipe coupling for railroad-car heaters	May 19, 1868
80, 012	Robbins, Henry Seymour, Newton Falls, Ohio. Device for strawberry culture	July 14, 1868
81, 294	Robbins, Hiram H., Lynn, Mass. Feather renovator	Aug. 18, 1868
	Robbins, Hiram H., *et al.* (*See* Lennox, Robbins & Hayes.)	
85, 132	Robbins, Horace T., Boston, Mass. Locking device for umbrellas	Dec. 22, 1868
	Robbins, Horace W., *et al.* (*See* Bradley, John, assignor.)	
	Robbins, J. A., and William Kerr, jr. (*See* Kerr & Robbins.)	
	Robbins, Jasper N., *et al.* (*See* Lyon, Shumard & Robbins.)	
75, 794	Robbins, Louis S., New York, N. Y. Preserving skins of animals	Mar. 24, 1868
75, 795	Same.....Process of oiling, preserving, and strengthening leather	Mar. 24, 1868
75, 980	Same.....Process of cleaning wool, &c	Mar. 24, 1868
78, 235	Same.....Agricultural steam boiler	May 26, 1868
80, 506	Same.....Process for purifying butter	July 28, 1868
	Robbins, Richard B. (*See* Mason, Austin Z., assignor.)	
	Same.....(*See* Wallace, Luther R., assignor.)	
	Robbins, Richard B., and Austin Z. Mason. (*See* Mason & Robbins.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,097	Robbins, William, Hinsdale, Ill., and Edward Swasey, Bucksport, Me. Amalgamator	Apr. 21, 1868.
	Robbins, William O. (*See* Ferris, Samuel S., assignor.)	
84,843	Robbins, William S., New Bedford, Mass. Bridle bit	Dec. 8, 1868.
79,145	Roberts, A. E., Des Moines, Iowa. School seat and desk	June 23, 1868.
79,394	Roberts, Albert W., Hartford, Conn. Securing eye-glasses to wearing apparel	June 30, 1868.
84,378	Roberts, Benjamin H., Fall River, Mass. Carriage spring	Nov. 24, 1868.
73,465	Roberts, Charles, Lake Village, N. H. Head-block for saw-mills	Jan. 21, 1868.
84,766	Roberts, Cyrus, and John A. Thorp, Three Rivers, Mich. Horse-power and truck	Dec. 8, 1868.
82,879	Roberts, C. H. L., and W. C. Dudley, Morrison, Ill. Collar fastener	Oct. 6, 1868.
84,709	Roberts, C. W., Austin, Ill. Repeating clock. (Antedated Nov. 21, 1868)	Dec. 8, 1868.
78,896	Roberts, Edward, Philadelphia, Pa. Apparatus for cutting the teeth of wheels	June 16, 1868
75,578	Roberts, Eleazer B., Rochester, N. Y. Cultivator	Mar. 17, 1868
79,395	Roberts, E. L., New York, N. Y. Ventilator	June 30, 1868.
81,211	Same.....Apparatus for heating and ventilating railroad cars	Aug. 18, 1868.
75,461	Roberts, E. S., Columbus, Ga. Cotton-bale tie	Mar. 10, 1868.
85,182	Roberts, Francis A., North Vassalboro, Maine. Potato digger	Dec. 22, 1868.
	Roberts, Frank, *et al.* (*See* Lockhart, Roberts & Knight.)	
82,556	Roberts, George J., Dayton, Ohio. Cut-off for steam engines	Sept. 29, 1868.
	Roberts, H., and W. Onions. (*See* Onions & Roberts.)	
77,098	Roberts, Henry A., Boston, Mass. Refrigerator	Apr. 21, 1868.
85,403	Roberts, Henry F., Pittsburg, Pa. Propeller	Dec. 29, 1868.
	Roberts, Joseph, *et al.* (*See* Cook, John F., assignor.)	
3,242	Roberts, Mark L., Mt. Union, Ohio. Knitting machine.....(Reissue)	Dec. 22, 1868.
74,141	Roberts, Marvin S., Racine, Wis. Peat crib	Feb. 4, 1868.
80,309	Same.....Peat machine. (Antedated July 14, 1868)	July 28, 1868.
	Roberts, Osmore O. (*See* Stockbridge, Charles H., assignor.)	
	Roberts, P. P., and E. N. Porter. (See Porter & Roberts.)	
	Same.....same.	
74,596	Roberts, Richard N., assignor to self and Justus M. Alting, New Britain, Conn. Hitching-post cap	Feb. 18, 1868.
	Roberts, Thomas, *et al.* (*See* Pooley, Roberts & Lue.)	
	Roberts, Watson W. (*See* Kaulbeck, Charles, assignor.)	
79,007	Roberts, William, assignor to self, Austin Roberts, and Welcome Sprague, Farnham, N. Y. Corn sheller	June 16, 1868.
76,102	Roberts, W. E., North Coventry, Pa. Portable fence	Mar. 31, 1868.
74,003	Robertson, Duncan, Detroit, Mich. Center-board for vessels. (Antedated Dec. 12, 1867)	Feb. 4, 1868.
77,406	Robertson, E. S., and A. B. Collins, Mount Liberty, Ohio. Lifting jack	Apr. 28, 1868.
80,225	Robertson, James, Scotland. Excavating machine	July 21, 1868.
82,036	Robertson, James, Gosport, Ind. Hay and cotton press	Sept. 8, 1868.
75,649	Robertson, John, Brooklyn, N. Y. Manufacture of rubber tubes and machinery therefor	Mar. 17, 1868.
76,526	Robertson, John, Quincy, Ill. Valve-rod connection	Apr. 7, 1868.
73,046	Robertson, John B., New Orleans, La. Stump extractor	Jan. 7, 1868.
77,099	Robertson, L. F., West Farms, N. Y. Compound for treating hides and skins	Apr. 21, 1868.
2,947	Same.....same.....(Reissue)	May 26, 1868.
82,350	Robertson, William D., San Francisco, Cal. Track-laying machine for railroads	Sept. 22, 1868.
75,462	Robie, D. C., assignor to self and H. E. Bostwick, Springfield, Mass. Lathe for turning buttons	Mar. 10, 1868.
78,832	Robinett, James T., assignor to self and G. W. Goodwyn, Petersburg, Va. Journal box	June 9, 1868.
	Robinson & Hearn. (*See* Rymes, Christopher E., assignor.)	
75,197	Robinson, Alfred, New York, N. Y. Process and apparatus for the manufacture of roofing fabrics	Mar. 3, 1868.
76,527	Robinson, Azariah, New York, N. Y. Fire escape	Apr. 7, 1868.
	Robinson, A. C. and William Seymour. (*See* Parks, B. M., assignor.)	
78,016	Robinson, Benjamin, East Gloucester, Mass. Process of obtaining gelatine from fish heads	May 19, 1868.
78,609	Robinson, Benjamin, Thomaston, Maine. Carriage thill	June 2, 1868.
76,817	Robinson, Charles, Boston, Mass. Chamber vessel	Apr. 14, 1868.
77,217	Robinson, Clark, Fox Lake, Wis. Miter box	Apr. 28, 1868.
80,310	Same.....Thill coupling	July 28, 1868.
82,351	Same.....Miter box	Sept. 22, 1868.
	Robinson, D. C., *et al.* (*See* Flora, Orlando V., assignor.)	
	Same.....same.	
73,047	Robinson, D. D., Niles, Mich. Hook for whiffletrees	Jan. 7, 1868.
74,248	Robinson, Daniel T., Boston, Mass. Implement for cutting tobacco and other substances	Feb. 11, 1868.
79,396	Robinson, Edward T., Nashua, N. H. Valve gear	June 30, 1868.
76,945	Robinson, Fayette S., Boston, Mass. Lamp burner	Apr. 21, 1868.
	Robinson, George C., *et al.* (*See* Blakemore, Charles C., assignor.)	
74,142	Robinson, George M., New Wilmington, Pa. Apparatus for operating horse hay forks	Feb. 4, 1868.
77,843	Robinson, George M., New Wilmington, Pa. Horse hay fork	May 12, 1868.
81,541	Same.....Hay fork	Aug. 25, 1868.
	Robinson, Henry E., and James T. Watson. (*See* Watson & Robinson.)	
77,100	Robinson, James, assignor to self and William Robinson, Funkville, Pa. Lamp chimney	Apr. 21, 1868.
81,295	Robinson, L. C., Shepardsville, Mich, Shingle machine	Aug. 18, 1868.
74,143	Robinson, N. W., Moriah, N. Y. Hold-back hook	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Robinson, Stillman W., and DeVolson Wood. (*See* Wood & Robinson.)	
	Same.....same.	
85,331	Robinson, T. C., and George P. Clark, Boston, Mass. Steam street car	Dec. 29, 1868.
78,539	Robinson, William, Brooklyn, N. Y. Lamp burner	June 2, 1868.
73,651	Robinson, William A., Grand Rapids, Mich. Hames fastener	Jan. 21, 1868.
75,796	Same.....Mop head	Mar. 24, 1868.
84,710	Robinson, W. A., Auburn, N. Y. Steam graduator	Dec. 8, 1868.
76,528	Robinson, William B., Detroit, Mich. Balanced slide valve	Apr. 7, 1868.
74,943	Robinson, W. C., Saltzburg, Pa. Churn	Feb. 25, 1868.
2,955	Robley, Joseph, Brooklyn, N. Y. Floor oil-cloth pattern.....(Design)	Mar. 17, 1868.
2,956	Same.....same.....(Design)	Mar. 17, 1868.
2,957	Same.....same.....(Design)	Mar. 17, 1868.
82,352	Robrecht, Anthony J., Newark, N. J. Carpet bag	Sept. 22, 1868.
76,946	Robson, Robert, Buffalo, N. Y. Brick kiln	Apr. 21, 1868.
76,250	Roche, D. W., assignor to self and J. P. Roche, Rochester, N. Y. Shingle machine. (Antedated Feb. 25, 1868)	Mar. 31, 1868.
77,764	Rock, Andrew J., Union Village, Va. Last and shoe holder	May 12, 1868.
74,144	Rock, Edward A., Ludlow, Vt. Globe steam valve	Feb. 4, 1868.
	Rock, John H., and Adam McMullen. (*See* McMullen & Rock.)	
78,236	Rockafellow, Samuel, Muscatine, Iowa. Harvester	May 26, 1868.
	Rockwell, H. T. (*See* Hunter, W. R. S., assignor.)	
	Rockwell, L. H. (*See* Baum, A. F., assignor.)	
77,218	Rockwell, Theodore T., Yorkville, N. Y. Blind slat fastening. (Antedated April 15, 1868)	Apr. 28, 1868.
73,652	Rockwood, S. J., Elsah, Ill. Candlestick or holder	Jan. 21, 1868,
81,007	Rockwood, Thomas J., St. Johnsbury, Vt. Machine for milling the knife-edge of scales	Aug. 11, 1868.
76,818	Rodeheaver, William H., Miamisburg, Ohio. Hub for wagon wheels	Apr. 14, 1868.
80,013	Same.....Machine for dressing felloes	July 14, 1868.
75,881	Rodenhauser, Leonhard, Philadelphia, Pa. Car starter	Mar. 24, 1868.
81,410	Rodes, Henry, Clarence Center, N. Y. Plaster sower	Aug. 25, 1868.
83,550	Rodgers, John F., South Bend, Ind. Gate	Oct. 27, 1868.
82,753	Rodgers, William, Lynnville, Ind. Cultivator	Oct. 6, 1868.
77,917	Rodgers, William H., Brooklyn, N. Y. Gas-burner	May 12, 1868.
74,597	Rodier, Louis C., Springfield, Mass. Steam globe valve	Feb. 18, 1868.
83,411	Rodier, Peter, Detroit, Mich. Stop device	Oct. 27, 1868.
74,430	Rodney, Leander, New York, N. Y. Cement roofing. (Antedated Jan. 31, 1868)	Feb. 11, 1868.
73,199	Roe, D. E., Elmira, N. Y. Plate lifter	Jan. 7, 1868.
74,598	Roe, George O., Conantsville, Conn. Plate lifter. (Antedated Feb. 6, 1868)	Feb. 18, 1868.
73,653	Roebuck, Samuel and John, New York, N. Y. Pulley and block	Jan. 21, 1868.
3,252	Same.....Cuspadore.....(Design)	Nov. 17, 1868.
84,304	Roeden, Carl Wilhelm, San Francisco, Cal. Anchor	Nov. 24, 1868.
83,212	Roemer, William, Newark, N. J. Traveling bag	Oct. 20, 1868.
81,008	Roemheld, J., Chicago, Ill. Eye-water	Aug. 11, 1868.
	Roeper, J. J., and William Flesh. (*See* Smith & Brown, assignors)...(Design.)	
	Roesler, Henry, and William Crighton. (*See* Crighton & Roesler.)	
	Roeth, Caspar W. (*See* Estes, Dana, assignor.)	
	Roettger, Edward, and Pierce Du Rieux. (*See* Du Rieux & Roettger.)	
76,103	Roff, Almon, Southport, Conn. Wood-boring machine	Mar. 31, 1868.
79,778	Same.....Adjustable spring	July 7, 1868.
	Rogers, A. E., and A. C. Gibbs. (*See* Rust, F. W., assignor.)	
74,431	Rogers, Charles, Alleghany City, Pa. Pump	Feb. 11, 1868.
74,852	Rogers, Ephraim P., assignor to self, R. W. Payne, and Hiram Pritchard, Corning, N. Y. Governor	Feb. 25, 1868.
74,599	Rogers, Evan T., San Francisco, Cal. Boot and shoe	Feb. 18, 1868.
79,601	Rogers, F. O., Niles, Mich. Preserving composition roofs	July 7, 1868.
73,048	Rogers, Ichabod R., assignor to George E. Bartlett, Lynn, Mass. Mode of lasting boots and shoes	Jan. 7, 1868.
80,014	Rogers, Isaac, West Chehalem, Oregon. Apple corer and slicer	July 14, 1868.
2,983	Rogers, John, New York, N. Y. Group of figures.....(Design)	Mar. 31, 1868.
3,169	Same.....Group of statuary.....(Design)	Aug. 25, 1868.
84,711	Rogers, John C., Alden, N. Y. Gate latch	Dec. 8, 1868.
75,703	Rogers, John W., Decatur, Ill. Tuyere	Mar. 17, 1868.
	Rogers, John W., and John H. Nale. (*See* Nale & Rogers.)	
79,397	Rogers, Junius, assignor to self and Frederick W. Pratt, Sterling, Ill. Lock nut	June 30, 1868.
78,017	Rogers, Levi, Morehouse Parish, La. Medical compound	May 19, 1868.
78,018	Same.....same	May 19, 1868.
74,004	Rogers, Luman, Pittsburg, Pa. Cultivator teeth. (Antedated Jan. 23, 1868)	Feb. 4, 1868.
81,212	Rogers, Robert E., Philadelphia, Pa. Steam generator	Aug. 18, 1868.
85,332	Rogers, Robert W., Pittsburg, Pa. Bridge	Dec. 29, 1868.
75,055	Rogers, Silas O., jr., Stanfordville, N. Y. Car coupling	Mar. 3, 1868.
84,908	Rogers, Sullivan W., Harwich, Mass. Baking pan	Dec. 15, 1868.
84,137	Rogers, William C., Newark, N. J. Reefing fore-and-aft sails	Nov. 17, 1868.
73,049	Rogers, William H., Harlem, Ill. Gate	Jan. 7, 1868.
83,097	Rogers, William H., New York, N. Y. Pocket safe for friction match cord	Oct. 13, 1868.
83,412	Same.....Match composition	Oct. 27, 1868.
73,200	Rogers, W. L., North Cornwall, and W. E. Crane, New Britain, Conn. Railway switch	Jan. 7, 1868.
80,669	Rogers, William W., Hampden Corner, Me. Dumping cart and wagon	Aug. 4, 1868.
81,296	Rohrbacher, F., and F. Hormann, Philadelphia, Pa. Fruit jar	Aug. 18, 1868.
74,145	Rohrer, Jeremiah E., Rohrersville, Md. Spout bracket	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
3,047	Rohrer, John L., Upper Leacock Township, Pa. Harvester rake....(Reissue)..	July 21, 1868.
84,138	Same.....Harvester reel.....	Nov. 17, 1868.
77,918	Roland, George W., Salem, Oregon. Harness loop.....	May 12, 1868.
80,566	Roland, Isaac S., Reading Pa. Water wheel.....	Aug. 4, 1868.
	Roland, T. P., *et al.* (*See* White, C. N., assignor.)	
79,688	Rolfe, Charles F., deceased, by Caroline M. Rolfe, administratrix, Laconia, N. H. Hog trough.....	July 7, 1868.
	Rollins, Joseph A., and Charles S. Coolidge. (*See* Coolidge & Rollins.)	
	Romer, James L., *et al.* (*See* Sherman & Russell, assignors.)	
	Same.....(*See* Adams, Thomas, assignor.)	
	Same.....(*See* Bailey, Henry, assignor.)	
81,819	Rood, Edwin O., Lodi, Ill. Mechanical movement.....	Sept. 1, 1868.
78,135	Roof, Albert J., Peoria, Ill. Rolling pin.....	May 19, 1868.
77,765	Roof, Stephen W., New York, N. Y. Frame for neckties.....	May 12, 1868.
78,897	Rooker, Alfred, England. Faucet. (Patented in England Sept. 25, 1867).....	June 16, 1868.
74,432	Root, Clark, and Bishop Bennet, De Ruyter, N. Y. Sawing machine.....	Feb. 11, 1868.
81,411	Root, Franklin, Boston, Mass. Car brake.....	Aug. 25, 1868.
	Root, George F. and Ebenezer T., *et al.* (*See* Reilly, Frank W., assignor.)	
	Root, G. W., and A. B. Buell. (*See* Buell & Root.)	
81,820	Root, John, Cass County, Mich. Farm gate.....	Sept. 1, 1868.
75,198	Root, John, assignor to self and McLagen & Stevens, New Haven, Conn. Bolt-heading machine.....	Mar. 17, 1868.
74,146	Root, John B., New York, N. Y. Steam generator.....	Feb. 4, 1868.
84,000	Root, Otis, Wendell, Mass. Mophead.....	Nov. 10, 1868.
73,654	Roots, P. H. and F. M., Connersville, Ind. Rotary blower.....	Jan. 21, 1868.
2,900	Same.....Cross-head for blowers.....(Reissue)..	Mar. 17, 1868.
81,009	Same.....Rotary blower.....	Aug. 11, 1868.
81,010	Same.....Case for rotary pumps.....	Aug. 11, 1868.
79,861	Roper, Sylvester H., assignor to the Roper Repeating Rifle Company, Roxbury, Mass. Detachable muzzle for shot-guns.....	July 14, 1868.
79,779	Rorabaeh, Isaac, South Bend, Ind. Harness buckle.....	July 7, 1868.
77,919	Rorke, Hugh B., California, Mo. Mop wringer. (Antedated April 29, 1868).....	May 12, 1868.
74,147	Rosbrugh, Thomas, Bellefontaine, Ohio. Medical compound.....	Feb. 4, 1868.
81,949	Roseoe, S. R., Obion County, Tenn. Sofa bedstead.....	Sept. 8, 1868.
82,251	Rose, Clemens B., Sunderland, Mass. Bit stock.....	Sept. 15, 1868.
3,218	Rose, Israel M., assignor through mesne assignments to Henry W. Fuller, Brooklyn, N. Y. Tuck-creasing attachment for sewing machines.....(Reissue)..	Dec. 1, 1868.
2,984	Rose, J. R., and E. L. Calely, assignors to Cox, Whiteman & Cox, Philadelphia, Pa. Door of a stove.....(Design)..	Mar. 31, 1868.
3,015	Rose, J. R., and E. L. Calely, assignors to Cox, Whiteman & Cox, Philadelphia, Pa. Fire cylinder cap for a stove.....(Design)..	May 5, 1868.
3,193	Ross, John R., and E. L. Calely, assignors to Thomas, Roberts, Stevenson & Co., Philadelphia, Pa. Cook-stove plate. (Antedated Aug. 11, 1868)...(Design)..	Sept. 1, 1868.
75,056	Rose, Norman, and E. W. Wright, Milford, N. Y. Water wheel.....	Mar. 3, 1868.
75,298	Rose, Timothy, Cortlandville, N. Y. Scroll for water wheels.....	Mar. 10, 1868.
76,350	Same.....Churn.....	Apr. 7, 1868.
74,600	Rose, William, Lake, Ill. Harvester.....	Feb. 18, 1868.
	Rosekrans, Hiram, and Oliver B. Oakley. (*See* Oakley & Rosekrans.)	
	Roseman, A. Robert, *et al.* (*See* Harris, Roseman & Hutchins.)	
75,650	Rosenthal, Max, Philadelphia, Pa. Button fastening.....	Mar. 17, 1868.
78,610	Same.....Composition for preparing paper for transferring stamps and other printed matter.....	June 2, 1868.
75,463	Roskopf, George Frederic, assignor to self and Jules D. Huegnenin Vuillemin, Switzerland. Changeable escapement for watches.....	Mar, 10, 1868.
73,655	Ross, Abbott Q., Cleves, Ohio. Safety pocket.....	Jan. 21, 1868.
77,531	Same.....Carriage-step screen.....	May 5, 1868.
78,019	Ross, Albert E., Hollis, Me. Sawing machine.....	May 19, 1868.
76,662	Ross, Alexander, Freeport, Ill. Wagon jack.....	Apr. 14, 1868.
80,507	Ross, Austin A., Horieon, N. Y. Churn.....	July 28, 1868.
	Ross, Charles, deceased, by John Ross, administrator, Brooklyn, N. Y. Grinding surface in mills.....(Extension)..	Oct. 16, 1868.
73,931	Ross, Henderson, Pittsburg, Pa. Puddling furnace.....	Jan. 28, 1868.
83,551	Same.....Furnace for the manufacture of iron and for other purposes. (Antedated September 30, 1868).....	Oct. 27, 1868.
75,199	Ross, H. Schuyler, assignor to Charles G. Ross, Buffalo, N. Y. Wrench.....	Mar. 3, 1868.
78,394	Same.....Baggage check.....	May 26, 1868.
78,395	Ross, H. Schuyler, assignor to Charles G. Ross and Henry B. Eells, New York, N. Y. Steam water ejector. (Antedated May 14, 1868).....	May 26, 1868.
84,511	Ross, Isaac N. Worcester, Mass. Heating stove.....	Dec. 1, 1868.
78,540	Ross, James, assignor to self and Ferdinand Fairbanks, North Cambridge, Mass. Lubricator for steam engines.....	June 2, 1868.
	Ross, James K., and E. M. Morrison. (*See* Morrison & Ross.)	
78,541	Ross, John, Brooklyn, N. Y. Feed regulator for mills. (Antedated May 25, 1869).....	June 2, 1868.
	Ross, John A., *et al.* (*See* Beeker, Ross & Steuernagel.)	
	Same.....same.	
79,862	Ross, O. N., Penfield, N. Y. Door straightener.....	July 14, 1868.
76,819	Ross, P. G., Davenport, Iowa. Shaft coupling.....	Apr. 14, 1868.
81,542	Ross, Robert, Bethlehem, Pa. Oil or suet cup.....	Aug. 25, 1868.
75,464	Ross, Robert P., Bethlehem, Pa. Basin faucet.....	Mar. 10, 1868.
81,011	Ross, William, Paducah, Ky. Try square.....	Aug. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81, 688	Ross, William, and James M. Adamson, Day's Store, Pa. Washing machine. (Antedated August 28, 1868)	Sept. 1, 1868.
77, 844	Ross, William J., Worcester, Mass. Lamp burner	May 12, 1868.
84, 767	Same.....Door fastener	Dec. 8, 1868.
	Rossell, W. C., *et al.* (*See* Hollingsworth, James H., assignor.)	
80, 508	Rossman, William F., Hudson, N. Y. Kerosene lamp boiler	July 28, 1868.
76, 251	Roth, Elias, New Oxford, Pa. Gate	Mar. 31, 1868.
77, 532	Roth, Frank J., Schenectady, N. Y. Piston packing. (Antedated April 22, 1868)	May 5, 1868.
77, 533	Same.....same.....(Antedated April 22, 1868)	May 5, 1868.
77, 534	Same.....Stuffing-box packing.....(Antedated April 22, 1868)	May 5, 1868.
79, 398	Roth, G. H., Boston, Mass. Hand coal-sifter	June 30, 1868.
80, 311	Same.....Sad iron holder	July 28, 1868.
76, 820	Roth, John G., New York, N. Y. Nutmeg grater	Apr. 14, 1868.
79, 502	Same.....Clothes pin	June 30, 1868.
78, 780	Roth, Lewis, Newark, N. J. Umbrella.....(Antedated July 2, 1868)	July 7, 1868.
	Rothfelder, Henry, and R. S. Middleton. (*See* Reed, G. W., assignor.)	
74, 601	Rothschild, M., Harrisburg, Pa. Plier for bending sheet metal	Feb. 18, 1868.
79, 689	Rottanzi, A., San Francisco, Cal. Cup for effervescing drinks	July 7, 1868.
75, 200	Roulstone, E. A. G., Roxbury, Mass. Trunk corner	Mar. 3, 1868.
85, 028	Rounds, William H., North Bridgewater, Mass. Machine for trimming welted seams	Dec. 15, 1868.
83, 795	Rouse, Constant S., Dowagiac, Mich. Step ladder	Nov. 3, 1868.
	Roush, Elisha, and W. F. Wickersham. (*See* Wickersham & Roush.)	
79, 082	Roush, Isaac, and John W. Truby, Otto, N. Y. Organ	June 23, 1868.
80, 015	Routt, A. P., Liberty Mills, Va. Cultivator	July 14, 1868.
75, 579	Roux, J. G., Crystal Springs, Miss. Extension wardrobe	Mar. 17, 1868.
79, 399	Rowan, Robert, Parnassus, Pa. Scaffold and ladder	June 30, 1868.
	Rowand, Charles L., *et al.* (*See* Perrin, Abram, assignor.)	
73, 548	Rowe, A., W. H. Mitchell, and E. B. Hamill, Macomb, Ill. Seed sower	Jan. 21, 1868.
85, 133	Rowe, Daniel H., Pana, Ill. Attaching card clothing to cylinders of carding engines	Dec. 22, 1868.
	Rowe, E. (*See* Haskins, T., Joseph, assignor.)	
79, 690	Rowe, George, and S. W. Nelson, Worcester, Mass. Cutter-head	July 7, 1868.
77, 659	Rowe, Harrison, Marietta, Pa. Fagot for railroad rails	May 5, 1868.
79, 008	Rowe, James H., Fort Wayne, Ind. Churn. (Antedated June 6, 1868)	June 16, 1868.
	Rowell, Albert H., and William Banister. (*See* Banister & Rowell.)	
2, 909	Rowell, John S. and Ira, Beaver Dam, Wis. Cultivator.....(Reissue)	Mar. 31, 1868.
78, 484	Same.....Elevator for cultivator bars	June 2, 1868.
78, 833	Same.....Seeder and cultivator	June 9, 1868.
84, 305	Rowell, Warren, assignor to self and John Heck, New York, N. Y. Molding gear wheels	Nov. 24, 1868.
75, 932	Rowland, Charles, Washington, D. C. Car seat	Mar. 24, 1868.
74, 148	Rowland, Charles, assignor to self and Joseph G. Rowland, Quincy, Ill. Continuous leather peg strip	Feb. 4, 1868.
	Rowland, Erasmus D. (*See* Chambers, John D., assignor.)	
78, 327	Rowland, James L., Milwaukee, Wis. Manufacture of artificial stone	May 26, 1868.
73, 656	Rowland, T. F., Greenpoint, N. Y. Sub-aqueous tube	Jan. 21, 1868.
75, 983	Rowles, W. W. and A. J. Russell, Baltimore, Md. Invalid bedstead	Mar. 24, 1868.
81, 821	Rowley, Alexander S., Hudson, N. Y. Sewing machine	Sept. 1, 1868.
76, 821	Rowley, B. L., New Britain, Conn. Flexible bit for bridles	Apr. 14, 1868.
85, 244	Rowley, Reuben, Rochester, N. Y. Training grape vines	Dec. 22, 1868.
72, 249	Rowley, S. B., Philadelphia, Pa. Cap for preserve jars	Feb. 11, 1868.
	Same.....(*See* Otterson, Thomas G., assignor).....(Reissue.)	
	Same.....(*See* Gilbert, N. S., assignor).....(Reissue.)	
	Same.....(*See* Lewis, R. W., assignor).....(Reissue.)	
	Same.....(*See* Myers, George H., assignor.)	
75, 465	Rowley, Thomas J., and William Poland, Chillicothe, Ohio. Lubricating box	Mar. 10, 1868.
74, 602	Rowlstone, W. D., Butternuts, N. Y. Sleigh brake	Feb. 18, 1868.
	Rowse, Richard. (*See* Wetherbee, John W., assignor.)	
81, 213	Roy, Bozil S., assignor to self and Henry S. Morse, Lowell, Mass. Card grinder.	Aug. 18, 1868.
74, 149	Royal, Jarvis, Rochelle, Ill. Drying and ventilating apparatus	Feb. 4, 1868.
	Royé, Adolphe Lewis, and J. C. Drouhard. (*See* Drouhard & Royé.)	
77, 920	Royer, Herman and Louis, San Francisco, Cal. Machine for treating hides	May 12, 1868.
76, 351	Royon, Edward, Piqua, Ohio. Screw-cutting machine	Apr. 7, 1868.
	Roys & Wilcox Company. (*See* Meigs, Edmund H., assignor.)	
	Same.....same.	
	Roziere, Charles, and Leon V. Hue. (*See* Hue & Roziere.)	
77, 535	Rubbles, Casper, Lowville, N. Y. Planter and cultivator	May 5, 1868.
78, 328	Rubel, Moses, Chicago, Ill. Cutlery	May 26, 1868.
75, 201	Rudolph, Daniel, Sugar Grove, Ohio. Beehive	Mar. 3, 1868.
85, 479	Rue, Nelson, Harrodsburg, Ky. Gate	Dec. 29, 1868.
73, 757	Rue, Samuel, jr., assignor to self, Samuel McCambridge and Edward G. Martin, Chester County, Pa. Injector for steam generators	Jan. 28, 1868.
81, 822	Same.....Paoli, Pa.....same	Sept. 1, 1868.
	Ruedy, John, *et al.* (*See* Zamboni, Isidoro, assignor.)	
84, 580	Rueger, Sarah, Kansas City, Mo. Mammalial liniment	Dec. 1, 1868.
77, 407	Ruggles, Henry J., Poultney, Vt. Mowing machine	Apr. 28, 1868.
81, 112	Same.....Slate trimming machine	Aug. 18, 1868.
3, 054	Ruggles, Solomon W., assignor through mesne assignments to Samuel M. Longley, E. J. Genet, Samuel B. Smith, and Andrew C. Getty, Fitchburg, Mass. Stump extractor.....(Reissue)	July 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,781	Ruggles, Stephen P., Boston, Mass. Rotary fluid elevator	July 7, 1868.
75,202	Ruhl, J., Defiance, Ohio. Harrow	Mar. 3, 1868.
78,136	Ruhl, J., and E. S. Herrington, Defiance, Ohio. Hay rake and loader	May 19, 1868.
	Rumford Chemical Works. (*See* Horsford, E. N., assignor) (Reissue.)	
	Rummer, E. D., and F. L. Kathan. (*See* Kathan & Rummer.)	
83,321	Rumpf, M. H., France. Railway car brake. (Patented in France October 17, 1867)	Oct. 20, 1868.
	Rumpff, Charles. (*See* Zinssmann, Emil, assignor.)	
	Same (*See* Lambert, Jean, assignor.)	
	Rumrill, Ebenezer B., and Benjamin F. Holbrook. (*See* Holbrook & Rumrill.)	
	Rumsey & Company. (*See* Egleston, Leonard, assignor) (Design.)	
74,150	Rumsey, Henry D., Homer, N. Y. Adjustable head for barrels and firkins	Feb. 4, 1868.
73,932	Rumsey, Jesse B., Port Huron, Mich. Churn	Jan. 28, 1868.
79,259	Same Sturgis, Mich. Coat rack	June 23, 1868.
	Rumsey, W. D., and William Cooper, jr. (*See* Cooper & Rumsey.)	
79,009	Rundell, William F., Genoa, N. Y. Harvester reel	June 16, 1868.
77,219	Rundlett, Samuel C., Portland, Me. Brace for bits	Apr. 28, 1868.
74,005	Runstetler, Andrew, and Albert Windeck, Peoria, Ill. Cotton plow and cultivator	Feb. 4, 1868.
74,006	Same Cotton scraper and cutter	Feb. 4, 1868.
75,456	Same Machine for planting cotton seed and corn	Mar. 10, 1868.
	Runyon, Peter P., *et al.* (*See* Stelle, David D., assignor) (Reissue.)	
	Same (*See* McDonald, Thomas E., assignor.)	
73,841	Ruppel, George, Harlem, N. Y. Trunk lock	Jan. 28, 1868.
79,010	Ruschhaupt, Frederick M., New York, N. Y. Explosive powder. (Antedated June 4, 1868)	June 16, 1868.
81,214	Ruschhaupt, Frederick M., New York, and Gustavus Burhenne, Williamsburg, N. Y. Preserving ale, porter, &c	Aug. 18, 1868.
85,134	Rusco, Volney E., Chicago, Ill. Gambrils and their support for slaughtering purposes	Dec. 22, 1868.
	Ruseo, Volney E., and Windsor Leland. (*See* Leland & Rusco.)	
76,529	Rush, J. M., Marengo, Iowa. Grain conveyor	Apr. 7, 1868.
75,984	Russ, James J., Worcester, Mass. Wood-planing machine	Mar. 24, 1868.
	Russell & Erwin, Manufacturing Company. (*See* Brooks, Asa T., assignor.)	
79,146	Russell, Albert H., Adrian, Mich. Stock pump	June 23, 1868.
	Russell, A. J., and W. W. Rowles. (*See* Rowles & Russell.)	
75,797	Russell, Clement, and W. K. Miller, Massillon, Ohio. Harvester	Mar. 24, 1868.
82,994	Russell, E. P., Manlius, N. Y. Wrench	Oct. 13, 1868.
83,664	Same Churn	Nov. 3, 1868.
84,768	Same Gas burner	Dec. 8, 1868.
3,195	Russell, E. P., assignor of one-half interest to Porter Tremain, Manlius, N. Y. Mode of lighting street gas burners (Reissue)	Nov. 17, 1868.
79,782	Russell, Emily S., Plymouth, Mass. Toy house	July 7, 1868.
84,648	Russell, Ephraim, assignor to self and Beynard Yost, Waynesburg, Pa. Car coupling	Dec. 1, 1868.
84,581	Russell, Hiram, and Myron S. Fuller, Nashville, Mich. Spring bed bottom	Dec. 1, 1868.
81,215	Russell, Isaac S., New Market, Md., and H. R. Russell, Woodbury, N. J. Harvester	Aug. 18, 1868.
	Russell, Jacob, and Winslow Sherman. (*See* Sherman & Russell.)	
74,853	Russell, James, Springfield, Mass. Card-setting machine	Feb. 25, 1868.
	Russell, James, and George W. Coats. (*See* Coats & Russell) (Extension.)	
	Russell, James W., and John Sweeny. (*See* Paige, W. H., assignor.)	
80,770	Russell, J. W., Springfield, Mass. Lathe dog	Aug. 4, 1868.
73,758	Russell, John W., and David Joline, Tottenville, N. Y. Anchor	Jan. 28, 1868.
82,353	Russell, N. W., Cedar Falls, Iowa. Mold for casting sleigh shoes	Sept. 22, 1868.
	Russell, Robert, *et al.* (*See* Lanagan, M. A., assignor.)	
83,665	Russell, R. J., Moundsville, West Va. Skate	Nov. 3, 1868.
77,776	Russell, S. I., Chicago, Ill. Sidewalk	May 12, 1868.
74,603	Russell, William, assignor to self and George Winship, Atlanta, Ga. Cotton and hay press	Feb. 18, 1868.
	Russell, William D. (*See* Baxter, William, assignor.)	
81,297	Russell, William M., and D. E. Holmes, Cincinnati, Ohio. Railroad car ventilator	Aug. 18, 1868.
84,001	Rust, F. W., assignor to self, A. E. Rogers, and A. C. Gibbs., Umatilla, Oregon. Machine for scouring, blacking, and finishing leather	Nov. 10, 1868.
73,050	Rust, George E., Boston, Mass. Horseshoe cushion	Jan. 7, 1868.
81,950	Rust, Henry A., and L. Hermann, Chicago, Ill. Bridge	Sept. 8, 1868.
75,580	Rust, Joseph G., Xenia, Ohio. Device for lasting boots and shoes	Mar. 17, 1868.
	Rust, Solon, and E. M. Chapin. (*See* Chapin & Rust.)	
81,412	Ruth, Sarah, Philadelphia, Pa. Sun shade for horses	Aug. 25, 1868.
3,170	Ruthven, E. C., assignor to MacKellar, Smith, & Jordan, Philadelphia, Pa. Printing type (Design)	Aug. 25, 1868.
81,824	Rutschman, Sigmund, Philadelphia, Pa. Meat-chopping machine	Sept. 1, 1868.
77,101	Rutt, Henry W., assignor to self and Jonathan M. Rhoads, Reedsburg, Ohio. Fence for poultry yards	Apr. 21, 1868.
74,007	Rutter, Benjamin, and Hixson Hunt, New Lexington, Ohio. Treadle for propelling sewing machines	Feb. 4, 1868.
	Rutter, J. H. J. (*See* Conway, W. H., assignor.)	
83,552	Ryan, John C., Chicago, Ill. Water-heating apparatus	Oct. 27, 1868.
84,002	Ryder, Benjamin L., Chambersburg, Pa. Potting and packing plants	Nov. 10, 1868.
85,135	Ryder, Jesse, Sing Sing, N. Y. Device for extracting and transporting trees	Dec. 22, 1868.
83,883	Ryder, Nathan P., Boston, Mass. Hasp for trunk locks	Nov. 10, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78,020	Ryer, Edward C., Burlington, Vt. Watch, clock, and lock key. (Antedated May 7, 1868)	May 19, 1868.
	Ryerson, J. R., and B. F. Allen. (*See* Allen & Ryerson.)	
2,842	Ryerson, William S., Philadelphia, Pa. Hoop skirt (Reissue)	Jan. 14, 1868.
79,147	Rymal, John J., Rochester, Minn. Automatic swing	June 23, 1868.
77,102	Rymes, Christopher, assignor to Robinson & Hearn, Somerville, Mass. Machine for cutting tobacco	Apr. 21, 1868.
2,978	Ryner, William, assignor to self and John C. Hopewell, Philadelphia, Pa. Steam-drying apparatus (Reissue)	June 9, 1868.
	Sabbaton, Joseph A., and James R. Floyd. (*See* Floyd & Sabbaton.)	
83,796	Sabin, Hibbard, Philadelphia, Pa. Water heater	Nov. 3, 1868.
	Sachrist, David, and John Koch. (*See* Koch & Sachrist.)	
80,567	Sack, George F., New York, N. Y. Mold for casting letters, &c	Aug. 4, 1868.
82,995	Safford, Larkin S., Hope, Maine. Stanchion for fastening cattle	Oct. 13, 1868.
77,536	Safford, Mark, Boston, Mass. Soap holder	May 5, 1868.
77,537	Saffray, Charles, New York, N. Y. Cement	May 5, 1868.
	Sage, A. A. (*See* Jones, Alvarado, assignor.)	
75,467	Sagendorph, Lewis L., assignor to self and Samuel C. Moore, Boston, Mass. Lamp	Mar. 10, 1868.
79,011	Sager, Daniel, New York, N. Y. Corn-husking machine	June 16, 1868.
81,298	Sailer, William, Philadelphia, Pa. Clamp	Aug. 18, 1868.
78,611	Saladee, Cyrus W., Newark, Ohio, and John S. Hall, Pittsburg, Pa. Hoe	June 2, 1868.
78,612	Same—Grater and slicer	June 2, 1868.
	Saladee, Fee & Company. (*See* Gray, Joseph W., assignor.)	
	Salamander Grate Bar Company. (*See* Clarke, George H., assignor.)	
77,538	Salgee, Oliver, New York, N. Y. Pump piston. (Antedated April 25, 1868)	May 5, 1868.
79,400	Salisbury, A. J., assignor to self and Thomas R. Bard, San Buena Ventura, Cal. Reamer for wells	June 30, 1868.
84,582	Salisbury, William H., Lawrence, Mass. Process for the preparation of woolen cloth for dyeing	Dec. 1, 1868.
79,691	Sallada, R. V., and G. A. Pearson, Philadelphia, Pa. Carriage and riding whip	July 7, 1868.
79,148	Sallee, Lucretia E., Peoria, Ill. Leather-work ornament	June 23, 1868.
	Salmon, Aaron G. (*See* Brown, Charles, assignor.)	
84,967	Salmon, Peter, England. Manufacture and application of gas for various useful purposes	Dec. 15, 1868.
79,602	Salorgne, Theodore, assignor to Jacob Woodburn, St. Louis, Mo. Wagon or carriage wheel	July 7, 1868.
81,113	Salsbury, John, Central Falls, R. I. Loom	Aug. 18, 1868.
	Salter, James W. (*See* Wood, George W., assignor.)	
	Sampson, Edward C. (*See* Meyer, Charles T., assignor) —(Design.)	
	Same—same—(Design.)	
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	Same—(*See* Hoskin, Robert, assignor) —(Design.)	
	Same—(*See* Meyer, Victor, assignor) —(Design.)	
	Same—same—(Design.)	
	Same—(*See* Meyer, Charles T., assignor)—(Design.)	
	Same—same—(Design.)	
	Same—same—(Design.)	
	Same—same—(Design.)	
84,909	Sampson, Edwin H., Boston, Mass. Clamp for suspending pasteboard and other fabrics	Dec. 15, 1868.
78,237	Sampson, Orestes, assignor to Sampson & Fraekelton, Petersburg, Ill. Corn planter	May 26, 1868.
75,798	Sampson, Thomas, assignor to George S. Harwood and George H. Quincy, Wanskuk, R. I. Feeding mechanism for carding engines	Mar. 24, 1868.
78,329	Samuel, Richard, Walden, N. Y. Portable fence	May 26, 1868.
85,029	Samuels, M., New York, N. Y. Fountain lamp	Dec. 15, 1868.
85,480	Same—Hoop-skirt clasp	Dec. 29, 1868.
74,008	Sanborn, Cyrus, Chichester, N. H. Safety pocket	Feb. 4, 1868.
76,947	Sanborn, George H., Boston, Mass. Circular-saw table	Apr. 21, 1868.
84,306	Same—New York, N. Y. Paper-cutting machine	Nov. 24, 1868.
84,307	Same—same	Nov. 24, 1868.
	Sanborn, J. A. (*See* Blake, J. D., assignor.)	
76,948	Sanborn, Rufus S., Ripon, Wis. Water vessel for fire-proof safes	Apr. 21, 1868.
84,769	Sanborn, Woodbury, assignor to self and Bailey West, Chelsea, Mass. Truss	Dec. 8, 1868.
80,016	Sanders, Abraham K., Brooklyn, N. Y. Base-burning stove	July 14, 1868
77,325	Sanders, A. K., assignor to self and John H. Burtis, Brooklyn, N. Y. Heater range	Apr. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,689	Sanders, Alfred, Penn Yan, N. Y. Car coupling	Sept. 1, 1868.
83,213	Sanders, B. D., Wellsburg, West Va. Nut	Oct. 20, 1868.
83,214	Same ..... Same	Oct. 20, 1868.
	Sanders, C. T., and George Harsin. (*See* Harsin & Sanders.)	
	Sanders, John, administrator of Richard Norris, deceased. (*See* Norris, Richard.)	
78,330	Sanders, John J., jr., New York, N. Y. Mitering machine	May 26, 1868.
	Sanders, John W. (*See* Shields, F. M., assignor.)	
79,401	Sanders, Thomas H. B., Philadelphia, Pa. Rocking swing	June 30, 1868.
	Sanders, C. C., and Thomas Booth. (*See* Booth & Sanderson.)	
76,949	Sanderson, D. B., Lewiston, Maine. Peg cutter	Apr. 21, 1868.
78,396	Sanderson, E. W., and W. A. Shattuck, assignors to selves, Benjamin Whiting, and H. J. Miller, Hillsborough County, N. H. Hand seed sower	May 26, 1868.
	Sanderson, G., and L. J. Crow. (*See* Crow & Sanderson.)	
77,921	Sanderson, George O., assignor to self and E. D. Goodrich, Boston, Mass. Soldering furnace	May 12, 1868.
78,137	Sanderson, George O., assignor to self and Fred. M. Baker, Boston, Mass. Cake cutter	May 19, 1868.
74,151	Sanderson, Hugh M., Noble, Ill. Eye medicine	Feb. 4, 1868.
78,138	Sanderson, James, Fredericksburg, Ohio. Hoisting apparatus	May 19, 1868.
77,103	Sanderson, John, Fredericksburg, Ohio. Bridge	Apr. 21, 1868.
80,509	Sanderson, Robert, Cleveland, Ohio. Steam cut-off valve	July 28, 1868.
78,834	Sanderson, William, New York, N. Y. Construction of handles of table cutlery. Same ..... (*See* Flood, James, assignor.)	June 9, 1868.
78,542	Sandiford, Roger, Joliet, Ill. Plow clevis	June 2, 1868.
84,649	Same ..... Cultivator	Dec. 1, 1868.
85,333	Same ..... Land roller	Dec. 29, 1868.
	Sands, F. O., *et al.* *See* Crague, Francis and George G., assignors.)	
84,218	Sands, Jacob, Waterloo, N. Y. Spinning jack	Nov. 17, 1868.
	Sands, J. B. (*See* Corbin, S. W., assignor.)	
78,485	Sandt, J. S., St. Joseph, Mo. Apparatus for curing hops	June 2, 1868.
	Sanford & Sisson, *et al.* (*See* Deitz, John M., assignor.)	
80,017	Sanford, Aaron C., Plymouth, Conn. Renovating and dressing feathers	July 14, 1868.
	Sanford, C. L. *et al.* (*See* Anthony, Cornelius, assignor.)	
75,299	Sanford, Elias, Meriden, Conn. Yoke for horses	Mar. 10, 1868.
77,922	Same ..... Apparatus for handling iron in rolling mills	May 12, 1868.
83,322	Sanford, Gelston, Bergen Point, N. J. Machine for sharpening the cutters of mowing machines	Oct. 20, 1868.
84,070	Sanford, Gelston, assignor to the Mallory & Sanford Flax and Hemp Machine-Dressing Company, Bergen Point, N. J. Machine for separating the pulp from fibrous substances	Nov. 17, 1868.
82,643	Sanford, Leverett A., assignor to self and Albert Warner Wolcott, Conn. Clasp ring	Sept. 29, 1868.
82,644	Same ..... Snap hook	Sept. 29, 1868.
79,012	Sanford, N. C., Meriden, Conn. Auger	June 16, 1868.
78,331	Sanford, William G., Union City, N. Y. Mail ear and mail-bag receiver	May 26, 1868.
	Sanford, W. S., *et al.* (*See* Barns, Stephens, assignor.)	
84,844	Sangalli, Charles, New York, N. Y. Hand supporter for pianos, &c	Dec. 8, 1868.
84,308	Sanger, Ethiel, Alton, Ill. Car-heating stove	Nov. 24, 1868.
73,123	Sangster, James, Buffalo, N. Y. Machine for handling or piling brick	Jan. 7, 1868.
75,468	Sangster, James, assignor to self and Daniel H. Burtis, Buffalo, N. Y. Machine for carbureting air	Mar. 10, 1868.
75,469	Same ..... same	Mar. 10, 1868.
73,201	Sangster, James, Buffalo, N. Y., John S. Richards, Erie, Pa., and D. P. Dobbins, Buffalo, N. Y. Brick machine	Jan. 7, 1868.
	Sangster, James, *et al.* (*See* Dobbins, Richards, & Sangster.)	
82,037	Sangster, William, and John Bretz, Springfield, Ill. Brick mould	Sept. 8, 1868.
	Sangster, William A., and I. G. (*See* Dubois, William V., assignor.)	
84,584	Sargeant, Thomas, Williamsburg, N. Y. Stair rod	Dec. 1, 1868.
	Sargent & Company. (*See* Sparks, Wm. E., assignor.)	
	Same ..... (*See* Broeksieper, F. W., assignor) ..... (Design.)	
	Same ..... same ..... (Design.)	
	Same ..... same ..... (Design.)	
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	Same ..... same ..... (Design.)	
	Same ..... same ..... (Design.)	
	Same ..... (*See* Nieberg, C. L. L., assignor.) ..... (Design.)	
	Same ..... (*See* Bradford, Purmort, assignor.)	
81,114	Sargent, Amos, Brewer, Maine. Steering apparatus	Aug. 18, 1868.
84,968	Sargent, Charles G., Graniteville, Mass. Belt hook	Dec. 15, 1868.
	Same ..... (*See* Monroe, Lang, assignor.)	
79,013	Sargent, Elhanan W., Lowell, Mass. Mechanical movement	June 16, 1868.
76,104	Sargent, G. W., New York, N. Y. Nail machine	Mar. 31, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,402	Sargent, Horace, Chelsea, Mass. Machine for cutting soap	June 30, 1868.
85,245	Sargent, James, Rochester, N. Y. Permutation lock	Dec. 22, 1868.
85,246	Same.....Bolt for safe doors	Dec. 22, 1868.
76,530	Sargent, J. B., New Haven, Conn. Sap spout	Apr. 7, 1868.
84,585	Same.....Blind staple	Dec. 1, 1868.
76,822	Sargent, J. F., Tunbridge, Vt. Upsetting machine	Apr. 14, 1868.
80,670	Same.....North Tunbridge, Vt. Carriage top	Aug. 4, 1868.
77,104	Sargent, Joseph F., Boston, Mass. Nailing and pegging machine	Apr. 21, 1868.
81,543	Sargent, J. Q. A., Manchester, N. H. Steam generator	Aug. 25, 1868.
74,604	Sarony, Napoleon, New York, N. Y. Photographic rest	Feb. 18, 1868.
74,009	Sarven, James D., Columbia, Tenn. Carriage spring	Feb. 4, 1868.
74,010	Same.....same	Feb. 4, 1868.
74,011	Same.....Elastic bearing for body-supporting irons for carriages	Feb. 4, 1868.
74,012	Same.....same	Feb. 4, 1868.
3,079	Same.....Carriage wheel.....(Reissue)	Aug. 11, 1868.
77,660	Sarver, David, and Robert Coons, Greensburg, Pa. Corn harvester	May 5, 1868.
79,149	Sassaman, A. H., Lebanon, Pa. Car brake	June 23, 1868.
	Satterfield, J. M. (*See* Hopkins & Anderson, assignors.)	
77,105	Satterlee, D. R., New Haven, Conn. Machine for the manufacture of slate pencils	Apr. 21, 1868.
84,379	Satterlee, Milton, Richland Center, Wis. Sleigh brake	Nov. 24, 1868.
81,413	Sattler, David, Mifflin, Ohio. Saw	Aug. 25, 1868.
84,380	Sattley, Marshall, Taylorsville, Ill. Revolving coulter for plows	Nov. 24, 1868.
83,323	Saulson, Moritz, Troy, N. Y. Dinner pail	Oct. 20, 1868.
81,825	Saunders, Albert H., Nashua, N. H. Reel	Sept. 1, 1868.
	Same.....(*See* Flinn, Wm. H., assignor.)	
	Same.....same.	
81,826	Saunders, Benj., assignor to self and Albert H. Saunders, Nashua, N. H. Warp dresser	Sept. 1, 1868.
76,823	Saunders, David, assignor to Joseph Nason & Company, Brooklyn, N. Y. Threading tube	Apr. 14, 1868.
74,605	Saunders, Frank, Aberdeen, Miss. Measuring faucet	Feb. 18, 1868.
75,799	Saunders, Frederic, New York, N. Y. Smoking pipe	Mar. 24, 1868.
	Saunders, Joseph, and Paul Marcelin. (*See* Marcelin & Saunders.)	
	Same.....same.	
	Saunders, Joseph, and J. D. Perrin. (*See* Perrin & Saunders.)	
83,884	Saurman, Mary A. H., Philadelphia, Pa. Bath-room rack	Nov. 10, 1868.
82,557	Savage, Edward, Chicago, Ill. Steam-cooking apparatus	Sept. 29, 1868.
3,050	Savage, Julius B., assignor to the Union Nut Company, Unionville, Conn. Machine for making nuts.....(Reissue)	July 21, 1868.
2,895	Savage, J. J., Troy, N. Y. Coal stove.....(Reissue)	Mar. 10, 1868.
75,581	Savage, L., Ashtabula, Ohio. Railroad freight car	Mar. 17, 1868.
79,863	Savage, W. G., Knoxville, Iowa. Steam engine	July 14, 1868.
79,260	Savalle, D., France. Apparatus for distilling	June 23, 1868.
	Savary, Benjamin B., and Frederick O. Raymond. (*See* Lynch, Isaac F. A. A., assignor).....(Reissue.)	
77,106	Savery, Charles C., Philadelphia, Pa. Enameled water cooler	Apr. 21, 1868.
81,827	Same.....Water cooler and refrigerator	Sept. 1, 1868.
82,354	Savery, Dennis, Wheeling, W. Va. Device for holding cut nails while being headed	Sept. 22, 1868.
78,763	Savery, Thomas H., Wilmington, Del. Expanding pulley	June 9, 1868.
3,016	Savournin, W. H., Philadelphia, Pa. Box.....(Design)	May 5, 1868.
81,690	Savoy, Michael E., Corinth, N. Y. Counter and shank for boots and shoes. (Antedated Aug. 29, 1868)	Sept. 1, 1868.
	Sawin, Arctus L. (*See* Lucas, James G., assignor.)	
77,220	Sawin, George W., Nashua, N. H. Attaching wheels to axles	Apr. 28, 1868.
78,397	Sawyer, Alvah L., and Wilson Baldwin, Detroit, Mich. Spring bed bottom	May 26, 1868.
	Sawyer, A. M., Athol, Mass. Machine for splitting rattans.....(Extension)	Feb. 18, 1868.
76,105	Sawyer, Charles H., Buxton, Maine. Steering apparatus	Mar. 31, 1868.
2,948	Same.....same.....(Reissue)	May 26, 1868.
83,413	Sawyer, E. A., Portland, Me. Dish rack	Oct. 27, 1868.
	Sawyer, H. J. (*See* Ramsdell, W. H., assignor.)	
	Sawyer, P. W., and Marshall Morse. (*See* Morse & Sawyer.)	
	Same.....same.	
	Sawyer, Sylvanus, Fitchburg, Mass. Rattan machine.....(Extension)	Dec. 11, 1868.
	Same.....Machine for splitting rattan into strips.....(Extension)	Dec. 28, 1868.
	Same.....Machinery for cutting rattan, &c.....(Extension)	Dec. 28, 1868.
75,057	Same.....Steam generator	Mar. 3, 1868.
78,238	Same.....Rattan machine	May 26, 1868.
79,603	Same.....Caliper	July 7, 1868.
79,920	Sax, John K., and George W. Kear, Kingston, Pa. Railroad car stove	July 14, 1868.
80,878	Saxby, John, and John S Farmer, England. Switch and signal	Aug. 11, 1868.
	Saxton, W. H. (*See* Brett, Thomas, assignor.)	
	Sayler, James. (*See* Hoover, James, assignor.)	
85,334	Sayles, Jeremiah L., Gloucester, R. I. Expanding drill	Dec. 29, 1868.
84,583	Saylor, Robert, and Eli T. Rhodes, Marshall, Mich. Anvil for forming horse-shoe calks	Dec. 1, 1868.
79,864	Sayward, Charles, Gloucester, Mass. Gudgeon for booms	July 14, 1868.
85,136	Scanlon, William H., Memphis, Tenn. Portable service heater. (Antedated Dec. 9, 1868)	Dec. 22, 1868.
79,692	Scantlin, Thomas and James M., Evansville, Ind. Coal scuttle	July 7, 1868.
	Scarff, W. H. H., and S. L. Stockstill. (*See* Stockstill & Scarff.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
3,013	Scattergood, Henry Valentine, Albany, N. Y. Cotton gin	June 30, 1868.
76,252	Schaefer, Lewis J., Philadelphia, Pa. Curtain fixture	Mar. 31, 1868.
84,003	Schaeffer, Carl, Elizabeth, N. J. Manufacture of artificial stone	Nov. 10, 1868.
83,324	Schaeffer, F. M., Blooming Grove, Kans. Sawing machine	Oct. 20, 1868.
	Schaffer, George. (*See* Derozier, Louis, assignor.)	
75,058	Schall, Michael, New York, N. Y. Composition for forming casts and fancy articles	Mar. 3, 1868.
	Schall, M., and G. W. Ilgenfritz. (*See* Ilgenfritz & Schall.)	
74,606	Schanck, Henry K., Chicago, Ill. Composition for roofing. (Antedated Dec. 27, 1867)	Feb. 18, 1868.
84,004	Scharrath, Wilhelm, Prussia. Railroad car ventilator	Nov. 10, 1868.
77,767	Schartau, Eilert O., assignor to Frank S. Judd and John G. Powell, Philadelphia, Pa. Lamp wick. (Antedated April 28, 1868)	May 12, 1868.
2,947	Schatz, John, New Haven, Conn. Reed organ case (Design)	Mar. 10, 1868.
77,671	Same Reed organ bellows	May 5, 1868.
	Schaum, Frederick, deceased, by Frederick G. Schaum, administrator, Baltimore, Md. Glass furnace (Extension)	Apr. 23, 1868.
74,152	Schausten, August, Michigan City, Ind. Revolving cannon	Feb. 4, 1868.
78,835	Schayer, J. W., Boston, Mass. Machine for stuffing leather	June 9, 1868.
73,124	Schcaf, Daniel F., Dayton, Ohio. Apparatus for generating gas	Jan. 7, 1868.
73,051	Scheffler, Theodore, and Henry Morrison, Paterson, N. J. Traction engine	Jan. 7, 1868.
84,910	Scheiblein, J., and J. Heitzman, Philadelphia, Pa. Hand cultivator	Dec. 15, 1868.
	Schell, Robert. (*See* Wadsworth, Arthur, assignor.)	
2,950	Schenck, Junius, New York, N. Y. Trade mark (Design)	Mar. 10, 1868.
82,355	Schermerhorn, George W., East Limington, Me. Cork pull	Sept. 22, 1868.
77,539	Schevenell, H., and S. S. Rembert, Memphis, Tenn. Instrument for treating piles	May 5, 1868.
73,125	Schifferly, Conrad, Bourbon, Ind. Churn	Jan. 7, 1868.
83,215	Schilling, D., Brooklyn, N. Y. Water closet	Oct. 20, 1868.
75,470	Schilling, William, Baltimore, Md. Apparatus for distilling spirituous liquors	Mar. 10, 1868.
84,005	Schimmel, Oscar, Saxony. Washing machine	Nov. 10, 1868.
81,414	Schimonsky, S. W. Y., Cheyenne, Dakota Territory. Car brake	Aug. 25, 1868.
	Schindler, C. W., and E. J. Gerdom. (*See* Gerdom & Schindler.)	
	Same same.	
	Same same.	
	Same same.	
	Schinneller, Jacob, and Luke Fitzpatrick. (*See* Fitzpatrick & Schinneller.)	
85,404	Schlegel, Mathias, St. Jacob, Ill. Hot-air stove	Dec. 29, 1868.
81,012	Schleicher, Gustav, Mt. Vernon, N. Y. Stringed musical instrument	Aug. 11, 1868.
73,052	Schlingman, Adolph, Alexandria, Ohio. Bed bottom	Jan. 7, 1868.
83,732	Schlingman, Adolph, Detcrick Glander, and James Campbell, West Alexandria, Ohio. Churn	Nov. 3, 1868.
78,543	Schlosser, Peter G., assignor to self and A. P. Baer, Middletown, Md. Composition for depilating hides	June 2, 1868
81,013	Schlotter, Hermann, Germany. Apparatus for raising water	Aug. 11, 1868.
	Schlottmann, G., and H. Thal. (*See* Thal & Schlottman.)	
75,704	Schmeltz, E., assignor to self and Paul E. Fleury, New York, N. Y. Belt fastening	Mar. 17, 1868.
77,408	Schmidlin, William G., and J. W. Driscoll, New York, N. Y. Reflector	Apr. 28, 1868.
76,824	Schmidt, Bruno, Hoboken. N. J. Restoring old leather	Apr. 14, 1868.
76,825	Same Preparation of manganates and permanganates	Apr. 14, 1868.
	Schmidt, John, *et al.* (*See* Lumbard, Henry, assignor.)	
	Same same.	
84,770	Schmitt, Andrew, California, Mo. Salve for burns and scalds	Dec. 8, 1868.
85,481	Schmitt, C. C., New York, N. Y. Spring rocking chair	Dec. 29, 1868.
82,754	Schmitt, Charles C., and Rudolph Wodrich, New York, N. Y. Folding easy-chair	Oct. 6, 1868.
82,755	Same Folding chair	Oct. 6, 1868.
	Schmitt, Charles C., and Seneca A. Swalm. (*See* Swalm & Schmitt.)	
83,797	Schmitt, Joseph Theodore, Brooklyn, N. Y. Picture frame	Nov. 3, 1868.
81,014	Schmitt, Justin, New Albany, Ind. Shoe last	Aug. 11, 1868.
	Schmitt, Paul. (*See* Quantin, Alphonse, assignor) (Reissue.)	
80,671	Schmitt, Peter, and Peter Jacob, Waterloo, Ill. Grain drill shoe	Aug. 4, 1868.
80,018	Schmitz, Christian, Philadelphia, Pa. Machine for stretching and softening skins	July 14, 1868.
85,030	Same Mode of shaving and polishing skins	Dec. 15, 1868.
85,482	Schmitz, Wilhelm, Philadelphia, Pa. Explosive cartridge	Dec. 29, 1868.
75,582	Schnackenberg, A. D., Brooklyn, N. Y. Vessel for mineral waters	Mar. 17, 1868.
82,880	Schneider, George C., Adrian, Mich. Beehive	Oct. 6, 1868.
	Schneider, Lewis, *et al.* (*See* Bockstaller, George, assignor.)	
73,549	Schneider, P. F., assignor to self, W. H. D. Callender, and B. C. English, Hartford, Conn. Cartridge box	Jan. 21, 1868.
80,672	Schnell, Johann, New York, N. Y. Sash and window frame	Aug. 4, 1868.
	Schofield, James, and Osgood Plummer. (*See* Plummer & Schofield.)	
79,150	Scholfield, A. H., and De Witt C. Sterry, Worcester, Mass. Pump	June 23, 1868.
77,923	Scholfield, Socrates, Providence, R. I. Regulating and dispensing mechanism. (Antedated March 20, 1868)	May 12, 1868.
80,568	Scholl, John, assignor to Samuel S. Bateson, England. Gas-burner attachment	Aug. 4, 1868.
75,800	Scholl, William, Marion Township, Pa. Horse hay fork	Mar. 24, 1868.
76,826	Schoonmaker, Peter, New Britain, Conn. Trace clip	Apr. 14, 1868.
80,510	Same Bit for bridles	July 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
75, 203	Schoonmaker, S. Franklin, New York, N. Y. Mode of preserving hops. (Antedated Feb. 22, 1868)	Mar. 3, 1868.
77, 768	Same.....Transporting and storing grain and other products. (Antedated April 25, 1868)	May 12, 1868.
82, 645	Schoonover, James S., Corry, Pa. Railway joint	Sept. 29, 1868.
73, 466	Schott, George, New York, N. Y. Mattress	Jan. 21, 1868.
	Schrader, John, and John Reiber. (*See* Reiber & Schrader.)	
	Schrader, William, and Frederick Bihn. (*See* Bihn & Schrader.)	
82, 441	Schreck, Valentin, Philadelphia, Pa. Wash stand and sick chair	Sept. 22, 1868.
79, 014	Schreiber, John W., New York, N. Y. Lamp burner	June 16, 1868.
74, 944	Schreiner, Edmund F., St. Louis, Mo. Umbrella. (Antedated Feb. 17, 1868)	Feb. 25, 1868.
85, 137	Schreiner, Henry, Philadelphia, Pa. Car replacer. (Antedated Nov. 3, 1868)	Dec. 22, 1868.
75, 300	Schreyer, Gottlieb, Columbus, Ohio. Furnace	Mar. 10, 1868.
76, 828	Schreyer, Philipp, New York, N. Y. Gas heater	Apr. 14, 1868.
	Schroeder, J. W., and John E. Marshall. (*See* Marshall & Schroeder.)	
83, 098	Schroy, Jeremiah, Fortville, Ind. Fruit picker. (Antedated Oct. 2, 1868)	Oct. 13, 1868.
82, 252	Schuessler, John, and John Kennedy, Lafayette, Ind. Machine for threading bolts	Sept. 15, 1868.
78, 398	Schuffert, Augustus, and George Cooper, Wyandotte, Mich. Churn	May 26, 1868.
76, 106	Schultz, C., and P. Warker, New York, N. Y. Stop cock. (Antedated March 18, 1868)	Mar. 31, 1868.
3, 017	Same.....Trade mark .....(Design)	May 5, 1868.
83, 885	Schultz, Frederick W., and John A. Wilson, Baltimore, Md. Steam heater	Nov. 10, 1868.
	Schultz, Judson, and Elias Brock. (*See* Brock & Schultz.)	
79, 015	Schulz, Otto A., Chicago, Ill. Tongue depresser and atomizer	June 16, 1868.
83, 099	Schulze, Louis, Louisville, Ky. Beer cooler	Oct. 13, 1868.
	Schumacher, F., *et al.* (*See* Lavender & Lowe, assignors) .....(Reissue)	
75, 204	Schumacher, Gustav, New York, N. Y. Combined knob latch and lock	Mar. 3, 1868.
80, 511	Schumacher, John, and Henry Upjohn, Ann Arbor, Mich. Machine for pressing and grooving seams in tin ware	July 28, 1868.
73, 053	Schumann, Carl, assignor to Edward H. Jackson, Saxony. Rock-drilling machine	Jan. 7, 1868.
80, 879	Schurger, Frank, and N. Allstatter, Hamilton, Ohio. Harvester rake	Aug. 11, 1868.
73, 391	Schussler, Hermann, San Francisco, Cal. Chain inclinometer	Jan. 14, 1868.
81, 691	Schwalbe, William H., New York, N. Y. Sofa and bed	Sept. 1, 1868.
	Schwartz, William. (*See* Reeve & Smith, assignors.)	
2, 889	Schweizer, Franzis, assignor to the Schweitzer Patent Bolt Company, New York, N. Y. Machine for cutting threads on bolts or nuts .....(Reissue)	Mar. 3, 1868.
76, 352	Schweitzer, Peter, Robeson Township, Pa. Horse hay fork	Apr. 7, 1868.
85, 138	Schye, Lodver, Chicago, Ill. Boot shank machine	Dec. 22, 1868.
82, 996	Scofield, Abisha, Starkey, N. Y. Grape trellis	Oct. 13, 1868.
80, 226	Scofield, Edward S., Rochester, N. Y. Carving fork and knife sharpener combined	July 21, 1868.
74, 013	Scofield, Levi, Farmington, Wis. Shuttle for looms	Feb. 4, 1868.
	Scorer, Robert, and Daniel S. Colby. (*See* Colby & Scorer).....(Design.)	
	Same.....same .....(Design.)	
	Same.....same .....(Design.)	
	Same.....same .....(Design.)	
	Same.....same .....(Design.)	
74, 153	Scott, David A., and J. E. Burdge, Cincinnati, Ohio. Spring bed bottom	Feb. 4, 1868.
3, 159	Scott, Edwin M., assignor through mesne assignments to Henry Richardson, Auburn, N. Y. Machine for grinding the cutters of mowing machines. (Reissue)	Oct. 13, 1868.
75, 471	Scott, George, Steubenville, Ohio. Holder for razor straps	Mar. 10, 1868.
81, 299	Scott, George, Louisville, Ky. Elevator	Aug. 18, 1868.
83, 325	Scott, Jerome, Charlestown, Pa. Washing machine	Oct. 20, 1868.
85, 247	Scott, John A., Lexington, Va. Photographic camera	Dec. 22, 1868.
74, 433	Scott, J. P., and S. H. La Rue, Lewisburg, Pa. School desk and seat	Feb. 11, 1868.
	Scott, J. W., & Company. (*See* Skinner, Russel, J., assignor.)	
76, 663	Scott, John W. H., Rochester, N. Y. Spring mattress	Apr. 14, 1868.
78, 139	Scott, Levi, Burgettstown, Pa. Churn	May 19, 1868.
80, 426	Scott, Levi, and Paul Trimmer, Burgettstown, Pa. Car coupling	July 28, 1868.
	Scott, Melchi, and Richard Gaines. (*See* Gaines & Scott.)	
	Scott, S. M., and A. F. Spaulding. (*See* Spaulding & Scott).....(Reissue.)	
	Same.....same .....(Reissue.)	
	Scott, Uri, and E. G. Dorchester. (*See* Dorchester & Scott.)	
	Scott, William M. (*See* Mason, George R., assignor.)	
76, 662	Scotton, Stephen, Richmond, Ind. Tree box	May 5, 1868.
76, 253	Scottron, Samuel R., Springfield, Mass. Mirror	Mar. 31, 1868.
80, 569	Scoville, Elijah U. and Washington L., Manlius, N. Y. Hoisting apparatus	Aug. 4, 1868.
78, 332	Scoville, Hiram H., Chicago, Ill. Stone breakers	May 26, 1868.
	Scoville Manufacturing Company. (*See* Rais, Adrian, assignor.)	
	Same.....(*See* Shipley, Alfred J., assignor.)	
	Scoville, S. S., and Otis W. Stanford. (*See* Stanford & Scoville.)	
82, 997	Scrannage, Matthew, Boston, Mass. Tumbler washer	Oct. 13, 1868.
82, 038	Scranton, Irving W., West Liberty, Iowa. Medical compound	Sept. 8, 1868.
73, 759	Scranton, T. S., Madison, Conn. Gauge for sewing machines	Jan. 28, 1868.
76, 827	Same.....New Haven, Conn. Pipe stem	Apr. 14, 1868.
	Scranton, W. T. (*See* Bean, Albert B., assignor.)	
76, 254	Scribner, Jonathan, Franklin, N. H. Animal tether	Mar. 31, 1868.
76, 829	Scribner, S. H., Chicago, Ill. Wristband for shirts	Apr. 14, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73, 126	Scripture, Eliphalet S., Brooklyn, N. Y. Dividers and calipers	Jan. 7, 1868.
78, 836	Same.....Carriage top	June 9, 1868.
76, 830	Scudder, H. D., Amsterdam, N. Y. Paper box	Apr. 14, 1868.
84, 381	Seaman, Charles B., Honesdale, Pa. Insect net	Nov. 24, 1868.
80, 019	Seaman, Joseph, Chicago, Ill. Mangle and ironing machine	July 14, 1868.
75, 583	Seaman, M., Middleport, N. Y. Railroad rail fastening	Mar. 17, 1868.
77, 107	Searle, Thomas H., Providence, R. I. Wrench	Apr. 21, 1868.
74, 434	Searls, Anson, New York, N. Y. Pivoted stump joint	Feb. 11, 1868.
76, 531	Same.....Shaft coupling	Apr. 7, 1868.
77, 769	Same.....Shaft coupling for carriages	May 12, 1868.
	Sears, Henry B. (*See* Golay, Samuel, assignor.)	(Disclaimer.)
	Sears, H. C., and H. H. Forbes. (*See* Forbes & Sears.)	
76, 831	Sears, Samuel W., New York, N. Y. Lawn mower	Apr. 14, 1868.
3, 048	Same.....same	(Reissue) July 21, 1868.
77, 540	Seaver, Ebenezer, Boston, Mass. Clothes pin	May 5, 1868.
77, 770	Seaver, George A., New York, N. Y. Cotton-bale tie	May 12, 1868.
82, 998	Same.....Swing	Oct. 13, 1868.
84, 382	Same.....Reversible latch	Nov. 24, 1868.
82, 756	Seawell, C. H., assignor to George F. Lewis, St. Louis, Mo. Express signal. (Antedated Sept. 24, 1868)	Oct. 6, 1868.
	Seawell, F. P., *et al.* (*See* Smith & Florence, assignors.)	
78, 837	Sebold, George, assignor to John F. Zisemann and Heinore Raschoe, Germany. Machine for placing friction matches in frames	June 9, 1868.
82, 442	Seborn, F. A., D. R. Dunlap, and Joachim F. C. Geist, Zanesville, Ohio. Window-shade fixture	Sept. 22, 1868.
74, 154	Sebring, Francis C., Hoboken, N. J. Apparatus for playing parlor base-ball. (Antedated Jan. 23, 1868)	Feb. 4, 1868.
82, 253	Sebring, Thompson C., assignor to Ira A. Hebbard, Milford, Mich. Harvester	Sept. 15, 1868.
76, 832	Sedgwick, S. P., Wheaton, Ill. Medicine	Apr. 14, 1868.
81, 300	Sedgwick, Thomas S., Onargo, Ill. Fastener for buttons, studs, &c.	Aug. 18, 1868.
	See, Charles H., and Harris Keeney. (*See* Keeney & See.)	
	See, Horace, and J. Shields Wilson. (*See* Wilson & See.)	
79, 503	See, James, Mitchell, Ind. Mechanical movement	June 30, 1868.
78, 544	See, John, Philadelphia, Pa. Composition for covering roofs, pavements, walks, &c.	June 2, 1868.
79, 151	Seebald, Peter, New York, N. Y. Compound for destroying bedbugs and other vermin	June 23, 1868.
	Seeger, Jacob, *et al.* (*See* Murrill, James H., assignor.)	
85, 031	Seeley, Edward, Scranton, Pa. Wash-boiler	Dec. 15, 1868.
82, 553	Seeley, H. H., Hudson, Mich. Fanning mill	Sept. 29, 1868.
77, 663	Seeley, I. D., Hudson, Wis. Wash-boiler	May 5, 1868.
85, 483	Same.....same	Dec. 29, 1868.
	Seeley, Nathan. (*See* Hoyt, Wm. H., assignor.)	
78, 764	Seely, Austin, Alton, Ill. Valve-gear for steam-engines	June 9, 1868.
79, 261	Seely, Charles A., New York, N. Y. Solidified collodion	June 23, 1868.
84, 219	Same.....Manufacture of gas from volatile liquids	Nov. 17, 1868.
74, 607	Seelcy, Charles A., and Charles J. Eames, New York, N. Y. Process of preserving dead bodies	Feb, 18, 1868.
74, 608	Same.....Disinfecting compound	Feb. 18, 1868.
84, 713	Seely, Edwin, Elkhart, Ind. Machine for sacking potatoes. (Antedated Nov. 23, 1868)	Dec. 8, 1868.
	Seely, E., and D. Elliot. (*See* Elliot & Seely.)	
78, 239	Seely, John, North Java, N. Y. Horse rake	May 26, 1868.
84, 911	Seely, Samuel F., Whiteford, Mich. Cultivator and plow. (Antedated Dec. 11, 1868)	Dec. 15, 1868.
73, 467	Seely, Samuel J., assignor to J. M. Brown, New York, N. Y. Iron roll. (Antedated Jan. 2, 1868)	Jan. 21, 1868.
74, 155	Same.....Folding metal shutter	Feb. 4, 1868.
73, 127	Seem, J. K., Canton, Pa. Clock calendar	Jan. 7, 1868.
84, 006	Seibel, Jacob, Manlius, Ill. Harvester	Nov. 10, 1868.
3, 049	Seiberling, John F., Akron, Ohio. Harvester	July 21, 1868.
	Same.....(*See* Ball, Ephraim & Milton, assignors.)	
82, 646	Seibert, George and John, Ashley, Ill. Cultivator	Sept. 29, 1868.
	Seibert, Nicholas, *et al.* (*See* Barnett, Purinton & Seibert.)	
	Seibert, William, *et al.* (*See* Ginther, Jacob, assignor.)	
76, 107	Seidel, Charles, New York, N. Y. Vegetable coloring matter	Mar. 31, 1868.
77, 845	Seidel, Herman, Roxbury, Mass. Piano-forte action. (Antedated May 2, 1868)	May 12, 1868.
83, 100	Seimel, Conrad, Greenpoint, N. Y. Soldering vessel	Oct. 13, 1868.
81, 692	Seimel, Conrad, assignor to Charles Pratt, Greenpoint, N. Y. Sheet-metal can	Sept. 1, 1868.
83, 733	Seitz, C. D. J., assignor to self and Charles Edmund Bailliere, England. Recovering waste alkalies from paper stock and other fibers	Nov. 3, 1868.
81, 216	Seitz, Samuel, and L. D. Arnold, Melmore, Ohio. Wagon	Aug. 18, 1868.
75, 472	Selbach, Emel, Columbus, Ohio. Stove drum	Mar. 10, 1868.
82, 162	Selby, James, Peoria, Ill. Corn planter	Sept. 15, 1868.
3, 148	Same.....same	(Reissue) Oct. 6, 1868.
83, 326	Selby, Nicholas, Flora, Ill. Horse rake	Oct. 20, 1868.
	Selden, George S., *et al.* (*See* Perrin, Abram, assignor.)	
	Selden, John C. (*See* Gifford, Francis M., assignor.)	
83, 327	Selden, Nancy M., Chatham, Conn. Pie tube	Oct. 20, 1868.
75, 301	Selden, William C., Brooklyn, N. Y. Steam and water packing	Mar. 10, 1868.
83, 414	Selden, William C., Brooklyn, and Charlton B. Kid, New York, N. Y. Fabric for covering steam boilers, &c.	Oct. 27, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Self-lighting Gas Burner Company. (*See* Locke, Richard B., assignor.)	
80,092	Selfridge, W. Reynolds, Greensburg, Ind. Ditching machine	July 21, 1868.
81,415	Selkirk, Alexander, assignor to John Gibson, jr., Albany, N.Y. Hand stamp	Aug. 25, 1868.
79,504	Sellars, John Carrington, England. Metal founders' blacking	June 30, 1868.
77,409	Sellers, George H., Phœnixville, Pa. Wrought-iron roof truss	Apr. 28, 1868.
82,559	Same.....Method of making eye-bolts or links without welding	Sept. 29, 1868.
83,553	Same.....Hot-water heater	Oct. 27, 1868.
74,609	Sellers, William, Philadelphia, Pa. Lathe for turning iron	Feb. 18, 1868.
75,059	Same.....Injector for feeding boilers	Mar. 3, 1868.
	Semon, J. S. (*See* Cook & Dempster, assignors.)	
74,723	Semple, Edward, Chicago, Ill. Trunk	Feb. 18, 1868.
	Semple, E. H., and William Wardsworth. (*See* Wardsworth & Semple.)	
	Semple, Frank, *et al.* (*See* Cutter, Thomas, assignor.)	
	Same.....(*See* Fry, Henry C., assignor.)	(Design.)
	Seneca Falls Churn Manufacturing Company. (*See* Westcott, Henry P., assignor.)	
75,584	Senior, Mathew, Frankford, Pa. Lubricating device	Mar. 17, 1868.
2,964	Senior, Mathew, assignor to Barton H. Jenks, Frankford, Pa. Lubricating device. (Reissue)	June 2, 1868.
	Sennett, Jacob, Philadelphia, Pa. Weaver's heddle	(Extension) July 17, 1868.
	Same.....Machine for casting metallic eyes or mails of heddles for looms. (Extension)	Aug. 20, 1868.
	Same.....Metallic heddle	(Extension) Oct. 22, 1868.
79,016	Sergeant, William Fishley, St. Louis, Mo. Railroad-rail tie. (Antedated June 4, 1868)	June 16, 1868.
77,108	Serrin, George W., Memphis, Tenn. Baling press	Apr. 21, 1868.
	Serven, Andrew T. (*See* Kendall & Hathaway, assignors.)	
	Same.....same.	
75,985	Serviss, William, Sidney, Ohio. Device for soldering tin cans	Mar. 24, 1868.
80,673	Same.....same	Aug. 4, 1868.
78,486	Serviss, William, assignor to Jason McVay and Jason S. Carey, Sidney, Ohio. Machine for grooving sheet metal	June 2, 1868.
75,986	Sessions, Francis E., assignor to self and Samuel A. Knox, Worcester, Mass. Carbonizing and hardening iron and steel	Mar. 24, 1868.
74,727	Sessions, Lyman C., Neenah, Wis. Binding guide for sewing machines	Feb. 18, 1868.
	Setley, Abram. (*See* Michael, Wm. E., assignor.)	
	Severance, O. S., and Frank H. Fuller. (*See* Fuller & Severance.)	
74,854	Severson, P. J., Knowersville, N. Y. Beehive	Feb. 25, 1868.
	Severy, Solomon, and Robert F. Leighton. (*See* Leighton & Severy.)	
	Seward, B. I., and James D. Irvin. (*See* Irvin & Seward.)	
81,015	Sexauer, Louis, New York, N. Y. Water meter	Aug. 11, 1868.
	Sexauer, Louis, and Franz Wagner. (*See* Wagner & Sexauer.)	
81,217	Sexton, C. M., Aurora, Ill. Running-gear for wagons	Aug. 18, 1868.
73,392	Sexton, James B., assignor to self and John L. Andrew, Pella, Iowa. Cultivator	Jan. 14, 1868.
75,585	Sexton, S. B., Baltimore, Md. Base-burning stove	Mar. 17, 1868.
79,505	Same.....same	June 30, 1868.
78,487	Seyler, Carl, Cleveland, Ohio. Vine trellis	June 2, 1868.
81,218	Seymour, Albert P., Hecla Works, and W. R. Goodrich, assignors to the Hecla Works Company, Whitestown, N. Y. Sash pulley	Aug. 18, 1868.
	Seymour, Elizabeth P. (*See* Wood, John S., assignor.)	
75,302	Seymour, Frederick J., Wolcottville, Conn. Metal top lamp chimney	Mar. 10, 1868.
75,303	Same.....Clamp for forming sheet metal cones	Mar. 10, 1868.
2,967	Seymour, Frederick J., assignor to Turner, Seymour & Judds, Wolcottville, Conn. Mode of attaching ornamental heads to nails.	(Reissue) June 2, 1868.
80,836	Seymour, Frederick J., assignor to self and E. Miller & Company, Wolcottville, Conn. Machine for burnishing and spinning metal	Aug. 11, 1868.
85,484	Seymour, Frederick J., assignor to E. Miller & Company, Meriden, Conn. Tube for oilers	Dec. 29, 1868.
81,828	Seymour, George W., Whitney's Point, N. Y. Carriage wheel	Sept. 1, 1868.
	Seymour, Henry, & Company. (*See* Wendt, Herman, assignor.)	
	Seymour, Henry and Robert H.....same.	
	Same.....(*See* Campbell, Daniel, assignor.)	
	Seymour, H. W. (*See* Pease, Henry, assignor.)	
74,610	Seymour, J. H., Hagerstown, Md. Spittoon for cars	Feb. 18, 1868.
74,156	Seymour, James M., Newark, N. J. Socket wrench	Feb. 4, 1868.
74,724	Same.....Spacing and boring machine	Feb. 18, 1868.
79,783	Seymour, James M., assignor to self and Daniel Whetlock, Newark, N. J. Mitering machine	July 7, 1868.
	Seymour, John A., *et al.* (*See* Exelby & Marshall, assignors.)	
75,987	Seymour, Josiah, Coventry, N. Y. Mold-board for plows	Mar. 24, 1868.
84,512	Seymour, O. E., Anderson, Ind. Farm gate. (Antedated Sept. 18, 1868)	Dec. 1, 1868.
	Seymour, William, *et al.* (*See* Parks, B. M., assignor.)	
	Seymour, William H., Brockport, N. Y. Harvester	(Extension) Mar. 9, 1868.
75,801	Seymour, William H., and Aaron Palmer, Brockport, N. Y. Harvester rake	Mar. 24, 1868.
75,586	Seys, Henry H., Oil City, Pa. Surgical suppository	Mar. 17, 1868.
80,771	Shackford, Amaziah G., Malden, Mass. Lithographic printing press	Aug. 4, 1868.
76,664	Shackford, Edwin, and Derk Arnaud, Boston, Mass. Bureau bedstead	Apr. 14, 1868.
84,586	Shackleton, Joseph, Rahway, N. J. Steam-exhaust regulator	Dec. 1, 1868.
82,443	Shadduck, Seth, Elk River Township, Iowa. Draught equalizer	Sept. 22, 1868.
80,020	Shaeffer, John W., Red Wing, Minn. Furnace for roasting and smelting gold and other ores	July 14, 1868.
73,261	Shafer, N. Mendal, New York, N. Y. Temporary binder. (Antedated Jan. 2, 1868)	Jan. 14, 1868

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,999	Shafer, N. Mendal, New York, N. Y. Washing machine	Oct. 13, 1868.
73,128	Shaffer, Benjamin F., Dayton, Ohio. Swing	Jan. 7, 1868.
83,216	Shaffer, B. F., assignor to self and William K. Young, Dayton, Ohio. Swing	Oct. 20, 1868.
	Shaffer, Edward P., and Jerome Stocking. (*See* Stocking & Shaffer.)	
	Shaffer, Samuel. (*See* Laub, Peter C., assignor.)	
	Shaffer, Thomas, and George Walters. (*See* Walters & Shaffer.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
	Same.....same.	
83,000	Shaler, George C., Gilboa, and Harry Barlow, Herbert, N. Y. Horse rake	Oct. 13, 1868.
79,262	Shalkenback, Joseph, Chicago, Ill. Sad iron	June 23, 1868.
83,886	Shaller, Frederick, Hudson, N. Y. Gas-burner attachment	Nov. 10, 1868.
75,988	Shalters, M. R., and Samuel Ray, Alliance, Ohio. Double-shovel plow	Mar. 24, 1868.
	Shaner, S. B. (*See* Milroy, James W., assignor.)	
	Shank, Samuel, and Jacob M. Walter. (*See* Walter & Shank.)	
	Shanks, Andrew. (*See* Wenham, Francis Herbert, assignor.)	
84,007	Shanner, J. A., Plainview, Ill. Mechanical movement	Nov. 10, 1868.
81,951	Shannon, David, and William Spencer, Winslow, Ind. Grain separator	Sept. 8, 1868.
	Shannon, George, *et al.* (*See* Flora, Orlando V., assignor.)	
	Same.....same.	
	Shannon, John A., and W. A. Sharp. (*See* Sharp & Shannon.)	
	Same.....same.	
84,771	Shannon, William, assignor to self and Joseph Graff, Alleghany City, Pa. Hinge	Dec. 8, 1868.
84,772	Same.....same	Dec. 8, 1868.
	Shares, Daniel W., Hamden, Conn. Cultivator.....(Extension)	July 29, 1868.
73,054	Sharp, A. B., Paincourtville, La. Defecating cane juice	Jan. 7, 1868.
	Sharp, David. (*See* Campbell, John A., assignor.)	
77,410	Sharp, John H., Wortsville, N. J. Corn sheller	Apr. 28, 1868.
	Sharp, William, and Smith Fisher. (*See* Howell, Levi T., assignor.)	
81,416	Sharp, W. A., and John A. Shannon, Tama City, Iowa. Horse-collar fastening	Aug. 25, 1868.
84,071	Same.....Harness-tree pad	Nov. 17, 1868.
	Shartle, H. H., and B. Weirich. (*See* Weirich & Shartle.)	
	Shattuck, W. A., and E. W. Sanderson. (*See* Sanderson & Shattuck.)	
83,328	Shattuck, W. G., Boston, Mass. Inkstand	Oct. 20, 1868.
79,604	Shaver, Austin D., Belleville, N. Y. Riding attachment to harrows	July 7, 1868.
75,473	Shaw, Albert M., Lebanon, N. H. Composition cement for pavements, &c	Mar. 10, 1868.
	Shaw, A. M., *et al.* (*See* Cummings, Pattee & Shaw.)	
	Shaw, Alexander D., and John W. Cox. (*See* Oliver, John S., assignor.)	
75,205	Shaw, B. W., and George A. Simmons, Morristown, Vt. Churn	Mar. 3, 1868.
79,693	Shaw, David W., Baltimore, Md. Milk can	July 7, 1868.
80,021	Shaw, Eugene F., Wyoming, Mich. Churn	July 14, 1868.
81,544	Shaw, Henry, New Orleans, La. Mode of connecting the draught lever to horse-power machines	Aug. 25, 1868.
79,865	Shaw, Henry, and William D. Leavitt, New Orleans, La. Grinding plate for grist mills	July 14, 1868.
3,122	Same.....same.....(Reissue)	Sept. 15, 1868.
75,304	Shaw, Henry F., West Roxbury, Mass. Differential gear-power machine	Mar. 10, 1868.
83,554	Same.....Screw-cutting lathe	Oct. 27, 1868.
79,263	Shaw, Henry F., assignor to James A. Woodbury and Solomon S. Gray, West Roxbury, Mass. Steering apparatus	June 23, 1868.
79,264	Same.....Pulley block	June 23, 1868.
81,952	Same.....Lathe head	Sept. 8, 1868.
81,953	Same.....Mechanism for operating the beds of planing machines	Sept. 8, 1868.
78,333	Shaw, H. M., and G. G. Tindall, Fremont, Ohio. Windmill	May 26, 1868.
82,356	Shaw, Jacob and W. A., Hinkley, Ohio. Churn	Sept. 22, 1868.
75,305	Shaw, James, Ballardvale, Mass. Loom	Mar. 10, 1868.
	Shaw, James, jr., and Job Arnold. (*See* Mooney, George, assignor.)	
	Shaw, James, jr., *et al*.....same.	
81,417	Shaw, Jehyleman, Bridgeport, Conn. Pump	Aug. 25, 1868.
83,101	Shaw, John, Brooklyn, N. Y. Lawn mower	Oct. 13, 1868.
73,760	Shaw, John C., Manayunk, Pa. Condensing carding machine	Jan. 28, 1868.
77,109	Shaw, N. Lawrence, Wilson, N. Y. Fence	Apr. 21, 1868.
	Shaw, O. H. (*See* Rawson, Homer, assignor.)	
	Shaw, Philander, Boston, Mass. Air engine.....(Extension)	Apr. 20, 1868.
77,110	Shaw, Samuel S., Newport, N. J. Oyster winder	Apr. 21, 1868.
75,060	Shaw, Thomas, Philadelphia, Pa. Lathe tool	Mar. 3, 1868.
77,111	Same.....Mode of surfacing sheet iron and metal plates	Apr. 21, 1868.
77,326	Same.....Washer	Apr. 28, 1868.
84,220	Same.....Generating and applying carbonic oxide for treating metals	Nov. 17, 1868.
84,383	Same.....Pile driver	Nov. 24, 1868.
84,221	Shaw, Thomas, assignor to self and Philip S. Justice, Philadelphia, Pa. Power hammer	Nov. 17, 1868.
84,912	Same.....Pumping engine	Dec. 15, 1868.
	Shaw, Warren, and Parley G. Green, Wales, Mass. Tentering cloth.....(Extension)	June 19, 1868.
74,611	Shaw, William Anthony, New York, N. Y. Manufacture of tin-lined lead pipe	Feb. 18, 1868.
74,612	Same.....same	Feb. 18, 1868.
74,613	Same.....same	Feb. 18, 1868.
74,614	Same.....same	Feb. 18, 1868.
2,910	Shaw, William Anthony, assignor to self, Gardner Willard, Louis and Joseph Colwell, New York, N. Y. Apparatus for separating shot.....(Reissue)	Apr. 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
2,999	Shaw, William T., and John Manz, assignors to Samuel Johnston, Wilmington, Del. Harvester rake.....(Reissue)..	June 23, 1868.
	Shaw, Winfield S. (*See* Smith, Joseph R., assignor.)	
80,093	Shea, Patrick M., Chicopee, Mass. Attachment for lamp chimneys.....	July 21, 1868.
75,587	Shea, Samuel, and E. W. Gillman, Long Island City, N. Y. Lamp.....	Mar. 17, 1868.
79,566	Shea, William, and L. D. Harvey, Harvey, Mich. Furnace for melting metals..	July 14, 1868.
78,240	Sheaffer, Alfred B., Ephrata, Pa. Main bolt or goose-neck stay on carriages....	May 26, 1868.
	Shear, Jacob H., *et al.* (*See* Burdick, Norman, assignor.)	
77,112	Shear, P. E., Saugerties, N. Y. Furnace door fastening.....	Apr. 21, 1868.
81,301	Shearman, Jacob, Fayetteville, Pa. Machine for turning boot legs.....	Aug. 18, 1868.
83,217	Shears, Thomas J., Ypsilanti, Mich. Carriage spring.....	Oct. 20, 1868.
76,255	Shebanek, Antony, Cleveland, Ohio. Harvester.....	Mar. 31, 1868.
	Sheckler, D. J., *et al.* (*See* Frey, T. E., assignor.)	
74,772	Shedlock, Alfred and William, New York, N. Y. Mechanical donkey.....	Feb. 25, 1868.
	Shedlock, William and Alfred, *et al.* (*See* Smith & Shedlock.)	
76,256	Sheelan, Thomas, Aurora, Ill. Process of steelifying iron.....	Apr. 7, 1868.
80,312	Sheets, Isaac N., West Jefferson, Ohio. Bed bottom.....	July 28, 1868.
75,989	Sheets, John, Columbia, Pa. Sand scoop.....	Mar. 24, 1868.
73,202	Shefferly, F. J., Detroit, Mich. Preserve jar.....	Jan. 7, 1868.
80,022	Sheffield, George V., Worcester, Mass. Manufacturing screws.....	July 14, 1868.
73,761	Sheldon, A., Greenwich Station, Ohio. Fence.....	Jan. 28, 1868.
	Sheldon, A. F., *et al.* (*See* Todd, Asahel, jr., assignor.)	
	Same.....same.	
	Sheldon, F. L., and C. L. (*See* Foster, Wm. W., assignor.)	
77,541	Sheldon, John, Chicago, Ill. Derrick.....	May 5, 1868.
75,990	Sheldon, Samuel D., assignor to the Whitman & Mills Manufacturing Company, Worcester, Mass. Sickle sections and in method of serrating them.....	Mar. 24, 1868.
78,838	Shellabarger, I., Decatur, Ill. Apparatus for dampening grain.....	June 9, 1868.
81,016	Same.....same.....	Aug. 11, 1868.
78,694	Shellaberger, John, Shanes Crossing, Ohio. Tile-cutting machine.....	June 9, 1868.
80,512	Same.....Tile machine.....	July 28, 1868.
77,221	Shellenback, Peter, and John Augspurger, assignors to Peter Shellenback and James Hudson, Middletown, Ohio. Rotary steam engine.....	Apr. 28, 1868.
78,613	Sheller, Jacob, Wilmington, Del. Composition for filling the pores of wood for varnishing.....	June 2, 1868.
82,254	Same.....Composition for stuffing and filling wood.....	Sept. 15, 1868.
84,513	Shelley, Benjamin N., Newark, N. J. Fastening for whip sockets.....	Dec. 1, 1868.
	Shelley, Samuel T., and Henry C. Bull. (*See* Bull & Shelley.)	
	Same.....same.	
	Shelly, A. F., *et al.* (*See* Doering, Justus, assignor.)	
74,435	Shelton, Clark R., New Haven, Conn. Whip tip.....	Feb. 11, 1868.
85,032	Same.....Repairing whips.....	Dec. 15, 1868.
	Shelton, G., *et al.* (*See* Lawler & Gibson, assignors.)	
78,488	Shepard, Albert B., Sand Bank, N. Y. Floating water power.....	June 2, 1868.
84,072	Shepard, Amos, assignor to the Union Manufacturing Company, New Britain, Conn. Venting metallic cores.....	Nov. 17, 1868.
	Shepard, Amos, and Amzi P. Plant. (*See* Plant & Shepard.)	
75,206	Shepard, Edwin R., Scranton, Pa. Rail for railways.....	Mar. 3, 1868.
82,881	Same.....Railroad rail.....	Oct. 6, 1868.
83,555	Shepard, Ephraim, New York, N. Y. Fastening for carriage curtains.....	Oct. 27, 1868.
82,647	Shepard, Frederick M., New York, N. Y. Rubber mat.....	Sept. 29, 1868.
84,650	Same.....Water-proof shoe.....	Dec. 1, 1868.
	Shepard, H. W. (*See* Wilder, John B., assignor.)	
	Same.....(*See* Huggins, George A., assignor.)	
78,021	Shepard, James, Bristol, Conn. Machine for wiring pans. (Antedated May 7, 1868).	May 19, 1868.
81,693	Same.....Protecting plants, &c.....	Sept. 1, 1868.
77,846	Shepard, John F., Hampton Falls, Mass. Apparatus for making cigars.....	May 12, 1868.
74,855	Shepard, Morrill A., Bridgeport, Ill. Pan lifter.....	Feb. 25, 1868.
76,532	Same.....Fruit dryer.....	Apr. 7, 1868.
77,327	Same.....Boiler upon stove pipes.....	Apr. 28, 1868.
	Shepard, M. V. B., and B. F. Kingman. (*See* Kingman & Shepard.)	
74,615	Shepard, Otis, Alton, Ill. Hammer.....	Feb. 18, 1868.
	Shepard, Ransom. (*See* Streeter, Luther, assignor.)	
	Shephard, A., and B. F. Watson. (*See* Watson & Shephard.)	
84,008	Shepherd, Henry F., Framingham, Mass. Veneer. (Antedated Oct. 31, 1868)....	Nov. 10, 1868.
80,513	Shepherd, Henry L., Osborn, Ohio. Horse hay fork.....	July 28, 1868.
82,882	Shepherd, Samuel, and A. M. George, assignors to Samuel Shepherd and Joseph Greeley, Nashua, N. H. Machine for polishing paper.....	Oct. 6, 1868.
82,883	Same.....Burnisher for enamelled paper.....	Oct. 6, 1868.
3,203	Shepherd, Samuel, and A. M. George, assignors through mesne assignments to Samuel Shepherd and Joseph Greeley, Nashua, N. H. Machine for polishing enamelled paper.....(Reissue)..	Nov. 17, 1868.
81,418	Shepler, Pius Lee, White House, Ohio. Sawing machine.....	Aug. 25, 1868.
83,218	Shepler, Pius L., and Samuel L. Irwin, White House, Ohio. Wash boiler.....	Oct. 20, 1868.
82,357	Sheppard, Edwin, Philadelphia, Pa. Automatic boiler feeder.....	Sept. 22, 1868.
75,705	Sheppard, J. L., Charleston, S. C. Cotton bale tie.....	Mar. 17, 1868.
	Shepperd, F. J., *et al.* (*See* Fornerook, Shepperd & Garton.)	
74,725	Shepperman, Walter, Pittsburg, Pa. Clamp for trussing cylinders of staves....	Feb. 18, 1868.
79,867	Sherburne, William, Charlestown, Mass. Journal box.....	July 14, 1868.
76,353	Sherer, Samuel B., Aurora, Ill. Ankle brace.....	Apr. 7, 1868.
76,665	Sherman, Amory F., Roxbury, Mass. See-saw, or tilting apparatus.....	Apr. 14, 1868.
	Sherman, Charles R., and Francis Howlett. (*See* Howlett & Sherman.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
74, 726	Sherman, Edwin F., Chicopee, Mass. Corn sheller	Feb. 18, 1868.
80, 227	Sherman, Edwin F., assignor to self and A. W. Kellogg, Chicopee, Mass. Belt hook.	July 21, 1868.
	Sherman, E. K. (*See* Loomis, O. E., assignor.)	
73, 129	Sherman, Franklin R., Dowagiac, Mich. Gate	Jan. 7, 1868.
74, 157	Sherman, G. W. and C. L., Seymour, Conn. Flour scoop and sifter	Feb. 4, 1868.
74, 158	Sherman, Jacob A., New York, N. Y. Truss. (Antedated Jan. 24, 1868)	Feb. 4, 1868.
75, 061	Same.....same. (Antedated Feb. 20, 1868)	Mar. 3, 1868.
81, 829	Sherman, Jeremiah, New Oxford, Pa. Animal trap	Sept. 1, 1868.
	Sherman, J. L., and W. Ashley Jones. (*See* Jones & Sherman.)	
84, 913	Sherman, S. M., Fort Dodge, Iowa. Window shutter	Dec. 15, 1868.
85, 139	Sherman, Samuel S. and Jeremiah G., McHenry, Ill. Harvester rake	Dec. 22, 1868.
81, 830	Sherman, Winslow, New York, N. Y., and Jacob Russell, Brooklyn, N. Y., assignors to Jacob Russell, Henry T. McCoun, James L. Romer, and Thomas T. Buckley. Feeding nail plates	Sept. 1, 1868.
85, 405	Sherwin, L. B., Hyde Park, Vt. Potato washer	Dec. 29, 1868.
83, 329	Sherwood, Allen, Auburn, N. Y. Wash boiler	Oct. 20, 1868.
76, 950	Sherwood, Arthur Hamilton, Southport, Conn. Sewing machine. (Antedated April 16, 1868)	Apr. 21, 1868.
	Sherwood, C. A., *et al.* (*See* Weaver, Joel D., assignor.)	
2, 865	Sherwood, Calvin W., Chicago, Ill. School desk and seat. (Division A, reissue)	Feb. 11, 1868.
2, 866	Same.....same.....(Division B, reissue)	Feb. 11, 1868.
75, 588	Same.....Portable book clamp	Mar. 17, 1868.
3, 262	Same.....Standard of a school desk.....(Design)	Nov. 17, 1868.
	Sherwood, Charles K., *et al.* (*See* Cheekeni, Dominico, assignor.)	
74, 945	Sherwood, Daniel, assignor to Woods, Sherwood & Company, Lowell, Mass. Table easter	Feb. 25, 1868.
3, 057	Sherwood, Henry M., Chicago, Ill. Frame of a school desk and seat. (Design)	May 26, 1868.
85, 485	Sherwood, Merrell B., Buffalo, N. Y. Process for curing and preserving meat	Dec. 29, 1868.
75, 207	Sherwood, N. B., Millville, N. Y. Cotton-seed planter	Mar. 3, 1868.
84, 309	Same.....Potato planter	Nov. 24, 1868.
83, 734	Sherwood, N. B., assignor to self and W. H. Willson, New York, N. Y. Pianoforte tuning key	Nov. 3, 1868.
84, 384	Sherwood, Peter M., New York, N. Y. Bottle-filling apparatus	Nov. 24, 1868.
84, 222	Shiekle, Frederiek, assignor to Shiekle, Harrison & Company, St. Louis, Mo. Hydrant and gas-pipe stop	Nov. 17, 1868.
75, 589	Shidler, A. W., South Bend, Ind. Cider press	Mar. 17, 1868.
73, 203	Shields, F. M., assignor to self and James A. Jarnagin, Macon, Miss. Envelope	Jan. 7, 1868.
80, 674	Shields, F. M., assignor to self and John W. Sanders, Macon, Miss. Yoke	Aug. 4, 1868.
84, 139	Shields, James S., Medora, Ind. Fruit box	Nov. 17, 1868.
82, 757	Shields, Thomas, Hillsboro', Ohio. Beehive	Oct. 6, 1868.
74, 616	Shields, William, Philadelphia, Pa. Die for making square-headed bolts	Feb. 18, 1868.
81, 419	Same.....same	Aug. 25, 1868.
	Shilvock, William, and Eli White. (*See* White & Shilvock.)	
81, 545	Shimer, Jaeob T., Easton, Pa. Carriage wheel	Aug. 25, 1868.
78, 334	Shimer, John, Bronson, Mich. Clamp for holding leather to eurrier's bench	May 26, 1868.
3, 246	Shinn, John, assignor through mesne assignments to George Crompton, Worcester, Mass. Loom.....(Reissue)	Dec. 29, 1868.
	Shipley & Smith. (*See* Richards, Warren, jr., assignor.)	
85, 249	Shipley, Alfred J., assignor to the Scoville Manufacturing Company, Waterbury, Conn. Feed motion	Dec. 22, 1868.
77, 771	Shipley, Amos, and W. T. Mersereau, Newark, N. J. Instrument for lighting gas, &e	May 12, 1868.
	Shipley, A. B. (*See* Holtzscheiter, Leonard, assignor.)	
78, 898	Shipley, S. P., Olena, Ohio. Beehive	June 16, 1868.
	Shipman, Henry A., and Robert Hoadley. (*See* Hoadley & Shipman.)	
78, 140	Shipton, Thomas, Newark, N. J. Feed-water heater	May 19, 1868.
73, 130	Shires, William, Cincinnati, Ohio. Garbage can or vessel	Jan. 7, 1868.
74, 856	Shirey, Henry, Fond-du-Lac, Wis. Dumping wagon	Feb. 25, 1868.
83, 556	Shirk, David B., Brunnerville, Pa. Railway cattle-guard	Oct. 27, 1868.
	Shirk, Samuel S., *et al.* (*See* Moore, Bleistein & Shirk.)	
73, 393	Shirley, Silas, Guilford, Ill. Seed drill and roller	Jan. 14, 1868.
78, 141	Shirley, Silas, Santa Clara, Cal. Tire tightener	May 19, 1868.
84, 009	Shirley, Silas, Rockford, Ill. Wagon wheel	Nov. 10, 1868.
84, 773	Shirt, Joseph, and Charles Briggs, Great Britain. Steam-engine condenser	Dec. 8, 1868.
81, 017	Shisler, Henry S., Manheim Township, Pa. Farm gate	Aug. 11, 1868.
81, 219	Shiver, Elisha, Columbia, S. C. Sewing-machine motor	Aug. 18, 1868.
77, 664	Shlaudeman, H., Decatur, Ill. Beer cooler	May 5, 1868.
84, 310	Shmetzer, Louis, Chicago, Ill. Sleigh and baby carriage	Nov. 24, 1868.
82, 039	Shock, Nicholas, Baltimore, Md. Corn sheller and cleaner	Sept. 8, 1868.
73, 262	Shoek, Thomas A., (U. S. N.,) Boston, Mass. Combined lubricator and water conductor	Jan. 14, 1868.
85, 033	Shockey, Daniel, Waynesboro', Pa. Farm gate	Dec. 15, 1868.
84, 774	Shoe, John, Pleasant Hill, Ohio. Beehive	Dec. 8, 1868.
75, 474	Shoemaker, Abram, and Wallace Phelps, Conesville, N. Y. Frame for hop vines	Mar. 10, 1868.
81, 546	Shoenberger, William Hamilton, Cincinnati, Ohio. Spike machine	Aug. 25, 1868.
79, 265	Sholes, C. Latham, Carlos Glidden, and Samuel W. Soule, Milwaukee, Wis. Type writing machine	June 23, 1868.
79, 868	Same.....same	July 14, 1868.
81, 018	Shone, J. A., Holly Springs, Miss. Cotton bale tie	Aug. 11, 1868.
73, 657	Shopbell, Elias, Ashland, Ohio. Lifting jack	Jan. 21, 1868.
2, 922	Same.....Pattern for cutting boots.....(Reissue)	Apr. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Shope, Lyndhurst T., and George King. (*See* King & Shope.)	
81,019	Shorey, John, Lowell, Mass. Curtain fixture	Aug. 11, 1868.
	Shott, Samuel B. (*See* Silvis, Anthony W., assignor.)	
	Same.....same.	
78,399	Shotwell, C. L., Allamuchy, N. J. Apparatus for measuring cloth	May 26, 1868.
75,475	Shotwell, Walter S., Paterson, N. J. Railroad chair	Mar. 10, 1868.
75,476	Same.....Railway truck	Mar. 10, 1868.
2,949	Shoup, William, Saltsburg, Pa. Pump.....(Reissue)	May 26, 1868.
83,735	Shreffler, Andrew H., Joliet, Ill. Dropping platform for harvesters	Nov. 3, 1868.
77,924	Shreiner, Jacob H., Camp Hill, Pa. Grain drill	May 12, 1868.
81,547	Same.....same	Aug. 25, 1868.
	Shreve, Henry, and John W. Lyder. (*See* Lyder & Shreve.)	
80,772	Shreves, T. J., Greenbush, Ill. Horse rake	Aug. 4, 1868.
84,010	Shrock, Simon, New Philadelphia, Ohio. Beehive	Nov. 10, 1868.
	Shryock, H. F. (*See* Wissel, H. C., assignor.)	
	Shults, B. G., *et al.* (*See* Hermance, C. W., assignor.)	
81,831	Shultz, H. N., Sabillasville, Md. Flour bolt	Sept. 1, 1868.
	Shumard, Warren, *et al.* (*See* Lyon, Shumard & Robbins.)	
3,036	Shunk, Christian, Philadelphia, Pa. Refining iron.....(Reissue)	July 14, 1868.
81,420	Shur, M. M., Delaware, Ohio. Device for soldering cans	Aug. 25, 1868.
75,208	Shurtleff, A. M., Boston, Mass. Apparatus for atomizing liquids	Mar. 3, 1868.
75,991	Same.....Atomizing apparatus for surgical use	Mar. 24, 1868.
76,257	Same.....Saliva pump	Mar. 31, 1868.
74,014	Shute, Henry M., assignor to George W. Emerson, Waukegan, Ill. Book-binding	Feb. 4, 1868.
79,152	Sibert, Lorenzo, Mt. Solon, Va. Manufacture of iron and steel	June 23, 1868.
79,605	Sibley, Alden, Pawtucket, R. I. Gearing	July 7, 1868.
85,183	Sibley, Freeman K., Auburndale, and Levi C. Wade, Newton Upper Falls, Mass. Device for receiving and delivering mails	Dec. 22, 1868.
79,266	Sibley, J. D., Middletown, Conn. Spirit-level	June 23, 1868.
82,758	Sibley, James P., and Arthur Walsh, Bennington, Vt. Governor for engines, water-wheels, &c	Oct. 6, 1868.
79,017	Sichel, S., and S. Feust, New York, N. Y. Ticket register	June 16, 1868.
75,992	Sickel, James C., Philadelphia, Pa. Composition for embalming	Mar. 24, 1868.
77,542	Sickels, Gerard, Boston, Mass. Water meter	May 5, 1868.
75,993	Siddons, Charles S., Rochester, N. Y. Fruit jar	Mar. 24, 1868.
82,884	Siddons, John, Rochester, N. Y. Fruit-jar cover. (Antedated Sept. 26, 1868)	Oct. 6, 1868.
84,311	Same.....Ring ferruling machine. (Antedated Nov. 7, 1868)	Nov. 24, 1868.
85,335	Same.....Hot-air furnace. (Antedated Dec. 15, 1868)	Dec. 29, 1868.
85,336	Same.....Machine for making rings. (Antedated Dec. 17, 1868)	Dec. 29, 1868.
81,302	Side, Robert, England. Machine for obtaining motive power	Aug. 18, 1868.
74,946	Siebenmann, John F., Milwaukee, Wis. Artificial wine	Feb. 25, 1868.
78,142	Siecke, Charles A., Philadelphia, Pa. Apparatus for bundling cigars	May 19, 1868.
82,163	Siegfried, J. B., Pittsburg, Pa. Howel and croze	Sept. 15, 1868.
83,330	Siegrist, J., New York, N. Y. Stop motion for warping machines	Oct, 20, 1868.
73,658	Siemers, Franz G., Winona, Minn. Ice-cream freezer	Jan. 21, 1868.
75,209	Same.....Scraper for ice-cream freezers	Mar. 3, 1868.
81,303	Same.....Ice cutter	Aug. 18, 1868.
81,421	Same.....Meat cutter	Aug. 25, 1868.
74,436	Silbermann, Jacob, and Gustav Unger, assignors to selves and Jacob Heinemann, New York, N. Y. Neck-tie	Feb. 11, 1868.
75,062	Same.....Loom	Mar. 3, 1868.
73,659	Siler, Isaac J., Arcanum, Ohio. Churn	Jan. 21, 1868.
84,223	Sill, C. B., assignor to self and John Goldsborough, Wilkins, Pa. Instrument for affixing stamps	Nov. 17, 1868.
	Sill, J. (*See* Drake & Hutson, assignors.)	
73,842	Sill, Sidney B., Three Rivers, Mich. Heat radiator	Jan. 28, 1868.
	Silliman, Erva B. (*See* Collier, Orrin, assignor.)	
83,666	Silliman, Thomas C., Chester, Conn. Trap for destroying insects. (Antedated Oct. 24, 1868)	Nov. 3, 1868.
80,837	Silver, A. R., assignor to self and John Deming, Salem, Ohio. Hub-boring machine. (Antedated July 25, 1868)	Aug. 11, 1868.
84,514	Same.....Saw-gummer	Dec. 1, 1868.
78,489	Silver, Harvey, Lowell, Mass. Flyer for spinning machine. (Antedated May 23, 1868)	June 2, 1868.
3,070	Silverthorn, Newman, assignor through mesne assignments to the American Shoe Tip Company, Connecticut. Boot and shoe tip.....(Reissue)	Aug. 4, 1868.
75,063	Silvis, Anthony W., assignor to self and Samuel B. Shott, Birmingham, Iowa. Hand spinning machine	Mar. 3, 1868.
83,557	Same.....Loom	Oct. 27, 1868.
85,184	Sim, Thomas, Charleston, S. C. Process and apparatus for preserving meat and other perishable articles	Dec. 22, 1868.
	Simcox, Abraham, *et al.* (*See* Miller, Becker & Simcox.)	
85,406	Simis, A., Brooklyn, E. D., N. Y. Operating bridle blinds	Dec. 29, 1868.
73,394	Simison, S. A., assignor to self and Boyd D. Simison, Earlville, Ill. Coal box	Jan. 14, 1868.
73,468	Simmerman, Abraham, Glassboro, and J. S. Simmerman, Millville, N. J. Ladder	Jan. 21, 1868.
	Simmons, George A., and B. W. Shaw. (*See* Shaw & Simmons.)	
	Simmons, Isaac. (*See* Morrell, James, assignor.)	
	Same.....same.	
	Same.....same.	
76,533	Simmons, Joseph H., Philadelphia, Pa. Spool stand	Apr. 7, 1868.
77,113	Simmons, Philander P., Davenport, Iowa. Bed bottom	Apr. 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,255	Simmons, Thomas, Brooklyn, L. I., N. Y. Filter	Sept. 15, 1868.
84,845	Simmons, W. W., assignor to self and R. M. and T. S. Bassett, Birmingham, Conn. Die for making carriage axles	Dec. 8, 1868.
73,263	Simms, Matthew, and James V. Chambers, Wheeling, West Va. Hay crane	Jan. 14, 1868.
	Simon, A. H. (*See* Wilson, James, assignor.)	
76,108	Simon, Simon B., Washington, D. C. Watch for canes, umbrella handles, &c	Mar. 31, 1868.
83,736	Simonds, Alvin A. and George F., assignors to the Simonds Manufacturing Company, Fitchburg, Mass. Machine for serrating sickle sections	Nov. 3, 1868.
74,437	Simonds, Amos B., Youngstown, Ohio. Hand-turning tool	Feb. 11, 1868.
	Simonds, J. Henry, *et al.* (*See* Fay, George, assignor) (Design.)	
75,210	Simonds, Warren A., assignor to self and Henry H. Hyde, Boston, Mass. Gas regulator	Mar. 3, 1868.
81,220	Simons, Andrew, Fairfield, Iowa. Trellis for propagating bees	Aug. 18, 1868.
84,140	Simons, James Y., Troy, N. Y. Shoemaker's shaves	Nov. 17, 1868.
	Simons, L. A., *et al.* (*See* Winchell, James F., assignor.)	
	Same same	
75,651	Simons, Michael, Middletown, Conn. Tea and coffee pot	Mar. 17, 1868.
84,385	Simonton, Thomas B., New York, N. Y. Elevator	Nov. 24, 1868.
	Simpson, Hall, Miller & Company. (*See* Hawkins, Westel E., assignor.)	
73,843	Simpson, James, St. Louis, Mo. Brick machine	Jan. 28, 1868.
	Simpson, James, Brooklyn, N. Y. Dry dock (Extension)	Dec. 3, 1868.
	Simpson, James W. (*See* Tansey, Verlin G., assignor.)	
84,386	Simpson, John, Charleston, Ill. Combined crusher, harrow, and roller	Nov. 24, 1868.
78,839	Simpson, John Anderson, England. Umbrella and parasol	June 9, 1868.
76,534	Simpson, William, and William Howitt, England. Steam heater	Apr. 7, 1868.
77,222	Simpson, William M., Davisburg, Mich. Bee house and hive	Apr. 28, 1868.
77,543	Simpson, William S., Berea, Ohio. Mop wringer and brush	May 5, 1868.
83,558	Sims, Alfred, Brooklyn, N. Y. Jack for turning shafting	Oct. 27, 1868.
	Sims, E. (*See* Bent, H. H., assignor.)	
81,694	Sinclair, Charles, New York, N. Y. Ratchet drill	Sept. 1, 1868.
81,695	Sinclair, Hector, New York, N. Y. Hot air register attachment	Sept. 1, 1868.
74,617	Sinclair, James A., Woodsfield, Ohio. Animal trap	Feb. 18, 1868.
84,387	Sinclair, James D., Brooklyn, N. Y. Hatchway	Nov. 24, 1868.
82,444	Sinclair, William C., New York, N. Y. Safety guard for locks. (Antedated Sept. 18, 1868)	Sept. 22, 1868.
80,313	Sinclair, William M., Baltimore, Md. Boiler flue plug	July 28, 1868.
	Singer Manufacturing Company. (*See* Jones, J. T., assignor.)	
	Same same.	
85,140	Singer, William H., Pittsburg, Pa. Method of applying cast steel to articles made of iron	Dec. 22, 1868.
78,241	Single, J. F., deceased, by William Pettingell, administrator, Painesville, Ohio. Implement for harvesting grapes	May 26, 1868.
76,109	Singleton, George, Paterson, N. J. Silk-cleaning knife	Mar. 31, 1868.
	Singleton, George, and Robert Atherton. (*See* Atherton & Singleton.)	
74,618	Singleton, W. Y., Springfield, Ill. Beehive	Feb. 18, 1868.
2,856	Sink, Thomas P., Fairton, N. J. Oyster dredge (Reissue)	Feb. 4, 1868.
81,394	Same same	Aug. 18, 1868.
74,857	Sink, Thomas P., assignor to self and J. F. Trenchard, Fairton, N. J. Oyster dredging machinery	Feb. 25, 1868.
	Sinks, Eli. (*See* Krick, Francis, assignor.)	
79,083	Sinnott, William, and John McNaughton, Brooklyn, N. Y. Tailor's measure	June 23, 1868.
75,652	Sisco, Henry C., Indianapolis, Ind. Combined shovel and tongs	Mar. 17, 1868.
	Sisson, Luther, *et al.* (*See* Reed, Lake & Sisson.)	
85,034	Sisson, L. S., West Edmiston, N. Y. Car brake. (Antedated Dec. 5, 1868)	Dec. 15, 1868.
81,422	Sisson, Philander, Brant, N. Y. Spring bed-bottom	Aug. 25, 1868.
74,619	Sitterley, Reuben T., Callaway County, Mo. Mode of belting tobacco	Feb. 18, 1868.
81,020	Sjöberg, Olaus, Chicago, Ill. Tobacco pipe	Aug. 11, 1868.
82,164	Skelly, Evan, Plaquemine, La. Apparatus for impregnating cane juice and other liquids with sulphurous acid gas	Sept. 15, 1868.
80,094	Skelly, J. H., assignor to self and J. C. Danforth, Aroma, Ill. Cultivator	July 21, 1868.
85,250	Skelton, Thomas, Rockford, Ill. Hames fastener	Dec. 22, 1868.
73,660	Skidmore, Darius, Seneca Falls, N. Y. Billiard table cloth	Jan. 21, 1868.
2,941	Same Attaching door knobs to spindles (Reissue)	May 19, 1868.
81,021	Skidmore, Henry, Mount Vernon, N. Y. Machine for cutting paper	Aug. 11, 1868.
85,337	Skidmore, Samuel M., Brooklyn, N. Y. Velocipede	Dec. 29, 1868.
80,773	Skiff, William, Camanche, Iowa. Well-boring apparatus	Aug. 4, 1868.
77,772	Skilling, Sherman E., Benton Harbor, Mich. Tube well	May 12, 1868.
79,267	Skillman, Sidney, Jersey City, N. J. Car truck. (Antedated June 16, 1868)	June 23, 1868.
	Skinner, Elias. (*See* Blakeslee, C. D., assignor.)	
81,221	Skinner, Elisha W., Madison, Wis. Harvester	Aug. 18, 1868.
82,358	Skinner, George, Brooklyn, N. Y. Fire-escape ladder	Sept. 22, 1868.
74,620	Skinner, George W., Rockford, Ill. Horseshoe	Feb. 18, 1868.
73,204	Skinner, John F., Brasher Iron Works, N. Y. Threshing machine	Jan. 7, 1868.
73,395	Skinner, P. J., Oswego, N. Y. Movable barrel stand	Jan. 14, 1868.
77,925	Skinner, Robert, San Francisco, Cal. Machine for making drain pipe	May 12, 1868.
75,064	Skinner, Russell J., assignor to J. W. Scott & Company, Chicago, Il. Chandelier	Mar. 3, 1868.
73,264	Skinner, Stephen F., Jacksonville, Mo. Plow	Jan. 14, 1868.
	Slack, Thomas A., *et al.* (*See* Summers, Alfred T., assignor.)	
80,774	Sladdin, Joseph, assignor to self and John Lord, Lawrence, Mass. Machine for making harness for looms	Aug. 4, 1868.
75,065	Slade, Thomas W., Manchester, Mass. Funnel	Mar. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Slaght, Hiram L., and Daniel H. Carpenter. (*See* Carpenter & Slaght.)	
78,840	Slagle, G. W., J. L. Miller, and H. C. Hoy, Washington, D. C. Soap	June 9, 1868.
	Slammon, James, and William Lalor. (*See* Kelly, Michael, assignor.)	
75,211	Slater, David S., Poynett, Wis. Cultivator	Mar. 3, 1868.
83,415	Slater, Eli, and Anson H. Platt, Philadelphia, Pa. Hot air furnace	Oct. 27, 1868.
77,665	Slater, George, assignor to George Washington Belding, England. Sewing machine	May 5, 1868.
	Slater, James W. (*See* Wood, George W., assignor.)	
82,359	Slatter, Henry, Covington, Ky. Carbureter	Sept. 22, 1868.
80,675	Slaughter, David, West Hempfield Township, Pa. Meat cutter	Aug. 4, 1868.
77,926	Slaughter, J. C., Crumpton, Md. Churn	May 12, 1868.
74,159	Slaughter, R. K., and J. O. Hundt, New York, N. Y. Machine for embossing window shades	Feb. 4, 1868.
73,396	Slawson, J. B., New York, N. Y. Change gate for railroad cars	Jan. 14, 1868.
73,131	Slayton, Phineas L., assignor to self and Almet Reed, New York, N. Y. Machine for braiding whip lashes	Jan. 7, 1868.
	Sleeper, Jonathan C., and Harrison Parker. (*See* Parker & Sleeper)..(Design.)	
77,328	Slevin, Patrick, John, and Francis, New York, N. Y. Whistle	Apr. 28, 1868.
	Slicer, C. H. (*See* Dumbolton, George, assignor.)	
	Slicer, C. H., and M. M. Welby. (*See* Wrightson, Hugh S., assignor.)	
85,251	Slingerland, John T., assignor to Alden Type-setting and Distributing Machine Company, New York, N. Y. Type-setting and distributing machine	Dec. 22, 1868.
74,250	Sloan, John, assignor to self, John H. Jones, and John Given, Philadelphia, Pa. Means for stiffening articles of wearing apparel	Feb. 11, 1868.
	Sloan, John, and Edward Brady. (*See* Brady & Sloan.)	
77,114	Sloan, Thomas J., New York, N. Y. Operating window shutters	Apr. 21, 1868.
80,023	Same.....Mode of operating shutters	July 14, 1868.
76,535	Sloan, William, assignor to Car Carpenter, Buffalo, N. Y. Apparatus for generating gas	Apr. 7, 1868.
73,205	Sloat, E. A., Theresa, N. Y. Bolt cutter	Jan. 7, 1868.
84,587	Sloat, George V., Morrisania, N. Y. Boiler flue cleaner	Dec. 1, 1868.
	Sloat, James F., and William R. Taylor. (*See* Taylor & Sloat.)	
	Slocum, Willet M. (*See* Burt, John, assignor.)	
73,933	Sloop, Hiram, assignor to self and Jeptha Garrard, Mt. Healthy, Ohio. Hill-side plow	Jan. 28, 1868.
84,224	Slotterbek, Charles, San Francisco, Cal. Fire-arms. (Antedated May 18, 1868).	Nov. 17, 1868.
	Sluss, D. M., *et al.* (*See* Kerns, John, assignor.)	
80,427	Slusser, Benjamin, Sidney, Ohio. Sulky plow	July 28, 1868.
	Slusser, D. M., *et al.* (*See* Kerns, John, assignor.)	
	Small, Benjamin F. (*See* Smyth, David M., assignor.)	
75,802	Small, Eleazer, Dennisport, Mass. Sad-iron heater, nurse lamp, and foot warmer.	Mar. 24, 1868.
77,544	Smalley, H. D., New Baltimore, Ohio. Portable fence	May 5, 1868.
	Smalley, John. (*See* Merlett, John, assignor.)	
79,084	Smallwood, Joseph, St. John, N. B. Portable stove	June 23, 1868.
76,833	Smart, David V. B., Troy, N. Y. Car coupling	Apr. 14, 1868.
84,225	Smart, Hiram F., assignor to self and Edward R. Fiske, Worcester, N. Y. Process of printing in colors	Nov. 17, 1868.
82,759	Smart, L. T., Ossipee, N. H. Saw-set	Oct. 6, 1868.
76,536	Smead, E. A., Tioga, Pa. Wrench	Apr. 7, 1868.
77,666	Smead, Jonathan, assignor to self and Thomas Steward, East Wallingford, Vt. Automatic feeder for evaporators	May 5, 1868.
79,153	Smead, William, Rochester, N. Y. Universal joint coupling	June 23, 1868.
76,110	Smedley, John D., Chicago, Ill. Box and bag for packing butter, &c	Mar. 31, 1868.
81,022	Smelser, John T., Williamsburg, Ind. Saddle-tree	Aug. 11, 1868.
80,775	Smidth, Anton Julius, Denmark. Conveying live fishes	Aug. 4, 1868.
73,265	Smiley, James H., Caroline, N. Y. Wagon brake	Jan. 14, 1868.
78,841	Same.....same	June 9, 1868.
	Smith, Aaron, and John Edwin Race. (*See* Race & Smith.)	
81,832	Smith, A. B., Rochester, Pa. Harvester	Sept. 1, 1868.
81,833	Same.....Endless platform for churn power	Sept. 1, 1868.
85,141	Same.....Grain separator. (Antedated Dec. 5, 1868)	Dec. 22, 1868.
3,018	Smith, A. D., Grafton, Ohio. Churn body.....(Design)..	May 5, 1868.
78,022	Same.....Loader for locomotive tenders	May 19, 1868.
78,899	Same.....Lock nut	June 16, 1868.
75,994	Smith, A. D., and E. Stow, Townsend Station, Ohio. Fence	Mar. 24, 1868.
79,694	Smith, A. F., and J. H. Vickers, assignors to Norwich Lock Company, Norwich, Conn. Padlock	July 7, 1868.
80,229	Smith, A. F., assignor to self and Lewis Friend, Ellsworth, Maine. Spark arrester	July 21, 1868.
73,934	Smith, Absalom G., Jersey City, N. J. Lantern	Jan. 28, 1868.
84,775	Same.....Lamp burner. (Antedated Nov. 27, 1868)	Dec. 8, 1868.
84,442	Smith, Adam C., Philadelphia, Pa. Construction of waste water pipes	Nov. 24, 1868.
77,927	Smith, Alfred G., Marathon, N. Y. Foxing and soling boots	May 12, 1868.
77,667	Smith, Amor, Cincinnati, Ohio. Fertilizer	May 5, 1868.
81,423	Smith, Amos, Vienna Cross Roads, Ohio. Harvester	Aug. 25, 1868.
80,225	Smith, Andrew, Dayton, Oregon. Horse-power	July 21, 1868.
80,838	Smith, Andrew, and William P. Watson, assignors to William P. Watson and T. J. Carter, Portland, Oregon. Gang plow	Aug. 11, 1868.
84,652	Smith, Andrew, assignor to T. J. Carter and W. P. Watson, Portland, Oregon. Gang plow	Dec. 1, 1868.
79,403	Smith, Andrew H., Charlton, N. Y. Compensating fly wheel	June 30, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,258	Smith, A. J., and H. C. Reed, Decorah, Iowa. Beehive	Mar. 31, 1868.
	Smith, A. M., and William F. Goodwin. (*See* Goodwin & Smith.)	
73,397	Smith, Andrew V., San Francisco, Cal. Stone truck	Jan. 14, 1868.
73,469	Smith, Andrew W., Dudleyville, Ala. Fanning mill	Jan. 21, 1868.
78,143	Smith, Anselmo B., Plattsmouth, Neb. Carriage wheel	May 19, 1868.
80,839	Smith, Anthony, Shellsburg, Pa. Horse hay fork	Aug. 11, 1868.
75,653	Smith, Anthony W., Birmingham, Pa. Gas meter	Mar. 17, 1868.
73,762	Smith, Antonio F., Ellsworth, Maine. Stove drum	Jan. 28, 1868.
77,115	Smith, Austin A., Seneca Falls, N. Y. Lamp shade. (Antedated April 11, 1868)	Apr. 21, 1868.
	Smith, Benjamin and Adam. (*See* Arkell, James, assignor.)	
75,212	Smith, Benjamin M., New York, N. Y. Button-hole for paper articles of apparel	Mar. 3, 1868.
79,921	Smith, Bernard, assignor to American Burial Case Company, Cincinnati, Ohio. Coffin	July 14, 1868.
78,614	Smith, Bryan, Falkland, N. C. Cotton-seed planter	June 2, 1868.
73,055	Smith, Calvin D., Baldwinville, Mass. Journal of axles or shafts	Jan. 7, 1868.
77,116	Same.....Tilting chair	Apr. 21, 1868.
77,117	Same.....same	Apr. 21, 1868.
81,424	Smith, Charles A., New York, N. Y. Lifting jack	Aug. 25, 1868.
	Smith, Charles A., and George R. Chittenden. (*See* MacGregor, James, assignor) .....(Reissue.)	
82,760	Smith, Chas. B., assignor to self and Quincy A. Fisk, Springfield, Ill. Spring seat	Oct. 6, 1868.
	Smith, Charles D., and Thaddeus S. Reeve. (*See* Reeve & Smith.)	
	Smith, Charles D. F., Geneva, Ill. Stove drum	Oct. 6, 1868.
82,761	Smith, Charles E., assignor to self, John S. and Frank T. Jaques, Lowell, Mass. Spindles for shuttles	Oct. 20, 1868.
83,331	Smith, Charles E., and Frank T. Jaques, Lowell, Mass. Shuttle for looms	Oct. 27, 1868.
83,559	Smith, Charles F., Springfield, Mass. Implement for cutting, perforating, and lighting cigars	Apr. 7, 1868.
76,537	Smith, Charles W., Hornellsville, N. Y. Cooking stove	July 21, 1868.
80,230	Smith, Clark & Company. (*See* Beckwith, Francis W., assignor.)	
	Smith, Daniel, Cedar Falls, Iowa. Plow	July 28, 1868.
80,314	Smith, David, Newburyport, Mass. Brick machine	June 9, 1868.
78,765	Smith, David P., Salem, N. J. Faucet	Aug. 18, 1868.
81,305	Smith, Edgar M., New York, N. Y. Lighting up picture galleries	Aug. 4, 1868.
80,570	Smith, Edgar M., assignor to Mitchell, Vance & Company, New York, N. Y. Harvester .....(Reissue)	June 23, 1868.
3,006	Same.....Harvester rake	June 30, 1868.
79,507	Smith, Edgar M., and Samuel B. H. Vance. (*See* Vance & Smith.)	
75,306	Smith, Edward A., assignor to self and John W. Newton, St. Albans, Vt. Seat for harvesters	Mar. 10, 1868.
78,144	Smith, Edward A., St. Albans, Vt., and Haskell, G., Goshen, Conn. Harvester. (Antedated May 9, 1868)	May 19, 1868.
	Smith, Edward C., and David F. Wilcox, Greenville, N. Y. Dentistry	May 12, 1868.
77,773	Smith, Edwin C., Brandon, Vt. Stove polish	June 30, 1868.
79,508	Smith, Ezekiel, West Middleton, N. Y. Potato digger	Feb. 11, 1868.
74,438	Smith, E. B., Marietta, Ohio. Animal trap	June 30, 1868.
79,506	Smith, E. J., and B. H. Cheever, Washington, D. C. Paper file	Apr. 14, 1868.
76,834	Smith, E. J., and F. B. Perkins, assignors to E. J. Smith, Chicago, Ill. Scoop and lifter	July 14, 1868.
79,922	Smith, E. J., and Adolph Yorns. (*See* Yorns & Smith.)	
	Smith, F., Alexandersville, Ohio. Carpet holder	Feb. 4, 1868.
74,160	Smith, F., and I. Carpenter, Lancaster, Pa. Plane	Aug. 25, 1868.
81,425	Smith, Francis, Highgate, Vt. Horse rake	Sept. 8, 1868.
82,040	Smith, Francis H., Baltimore, Md. Dryer .....(Reissue)	June 30, 1868.
3,017	Same.....Brick machine	July 21, 1868.
80,231	Smith, Frederick H., Baltimore, Md. Bridge	Mar. 10, 1868.
75,477	Smith, Frederick P., Petaluma, Cal. Gang plow	Sept. 15, 1868.
82,165	Same.....same	Sept. 15, 1868.
82,166	Smith, F. L. A. M., Brooklyn, N. Y. Oven rack for ship stoves. (Antedated	
79,018	June 4, 1868)	June 16, 1868.
	Smith, F. N., and James A. Bradley. (*See* Bradley & Smith) .....(Design)	
2,985	Smith, Garrettson, and Henry Brown, assignors to William Flesh and J. J. Roeper, Philadelphia, Pa. Cook stove .....(Design)	Mar. 31, 1868.
2,986	Smith, Garrettson, and Henry Brown, assignors to Smith, Johnson & Company, Philadelphia, Pa. Cook stove .....(Design)	Mar. 31, 1868.
3,058	Smith, Garrettson, and Henry Brown, assignors to Abbott & Noble, Philadelphia, Pa. Plate of a cook stove. (Antedated May 5, 1868) .(Design)	May 26, 1868.
3,059	Same.....Illuminating ring for gas stoves. (Antedated May 5, 1868) ..(Design)	May 26, 1868.
	Smith, George. (*See* Stouffer, Hiram C., assignor.)	
	Same.....(*See* Estes, Henry A., assignor.)	
74,858	Smith, George and Godfrey, New York, N. Y. Boot and shoe	Feb. 25, 1868.
83,667	Smith, George, assignor to self and John C. De Laney, Providence, R. I. Device for unloading hay	Nov. 3, 1868.
	Smith, George, and Christian Stotz. (*See* Stotz & Smith.)	
76,666	Smith, G. C., and R. Judson, Matteawan, N. Y. Thill coupling	Apr. 14, 1868.
84,914	Smith, George E., San Francisco, Cal. Automatic stop cock for gas-burners	Dec. 15, 1868.
81,115	Smith, George F., Plantsville, Conn. Carriage-axle coupling	Aug. 18, 1868.
	Smith, George Hand, Rochester, N. Y. Process for making steel direct from the ore .....(Extension)	June 30, 1868.
	Same.....Process of making steel direct from the ore .....(Extension)	June 30, 1868
73,550	Smith, George K., and Joseph Strasser, Alleghany City, Pa. Plow	Jan. 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Smith, George P., and Harrison Flint. (*See* Flint & Smith.)	
73,132	Smith, George R. K., Brooklyn, N. Y. Wagon protector	Jan. 7, 1868.
75,066	Smith, Hamilton E., New York, N. Y. Clothes ringer	Mar. 3, 1868.
	Smith, Harrison. (*See* Campbell, Wesley B., assignor.)	
82,167	Smith, Henry, and James Emery, Buffalo, N. Y. Twine box	Sept. 15, 1868.
2,858	Smith, Henry C., assignor to Jonathan C. Brown, Brooklyn, N. Y. Lath machine (Reissue)	Feb. 11, 1868.
74,859	Smith, Henry H., Wilmington, Del. Pocket for billet straps	Feb. 25, 1868.
82,445	Smith, Henry J., assignor to Joseph C. Wightman, Boston, Mass. Mode of hardening gas-burner tips made from soapstone, &c	Sept. 22, 1868.
76,835	Smith, Hiram, Des Moines, Iowa. Cook fork	Apr. 7, 1868.
	Smith, Horace, and D. B. Wesson, Springfield, Mass. Fire-arm (Extension)	July 3, 1868.
	Same Cartridge (Extension)	July 3, 1868.
78,145	Smith, H. B., Essex, Conn. Fan	May 19, 1868.
74,439	Smith, H. C., D. A. Kelly, and J. E. Murdoch, jr., Clarksville, Ohio. Cloth rack	Feb. 11, 1868.
	Smith, H. D. (*See* Beecher, Henry M., assignor.)	
	Smith, H. D., & Company. (*See* Beecher, Henry M., assignor.)	
79,268	Smith, H. Julius, Boston, Mass. Electric fuse	June 23, 1868.
74,621	Smith, H. K., Norwich, Conn. Lathe rest	Feb. 18, 1868.
80,024	Same Friction clutch pulley	July 14, 1868.
82,168	Smith, Isaac B., and Henry C. Burr, Springfield, Vt. Hames	Sept. 15, 1868.
83,001	Smith, Jacob J., Philadelphia, Pa. Bed bottom. (Antedated Oct. 1, 1868)	Oct. 13, 1868.
80,776	Smith, James, St. Louis, Mo. Stop box for cocks or valves of water and gas pipes	Aug. 4, 1868.
77,928	Smith, James D., assignor to Arthur P. Emery, New York, N. Y. Measuring faucet	May 12, 1868.
	Smith, James H., and Joseph Parkin. (*See* Parkin & Smith.)	
3,156	Smith, James L., assignor to Marvin, Washburn & Company, Alton, Ill. Sirup filter (Reissue)	Oct. 6, 1868.
77,329	Smith, James P. Cherry Hill, Pa. Excavating vehicle	Apr. 28, 1868.
80,777	Smith, James P., assignor to self and Francis W. Glen, Oshawa, Canada. Pulley	Aug. 4, 1868.
84,651	Smith, James S., Brooklyn, N. Y. Cartridge holder	Dec. 1, 1868.
73,935	Smith, James W., and John P., Elder's Ridge, Pa. Car coupling	Jan. 28, 1868.
80,880	Smith, Jasper N., and William O. Buckley, Washington, Ill. Machine for cutting open ditches	Aug. 11, 1868.
82,560	Smith, Joel, Leominster, Mass. Comb	Sept. 29, 1868.
	Smith, John, and B. Weirich. (*See* Weirich & Smith.)	
80,367	Smith, John A., Lacon, Ill. Extension ladder	July 28, 1868.
82,648	Same Gate	Sept. 29, 1868.
74,440	Smith, John B., Pittston, Pa. Automatic cut-off gas burner	Feb. 11, 1868.
85,338	Smith, John B., Sunapee, N. H. Machine for making clothes pins	Dec. 29, 1868.
	Smith, J. B. (*See* Storle, Ole O., assignor.)	
83,002	Smith, John B., assignor to self and James B. and U. G. Stevens, Newton, Ill. Horse rake	Oct. 13, 1868.
85,339	Smith, J. B., assignor to self and George R. Chittenden, Milwaukee, Wis. Coffee pot	Dec. 29, 1868.
80,232	Smith, John C., Troy, N. Y. Rock drilling machine	July 21, 1868.
79,923	Smith, John C., assignor to self and L. D. Hills, Chicopee, Mass. Loom for weaving palm leaf	July 14, 1868.
80,233	Smith, John C., assignor to Wager, Fales & Company, Troy, N. Y. Stove grate	July 21, 1868.
	Smith, J. E., and J. M., *et al.* (*See* Kinsey, Kissell & Smith.)	
74,947	Smith, John E., Buffalo, N. Y. Meat cutter	Feb. 25, 1868.
84,011	Smith, J. H., and George O., Chicago, Ill. Paint for buildings, roofs, &c	Nov. 10, 1868.
	Smith, John H., and Warren Portlock. (*See* Portlock & Smith.)	
77,118	Smith, John H., and Charles H. Florence, assignors to selves, F. P. Seawell and H. G. W. Whittenburg, Richview, Ill. Brick machine	Apr. 21, 1868.
76,836	Smith, J. Homer, Brewster Station, N. Y. Lamp	Apr. 14, 1868.
81,834	Smith, J. Hunt, Norwich, Conn., and William and Alfred Shedlock, New York, N. Y. Braid	Sept. 1, 1868.
85,340	Smith, John Joseph Charles, Philadelphia, Pa. Clay mold for casting metals	Dec. 29, 1868.
78,766	Smith, John P., Claverack, N. Y. Shaker for threshing machines	June 9, 1868.
83,560	Smith, John P., Scotland. Tool for turning and planing	Oct. 27, 1868.
85,035	Smith, J. P., Hummelstown, Pa. Corn sheller	Dec. 15, 1868.
74,015	Smith, John W. and James D., Washington, D. C. Letter box	Feb. 4, 1868.
74,622	Smith, Joseph, Schodack Center, N. Y. Medical compound	Feb. 18, 1868.
79,869	Smith, J. R., Springfield, Mass. Bridge block	July 14, 1868.
77,411	Smith, Joseph R., assignor to self and Winfield S. Shaw, Bethel, Conn. Nut lock for axle and skein boxes	Apr. 28, 1868.
80,428	Smith, Josiah M., Warren, N. J. Mortising chisel. (Antedated July 18, 1868)	July 28, 1868.
80,881	Smith, Julius, and Isaac E. Hall, Logan, Ohio. Cooking utensil	Aug. 11, 1868.
78,900	Smith, Justin E., and Mark H. Dasenbrook, Warrenville, Ill. Weather strip	June 16, 1868.
	Smith, Justus. (*See* Bennett, E. S., assignor.)	
	Same same.	
84,226	Smith, Kilburn, Lowell, Mass. Register for time and price	Nov. 17, 1868.
80,778	Smith, Lemuel A., Pekin, Ill. Horseshoe	Aug. 4, 1868.
84,443	Smith, Lewis, and Samuel Foster, jr., Des Moines, Iowa. Curtain fixture	Nov. 24, 1868.
84,444	Smith, L. F., Philadelphia, Pa. Low water and high steam indicator	Nov. 24, 1868.
77,223	Smith, L. J., Hamilton, Ohio, and D. S. Knight, New York, N. Y. Car brake and starter	Apr. 28, 1868.
78,146	Smith, Matthew D., Independence, Iowa. Seeder and cultivator	May 19, 1868.
78,147	Smith, Moore, assignor to self and T. W. Wellington, Worcester, Mass. Horse rake	May 19, 1868.
	Smith, Morris H., *et al.* (*See* Halsey, James E., assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,954	Smith, M. M., Nashville, Tenn. Ladder or step for street lamp lighters	Sept. 8, 1868.
84,389	Smith, M. R., Armonk, N. Y. Sewing machine	Nov. 24, 1868.
79,509	Smith, Norman, Hartford, Conn. Guide for screws	June 30, 1868.
	Smith, O. C., and John A. Bassett. (*See* Bassett & Smith.)	
76,259	Smith, Orren M., assignor to S. W. Evans and A. Agnew, Philadelphia, Pa. Runner for umbrellas	Mar. 31, 1868.
81,023	Smith, Oscar R., Elgin, Ill. Animal trap	Aug. 11, 1868.
83,102	Smith, Perry W., Abingdon, Ill. Buckle	Oct. 13, 1868.
77,224	Smith, Peter J., Philadelphia, Pa. Brick machine	Apr. 28, 1868.
83,332	Smith, P. W., Chicopee Falls, Mass. Device for fastening shirt collars	Oct. 20, 1868.
84,246	Smith, Richard, Sherbrooke, Canada. Machine for the manufacture of paper boxes	Nov. 17, 1868.
73,398	Smith, Robert, Brooklyn, N. Y. Device for raising casks and barrels	Jan. 14, 1868.
76,538	Smith, Robert and William T., Carondelet, Mo. Amalgamator	Apr. 7, 1868.
79,606	Smith, Robert A., Philadelphia, Pa. Railroad-track clearer	July 7, 1868.
	Smith, R. B. (*See* Hendry, T. C., assignor.)	
79,019	Smith, Robert D. O., Washington, D. C. Connecting-rod adjustment	June 9, 1868.
82,041	Same.....Bit stock	Sept. 8, 1868.
3,171	Smith, Rodney L., Wolcottville, Conn. Match box.....(Design)	Aug. 25, 1868.
	Smith, Rodney L., and E. M. Judd. (*See* Judd & Smith).....(Design.)	
3,065	Smith, Roland H., Pittsburg, Pa. Street lamp post.....(Design)	June 2, 1868.
	Smith, S. (*See* Kirtland, George, assignor.)	
75,803	Smith, Samuel, Plainview, Minn. Mode of attaching traces to whiffletrees	Mar. 24, 1868.
	Smith, Samuel B., *et al.* (*See* Ruggles, Solomon W., assignor).....(Reissue.)	
80,514	Smith, Samuel R., assignor to P. P. Lane and Joseph T. Bodley, Cincinnati, Ohio. Head block for saw mills	July 28, 1868.
75,307	Smith, Scott A., assignor to Cresson & Smith, Philadelphia, Pa. Flour bolt	Mar. 10, 1868.
	Smith, Scott A., and George W. Hubbard. (*See* Hubbard & Smith.)	
	Same.....same.	
79,020	Smith, Sidney, Worcester, Mass. Hot air furnace	June 16, 1868.
81,222	Same.....Steam boiler furnace	Aug. 18, 1868.
76,667	Smith, Simon B., assignor to self and Joseph K. Chew, Salem, N. J. Bearing for fifth wheel to carriages. (Antedated March 31, 1868)	Apr. 14, 1868.
	Smith, Solomon P. (*See* Allen, Leicester A., assignor.)	
75,995	Smith, S. W., Addison, Vt. Flat-iron heater	Mar. 24, 1868.
	Smith, Theophilus S., and Edward L. Gilman. (*See* Gilman & Smith.)	
81,696	Smith, Thomas, California, Mo. Self-acting wagon brake. (Antedated Aug. 29, 1868)	Sept. 1, 1868.
81,697	Same.....Compound tool for cutting and shearing bolts. (Antedated Aug. 21, 1868)	Sept. 1, 1868.
82,649	Same.....Sawing and boring machine	Sept. 29, 1868.
82,885	Smith, Thomas, and John O. Reilley, Baltimore, Md. Railroad car heating apparatus	Oct. 6, 1868.
76,539	Smith, Thomas C., New York, N. Y. Lemon squeezer	Apr. 7, 1868.
81,548	Smith, T. H., Clyde, N. Y. Seed planter	Aug. 25, 1868.
	Smith, Thomas H. (*See* Evans, John, assignor.)	
84,141	Smith, Thomas J., Jackson, Mich. Apparatus for raising fences	Nov. 17, 1868.
	Smith, T. M., and William Franklin. (*See* Franklin & Smith.)	
73,470	Smith, T. S., Boston, Mass. Let-off for looms	Jan. 21, 1868.
84,515	Smith, T. S., assignor to Alfred B. Ely, Charlestown, Mass. Let-off mechanism for looms	Dec. 1, 1868.
73,399	Smith, T. S., Boston, and A. B. Ely, Newton, Mass., assignors to William N. Ely. Let-off mechanism for looms	Jan. 14, 1868.
80,840	Smith, Vinzeuz, Middlebury, Ohio. Screw-cutting machine	Aug. 11, 1868.
81,024	Smith, W., San Francisco, Cal. Valve for water-closets	Aug. 11, 1868.
79,404	Smith, Willard H., New York, N. Y. Vapor burner	June 30, 1868.
2,843	Smith, William, New York, N. Y. Weaving.....(Division A, reissue)	Jan. 14, 1868.
2,844	Same.....same.....(Division C, reissue)	Jan. 14, 1868.
3,014	Same.....Corded elastic fabric.....(Division B, reissue)	June 30, 1868.
3,060	Smith, William, San Francisco, Cal. Water-closet receiver	May 26, 1868.
79,269	Smith, William, New York, N. Y. Book-binding	June 23, 1868.
80,366	Smith, William, Whitehall, Bridesburg, Pa. Boot and shoe	July 28, 1868.
82,360	Smith, William, Cincinnati, Ohio. Folding table	Sept. 22, 1868.
83,668	Smith, William, Alleghany City, Pa. Pipe-molding machine	Nov. 3, 1868.
	Smith, William. (*See* Aston, John, assignor.)	
73,763	Smith, William, and Emery M. Pike, McDonough, N. Y. Carriage top	Jan. 28, 1868.
	Smith, William, and George Howell. (*See* Howell & Smith.)	
84,388	Smith, William Borthwick, England. Frame for protecting watch-works	Nov. 24, 1868.
77,668	Smith, William C., Warrensburg, Mo. Sugar evaporator	May 5, 1868.
78,695	Same.....same	June 9, 1868.
82,446	Smith, William C., Yantic, Conn. Churn	Sept. 22, 1868.
84,390	Smith, William C., assignor to Henry Sutcliff and John E. Tucker, Brooklyn, N. Y. Paper-ruling machinery	Nov. 24, 1868.
77,225	Smith, William H., and Rollin S. Eddy, assignors to selves, Seth Dean, and Henry Merrill, La Crosse, Wis. Machine for cutting key seats	Apr. 28, 1868.
77,774	Smith, William H., assignor to self and Israel Heeker, New York, N. Y. Fishing lines	May 12, 1868.
83,561	Smith, Wilson, Tod Township Ohio. Hay rack	Oct. 27, 1868.
76,540	Smith, Wright, St. Louis, Mo. Brick for building purposes	Apr. 7, 1868.
75,479	Smith, W. H., New York, N. Y. Lamp	Mar. 10, 1868.
74,860	Smith, W. H., and Joseph Steger, New York, N. Y. Car brake	Feb. 25, 1868.
	Smith, W. H., *et al.* (*See* Eddy, Rollin S., assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,426	Smith, Youngs W., Bristol, N. Y. Hop-vine trellis	Aug. 25, 1868.
81,835	Smitten, Thomas W. F., Brooklyn, N. Y. Breast-pin fastener	Sept. 1, 1868.
77,412	Smoker, Gideon and Jonas, Smithville, Ohio. Combined hand truck and sack holder	Apr. 28, 1868.
74,623	Smokey, John J., Natchez, Miss. Harness	Feb. 18, 1868.
81,223	Smoot, W. G., assignor to self and Antonio Pelletier, Washington, D. C. Registering fare receivers	Aug. 18, 1868.
84,142	Smoot, William S., Washington, D. C. Wrench	Nov. 17, 1868.
85,036	Smoot, W. S., assignor to self and James D. Bacon, Washington, D. C. Neck-tie	Dec. 15, 1868.
74,948	Smyth, D. M., assignor through mesne assignments to John T. Lary, Orange, N. J. Machine for sewing books	Feb. 25, 1868.
79,924	Smyth, David M., assignor to Benjamin F. Small, Orange, N. J. Lamp	July 14, 1868.
74,624	Smythe, George A. Reading, Pa. Calculating scale beam	Feb. 18, 1868.
	Snavely, Benjamin, *et al.* (*See* Stoll, Michael, assignor.)	
74,251	Sneath, George R., and Charles H., Wilmington, Del. Tilting wagon	Feb. 11, 1868.
83,003	Same.....Dumping wagon	Oct. 13, 1868.
	Snedecor, L., and D. S. Stevens. (*See* Stevens & Snedecor.)	
75,308	Snediker, James F., and William F. Bailey, Bristol, Pa. Apparatus for charging gas retorts	Mar. 10, 1868.
85,252	Sneider, C. E., Baltimore, Md. Breech-loading arm	Dec. 22, 1868.
82,447	Snell, Daniel, assignor to self and J. H. Gano, Springfield, Ohio. Tumbling shaft for connecting power with machinery	Sept. 22, 1868.
83,416	Same.....Wood-sawing machine. (Antedated May 28, 1868)	Oct. 27, 1868.
77,119	Snell, Jasper, Pottsville, Pa. Railroad sill and chair	Apr. 21, 1868.
84,846	Snell, Oscar, Williamsburg, Ohio. Pump	Dec. 8, 1868.
82,886	Snell, Theodore, and William Tucker, Philadelphia, Pa. Apparatus for cutting metallic bars	Oct. 6, 1868.
	Snell, W. T. (*See* McCoy, John, assignor.)	
	Snider, William H. (*See* Henderson, Wm. H., assignor.)	
	Snodgrass, Robert V. (*See* Wayman, Edmund G., assignor.)	
73,400	Snodgrass, William, Cold Spring, Wis. Water wheel	Jan. 14, 1868.
77,775	Snook, Lorenzo D., Barrington, N. Y. Hop trellis	May 12, 1868.
78,490	Same.....Harvester	June 2, 1868.
	Snook, M. B., *et al.* (*See* Preston K. H. C., assignor.)	
	Same.....same.	
77,847	Snover, Theodore F., Oconto, Wis. Machine belt	May 12, 1868.
80,571	Snow, B. B., and T. J. Dickerson, Auburn, N. Y. Machine for grinding the cutters of mowing machines	Aug. 4, 1868.
79,270	Snow, George B., and Theodore G. Lewis, Buffalo, N. Y. Automatic dental plugging instrument	June 23, 1868.
79,870	Snow, H. D., Bennington, Vt. Water-wheel regulator	July 14, 1868.
80,368	Snow, Harrison S., and Edgar J. Hunkins, Macon, Mo. Cement for roofing, &c.	July 28, 1868.
	Snow, Harvey, deceased, by Clara M. B. Snow, executrix, Independence, Iowa. Presser-bar for planing machines.....(Extension)	Nov. 20, 1868.
81,698	Snow, Hiram F., and James H. Davis, Dover, N. H. Composition for pavements	Sept. 1, 1868.
	Snow, Joseph C., and Louis Bonney. (*See* Tucker, John E., assignor.)	
75,804	Snow, M. S., Forestville, N. Y. Beehive	Mar. 24, 1868.
74,773	Snow, W. B., Chicago, Ill. Sleeping-car berth	Feb. 25, 1868.
75,480	Snyder, Albert, Jackson, Mich. Fly trap	Mar. 10, 1868.
3,043	Snyder, Asa, and Alexander Delaney, Richmond, Va. Box stove.....(Design)	May 12, 1868.
84,653	Snyder, Byron, Clinton, Wis. Farm gate	Dec. 1, 1868.
	Snyder, Cyrus, and William W. Jeffery. (*See* Jeffery & Snyder.)	
79,784	Snyder, Edward, Slatington, Pa. Machine for polishing slate, &c	July 7, 1868.
76,951	Snyder, Edward, assignor to self and Morgan Jones, Slatington, Pa. Machine for rounding the corners of slate frames	Apr. 21, 1868.
81,955	Snyder, H. A., Shullsburg, Wis. Fanning mill	Sept. 8, 1868.
82,169	Snyder, Henry D., Carboudale, Pa.. Coal stove	Sept. 15, 1868.
	Snyder, Henry D., and Ira D. Richards. (*See* Richards & Snyder.)	
85,341	Snyder, H. F. and G. S., and W. N. Jones, Williamsport, Pa. Casting bearings for machinery	Dec. 29, 1868.
74,161	Snyder, John, Hart's Mills, Ind. Grinding mill	Feb. 4, 1868.
73,844	Snyder, John A., Georgetown, Pa. Machine for mortising fence posts and sharpening fence rails	Jan. 28, 1868.
74,441	Snyder, Joseph, Rock Lick, W. Va. Cultivator	Feb. 11, 1868.
	Snyder, Lewis, and Jacob Latta. (*See* Latta & Snyder.)	
80,779	Snyder, Simon, Cincinnati, Ohio. Tanning	Aug. 4, 1868.
75,654	Snyder, Solomon, Harrisville, Pa. Thread tension mechanism for sewing machines	Mar. 10, 1868.
	Sofield, P. M., and J. Gilbert. (*See* Gilbert & Sofield.)	
81,427	Soles, James D., Lynn Township, Pa. Bread cutter	Aug. 25, 1868.
	Solomon, Louis L., and W. C. Reeves. (*See* Reeves & Solomon.)	
76,354	Solomon, Martha B., assignor to Louis L. Solomon and William C. Reeves, Charlestown, Mass. Children's corset	Apr. 7, 1868.
2,883	Solter, John, Baltimore, Md. Tumbler washer.....(Reissue)	Feb. 25, 1868.
82,650	Somers, D. M., New York, N. Y. Tumbler washer	Sept. 29, 1868.
83,669	Somers, Daniel M., and Walter S. Atwood, Brooklyn, N. Y. Attaching buttons to fabrics	Nov. 3, 1868.
76,837	Somerville, John, and Robert Elsdon, Maidstone, Great Britain. Manufacture of illuminating gas	Apr. 14, 1868.
73,936	Somes, Daniel E., Washington, D. C. Apparatus for making ice and for cooling air and liquids	Jan. 28, 1868.
74,949	Same.....Washing machine	Feb. 25, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,226	Somes, Daniel E., Washington, D. C. Apparatus for consuming smoke and gas and increasing draft in boiler furnaces	Apr. 28, 1868.
77,669	Same.....Cooling air and liquids, and in making ice	May 5, 1868.
82,651	Same.....Apparatus for cooling and filtering liquids	Sept. 29, 1868.
82,887	Same.....Canal boats and other vessels for the transportation of grain	Oct. 6, 1868.
84,654	Same.....Construction of rubber and other elastic springs	Dec. 1, 1868.
	Sommer, Jacob, and Thomas Green. (*See* Green & Sommer.)	
	Son, William H. (*See* Marchbank, John, assignor.)	
77,545	Sonnedecker, Joseph, Cincinnati, Ohio. Advertising frame. (Antedated April 28, 1868	May 5, 1868.
73,401	Soper, Ephraim, New York, N. Y. Mechanical movement	Jan. 14, 1868.
2,884	Soper, Philo O., San Francisco, Cal. Hay knife.....(Reissue)	Feb. 25, 1868.
76,541	Sorber, Jacob L., Chillicothe, Ohio. Mode of lubricating axles	Apr. 7, 1868.
73,402	Sornborger, N. B., Northampton, Mass. Combined catheter and syringe	Jan. 14, 1868.
80,095	Soule, Asa T., Savannah, N. Y. Hay rack	July 21, 1868.
80,676	Soule, George H., Jersey City, N. J., Fastening for bracelets	Aug. 4, 1868.
76,260	Soule, Joel H., Georgetown, N. Y., Milk stirrer	Mar. 31, 1868.
82,448	Soule, J. W., Boston, Mass. Pegging machine	Sept. 22, 1868.
	Soule, Samuel W., *et al.* (*See* Sholes, Glidden & Soule.)	
	Same.....same.	Jan. 28, 1868.
73,845	Southack, Benjamin L., New York, N. Y. Reclining chair	Oct. 20, 1868.
83,333	Same.....Sofa beadstead	Apr. 28, 1868.
77,330	Southard, A. M., and W. J. Hobson, Savannah, Mo. Stone-drilling machine	Feb. 4, 1868.
74,162	Southard, S. L., Rock Island, Ill. Bed-bottom	June 16, 1868.
79,021	Souther, John, Boston, Mass. Steam-fire extinguisher	
	Southmayd, Jefferson W., *et al.* (*See* Fithian, Lemuel S., assignor.)	
	Same.....same.	
	Southward, Eli F. (*See* Wing, Simon, assignor.)	
76,261	Southwick, Albert H., Oskaloosa, Iowa. Wind-mill	Mar. 31, 1868.
76,262	Same.....Mahaska County, Iowa. Heel protector	Mar. 31, 1868.
77,776	Southwick, George W., and John H. Gillett, Scott, N. Y. Shingle machine. (Antedated May 4, 1868)	May 12, 1868.
81,836	Southwick, Jacob, Brant, N. Y. Fence	Sept. 1, 1868.
81,025	Southworth, H. W. Mittineague, Mass. Pad for horses' hoofs	Aug. 11 1868.
76,355	Southworth, Levi B., Deep River, Conn. Carpet stretcher	Apr. 7, 1868.
	Sowers, P. H., *et al.* (*See* Buckius, George H., assignor.)	
	Same.....same.	
	Same.....(*See* Yates, William, assignor.)	
73,661	Sowle, John, Boston, Mass. Hinge	Jan. 21, 1868.
	Spafford, Nathan H. (*See* Burt, George E., assignor).....(Reissue.)	
	Same.....same.....(Reissue.)	
82,652	Spain, Edward, Philadelphia, Pa. Churn	Sept. 29, 1868.
79,695	Spalding, William, Port Clinton, Ohio. Application of steam to a propeller. (Antedated June 18, 1868)	July 7, 1868.
79,022	Spang, J. D., Dayton, Ohio. Gas stove	June 16, 1868.
85,185	Same.....Gas machine	Dec. 22, 1868.
81,549	Spangle, John P., assignor to self and Chauncey Spear, Canandaigua, N. Y. Snow shovel	Aug. 25, 1868.
84,227	Spangler, Albert, Philadelphia, Pa. Latch	Nov. 17, 1868.
75,213	Sparks, J. C., assignor to self and A. G. Buzby, Philadelphia, Pa. Carriage wheel	Mar. 3, 1868.
81,026	Sparks, William E., New Haven Conn. Snap hook	Aug. 11, 1868.
75,996	Sparks, William E., assignor to Sargent & Company, New Haven, Conn. Door button	Mar. 24, 1868.
79,271	Sparre, P. A., Sweden. Transmitting signals	June 23, 1868.
80,369	Spathelf, John G., Sandusky, Ohio. Door lock	July 28, 1868.
2,913	Spaulding, A. F., and S. M. Scott, assignors through mesne assignments to Metropolitan Washing Machine Company, Middlefield, Conn. Meat-chopping machine.....(Reissue)	Apr. 7, 1868.
2,914	Same.....Meat-chopping machine.....(Reissue)	Apr. 7, 1868.
77,929	Spaulding, Charles F., assignor to self and E. D. Goodrich, St. Johnsbury, Vt. Double seamer for tin work	May 12, 1868.
77,777	Spaulding, Edward, Brooklyn, N. Y. Process for treating wood	May 12, 1868.
78,767	Same.....Mosquito screen	June 9, 1868.
78,242	Spaulding, George H., assignor to American Moulded Collar Company, Norwich, Conn. Machine for moulding collars	May 26, 1868.
	Spaulding, J. H. (*See* Rice, Rodney, assignor.)	
76,542	Speakman, Thomas S., Camden, N. J. Draw-bridge	Apr. 7, 1868.
77,331	Same.....Pipe coupling for railroad car heaters	Apr. 28, 1868.
	Spear, Chauney. (*See* Spangle, John P., assignor.)	
73,403	Spear, Isaac C., New Wilmington, Pa. Horse hay-fork	Jan. 14, 1868.
79,510	Spear, James, Philadelphia, Pa. Cooking stove and range	June 30, 1868.
79,696	Same.....Base-burning stove	July 7, 1868.
3,234	Same.....Ornament of a stove.....(Design)	Nov. 10, 1868.
84,312	Same.....Railroad car stove	Nov. 24, 1868.
82,653	Spear, John, Carbondale, Ill. Rain-water cut-off	Sept. 29, 1868.
82,654	Same.....Carbondale, Ill. Fruit dryer	Sept. 29, 1868.
78,615	Spear, John, and John A. Hall, Carbondale, Ill. Pruning shears and knife	June 2, 1868.
76,543	Spear, Vivian K., Lynn, Mass. Machine for polishing the heels of boots and shoes	Apr. 7, 1868.
73,662	Speeler, Henry, Trenton, N. J. Fire grate. (Antedated Dec. 21, 1867)	Jan. 21, 1868.
	Speer, David R., and John K. Wood. (*See* Wood & Speer.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,838	Spence, Gideon O., assignor to self, A. R. Williams, and J. S. Lathrop, Titusville, Pa. Lubricating oil	Apr. 14, 1868.
78,545	Same.....Process of treating petroleum for the manufacture of lubricating oils	June 2, 1868.
83,417	Spence, Peter, England. Purifying illuminating gas	Oct. 27, 1868.
	Spence, Robert T. T. (*See* Hess, Charles, assignor.)	
79,511	Spencer, A. C., assignor to self, E. B. Jones, and William H. French, Bridgeport, Conn. Combination of wood and paper for cabinet purposes	June 30, 1868.
73,663	Spencer, Charles F., Rochester, N. Y. Lamp	Jan. 21, 1868.
73,846	Same.....Fruit jar	Jan. 28, 1868.
81,116	Same.....same	Aug. 18, 1868.
83,562	Spencer, Charles L., Providence, R. I. Hat hook	Oct. 27, 1868.
83,563	Spencer, Elihu, Ottawa, Canada. Station indicator	Oct. 27, 1868.
84,969	Spencer, Elihu, Elizabeth, N. J. Railroad-car heating apparatus	Dec. 15, 1868.
75,655	Spencer, Elihu, assignor to Robert Westcott, Elizabeth N. J. Water meter	Mar. 17, 1868.
	Spencer, J. E. (*See* Want, Edwin, assignor.)	
75,805	Spencer, L. W., New York, N. Y. Machine for cutting tobacco	Mar. 24, 1868.
	Spencer, N., and Jasper N. Davison. (*See* Davison & Spencer.)	
77,670	Spencer, Oded, Jacksonburg, Ohio. Steam generator	May 5, 1868.
84,143	Spencer, Robert, New York, N. Y. Fire-proof compound	Nov. 17, 1868.
	Spencer, S. M., & Company. (*See* Miller, Charles G., assignor.)	
77,778	Spencer, Thomas H., assignor to Charles L. Spencer, Providence, R. I. Construction of blacking boxes	May 12, 1868.
	Spencer, William, and David Shannon. (*See* Shannon & Spencer.)	
78,491	Spencer, William W., Pittsburg, Pa. Self-fastening buckle	June 2, 1868.
82,170	Spendelow, Henry, and Robert Hencage, Buffalo, N. Y. Grain dryer	Sept. 15, 1868.
75,590	Sperbeck, James H., Warsaw, N. Y. Horse collar	Mar. 17, 1868.
	Spicer, Pratt A., and Giles Cramton. (*See* Cramton & Spicer.)	
81,699	Spickler, Lewis A., Clear Spring, Md. Sleigh	Sept. 1, 1868.
84,588	Spies, A. B., assignor to John K. Journey, Sterling, Ill. Cultivator	Dec. 1, 1868.
79,697	Spiro, Herman, Knoxville, Tenn. Elevator	July 7, 1868.
79,607	Spitzmiller, Ambrose, assignor to John S. Perry, trustee and executor, and Nathan B. Perry, Buffalo, N. Y. Oven in base-burning stoves	July 7, 1868.
85,037	Spofford, Charles, and C. H. Montague, Boston, Mass. Machine for making paper collars	Dec. 15, 1868.
74,163	Spofford, Fisher A., and Matthew G. Raffington, Columbus, Ohio. Portable pistol gallery	Feb. 4, 1868.
74,164	Same.....Adjustable ball holder for games	Feb. 4, 1868.
82,561	Same.....Toy gun	Sept. 29, 1868.
79,272	Spofford, Nelson, and Charles Corliss, assignors to Charles Corliss, Haverhill, Mass. Instrument for adding and registering numbers	June 23, 1868.
73,664	Spoor, Stephen, Phelps, N. Y. Lamp	Jan. 21, 1868.
75,591	Spore, Morris F., Preble, N. Y. Mechanical movement	Mar. 17, 1868.
83,737	Spots, George W., Jacksonville, Ill. Compound for destroying insects on trees, plants, &c	Nov. 3, 1868.
84,391	Sprague, Arnold, Poland, N. Y. Combined catch and lock	Nov. 24, 1868.
	Sprague, A. and W. (*See* Atwood, John E., assignor.)	
85,142	Sprague, E., Alleghany City, Pa. Brick machine. (Antedated Dec. 11, 1868)	Dec. 22, 1868.
76,111	Sprague, E. L., assignor to self and Henry Eddy, Leicester, Mass. Making hand and other cards	Mar. 31, 1868.
	Sprague, John J. (*See* Lafflin, Perley, assignor.)	
	Same.....same.	
84,589	Sprague, Jonathan, Ann Arbor, and Alva T. Hill, Pontiac, Mich. Sewing machines	Dec. 1, 1868.
	Sprague, Thomas S. (*See* Wentworth, Wm. P., assignor.)	
80,370	Sprague, Ward, Sandy Creek, N. Y. Liquid measure	July 28, 1868.
	Sprague, Welcome, *et al.* (*See* Roberts, William, assignor.)	
79,871	Sprague, Welcome, assignor to self and Bernard H. Muelhe, Farnham, N. Y. Harvester. (Antedated June 30, 1868)	July 14, 1868.
78,148	Sprague, William, Lynn, Mass. Water closet	May 19, 1868.
75,656	Spreckels, Claus, San Francisco, Cal. Manufacture of crushed sugar	Mar. 17, 1868.
3,211	Spring, Solomon C., assignor to Welch, Spring & Company, Bristol, Conn. Clock case.....(Design)	Sept. 22, 1868.
3,253	Same.....same.....(Design)	Nov. 17, 1868.
77,848	Springer, Charles, New Castle, Pa. Watch	May 12, 1868.
84,012	Springer, Ezra, Davis, Ill. Railway-car mover	Nov. 10, 1868.
77,671	Springer, Jacob, assignor to self, A. C. Flinn, and H. B. McNeal, Lancaster, Pa. Apparatus for rectifying spirits	May 5, 1868.
74,442	Springer, Joseph H., Philadelphia, Pa. High and low water alarm for steam generators	Feb. 11, 1868.
80,096	Springer, Joseph H., assignor to self, John M. Hess, and Smith Bowen, Philadelphia, Pa. Steam-engine governor	July 21, 1868.
79,698	Sproull, Charles W., Rome, Ga. Panel fence	July 7, 1868.
78,335	Sprout, Ariel B., Hughesville, Pa. Horse hay fork	May 26, 1868.
73,551	Spurgin, Joseph B., and Thomas A. Kirk, Kansas City, Mo. Railway switch	Jan. 21, 1868.
76,952	Squier, George A., Syracuse, N. Y. Teeth for hay spreaders	Apr. 21, 1868.
	Squire, Charles R. (*See* Goodwin, Wm. F., assignor.)	
	Same.....(*See* Browne, A. W., assignor.)	
3,080	Squire, John J., New London, Conn. Fruit jar.....(Reissue)	Aug. 11, 1868.
74,728	Squyer, Oscar C., Penn Yan, N. Y. Pencil sharpener	Feb. 18, 1868.
82,171	Staats, G. W., New Castle, Pa. Guide for scroll saws	Sept. 15, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,013	Staek, William A., Hillsboro, Md. Animal trap	Nov. 10, 1868.
78,149	Staekhous, George, Mt. Washington, Pa. Bread, meat, and vegetable eutter	May 19, 1868.
77,546	Staekhouse, John, West Pittsburg, Pa. Polishing maehine	May 5, 1868.
	Staekpole, David D., *et al.* (*See* Ehrhardt, L. H. G., assignor.)	
82,655	Staekpole, G., New York, N. Y. Auxiliary power for sewing maehines	Sept. 29, 1868.
83,004	Staekpole, Greenleaf, New York, N. Y. Toy pistol	Oet. 13, 1868.
84,144	Same.....Lever power for sewing and knitting machines	Nov. 17, 1868.
3,005	Stackpole, G., assignor to self and J. N. Winslow, New York, N. Y. Bit braee. (Reissue)	June 23, 1868.
	Stackpole, J. (*See* Carpenter, Wm. D., assignor.)	
78,546	Staey, Eli F., Glouecster, Mass. Fisherman's nipper	June 2, 1868.
80,882	Stadler, Joseph, Detroit, and George M. Streng, Plymouth, Mieh. Churn	Aug. 11, 1868.
83,334	Stadler, Lueas, Bowen, Ill. Combined seeder and eultivator	Oct. 20, 1868.
3,303	Stafford, Arthur, Brooklyn, N. Y. Key tag.....(Design)	Dee. 29, 1868.
75,309	Stafford, C. W., Saybrook, Conn. Pavement	Mar. 10, 1868.
78,150	Stafford, H. P., and J. A. Laforgee, Deeatur, Ill. Deviee for regulating the supply of water to steam generators	May 19, 1868.
82,762	Stafford, H. P. and H. H., Deeatur, Ill. Water gauge	Oct. 6, 1868.
77,672	Stahlbrodt, Edward, Roehester, N. Y. Lathe rest	May 5, 1868.
75,592	Stair, Edmund, Harrisonville, Mo. Washing maehine	Mar. 17, 1868.
84,014	Stamp, William, Susquehanna Depot, Pa. Steam-engine steam ehest	Nov. 19, 1868.
79,154	Stamper, Greenville Carter, Pella, Iowa. Animal and bird trap	June 23, 1868.
79,155	Same.....Wagon	June 23, 1868.
	Stanard, H. T., and A. O. Coleburn. (*See* Coleburn & Stanard.)	
74,729	Standart, Stephen W., Bellevue, Ohio. Plow	Feb. 18, 1868.
79,699	Standing, William, Cairo, Ill. Grain dryer	July 7, 1868.
	Standish, John A., *et al.* (*See* Mallary, G. H., assignor.)	
80,780	Standish, L. F., Springfield, Mass. Pen and pencil ease	Aug. 4, 1868.
78,400	Standish, Philander H., Martinez, Cal. Method of mounting the eutters of rotary plows	May 26, 1868.
75,310	Standish, Philander H., assignor to self and Oliver C. Coffin, Martinez, Cal. Steam plow and eultivator	Mar. 10, 1868.
81,700	Same.....Gang plow	Sept. 1, 1868.
81,823	Standring, Thomas, Port Richmond, N. Y. Belting. (Antedated July 6, 1868)	Sept. 1, 1868.
	Stanford, O. W., and J. Huston, jr. (*See* Huston & Stanford.)	
77,413	Stanford, Otis W., and S. S. Seoville, Lebanon, Ohio. Washing maehine	Apr. 28, 1868.
75,311	Stankowiteh, A., Philadelphia, Pa. Wash stand	Mar. 10, 1868.
76,263	Stanley, Alfred R., Boston, Mass. Former for hoop skirts	Mar. 31, 1868.
76,291	Same.....Hoop skirt	Mar. 31, 1868.
81,701	Stanley, A. R., and Henry W. Ensign, Shullsburg, Wis. Sulky plow	Sept. 1, 1868.
77,779	Stanley, Augustus, New Britain, Conn. Saw-horse	May 12, 1868.
82,172	Stanley, Frank, Austin, Texas. Joining and fitting hoof-hooks	Sept. 15, 1868.
81,428	Stanley, Henry, St. Johnsburg, Vt. Smut maehine	Aug. 25, 1868.
82,888	Stanley, Henry, assignor to G. and W. Todd & Co., St. Louis, Mo. Oil eup	Oct. 6, 1868.
	Stanley Rule and Level Company. (*See* Traut, Justus A., assignor.)	
83,738	Stanley, Wilbur F., Cazenovia, N. Y. Manger	Nov. 3, 1868.
76,356	Stansbury, Joseph A., Marion, Iowa. Hame-loek	Apr. 7, 1868.
81,550	Stansbury, T. M. and A. F., Canton, Ill. Tire bender	Aug. 25, 1868.
83,335	Stansbury, Upton, Plymouth, Ind. Beehive	Oet. 20, 1868.
2,924	Stanton, J. M. and S. F., assignors to Simon F. Stanton, Manehester, N. H. Head-bloek for saw mills.....(Reissue)	May 5, 1868.
80,025	Stanton, Samuel, Newburg, N. Y. Cut-off valve gear	July 14, 1868.
79,608	Stanton, Sidney, Syracuse, N. Y. Machine for sawing stone	July 7, 1868.
84,715	Staples, M. W., assignor to self and John H. Burtis, Catskill, N. Y. Wash boiler	Dee. 8, 1868.
	Stappers, Franeis. (*See* King, Henry, assignor.)	
	Star Mateh Corporation. (*See* Andrews & Tueker, assignors.)	
	Starbird, G. B., and Thomas W. Weleh. (*See* Welch & Starbird.)	
77,673	Starek, John H., Milwaukee, Wis. Glazing and coloring tobaeeo pipes	May 5, 1868.
74,625	Stark, I. Michael, Buffalo, N. Y. Beer faueet	Feb. 18, 1868.
79,700	Stark, John, Thomaston, Ga. Pruning hook	July 7, 1868.
73,056	Stark, John and Miehael, Buffalo, N. Y. Machine for mashing and boiling wort for beer	Jan. 7, 1868.
	Stark, J. F. (*See* Halbert, A. W., assignor.)	
80,841	Stark, William, White Pigeon, Mieh. Potato digger	Aug. 11, 1868.
77,547	Starke, P. H., Riehmond, Va. Plow	May 5, 1868.
85,342	Same.....same	Dee. 29, 1868.
	Starks, Isaae, deeeased, by Marinda Starks, administratrix, Genoa, and Lyman Perrigo, Groton, N. Y. Deviee for holding pieees in spoke maehines. (Extension)	June 12, 1868.
82,763	Starkweather, George A., Waymart, Pa. Tanning hides	Oet. 6, 1868.
75,312	Starr, Alfred, New York, N. Y. Solder for aluminium	Mar. 10, 1868.
78,023	Same.....same	May 19, 1868.
75,067	Starr, Alfred, assignor to William M. Welling, New York, N. Y. Composition for artifieial ivory. (Antedated Feb. 24, 1868)	Mar. 3, 1868.
78,842	Starr, Alfred, and William M. Welling, assignors to William M. Welling, New York, N. Y. Artifieial ivory. (Antedated June 2, 1868)	June 9, 1868.
78,151	Starr, Eli T., Philadelphia, Pa. Articulator	May 19, 1868.
85,253	Starr, George W., Washington, D. C. Envelope	Dec. 22, 1868.
	Starr, James T., and Lueius M. Lull. (*See* Lull & Starr.)	
80,842	Starr, John, Grand Rapids, Mieh. Garden hand plow	Aug. 11, 1868.
77,120	Starr, Nieholas, jr., Homer, N. Y. Horse hay fork	Apr. 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,590	Starr, Thomas, New Lisbon, Ohio. Animal power	Dec. 1, 1868.
76,289	Starr, William L., Columbus, Ohio. Animal trap	Mar. 31, 1868.
80,097	Starrett, Charles, assignor to self and Edward Prescott, Chicago, Ill. Horse rake	July 21, 1868.
73,847	Starrett, Leroy S., Newburyport, Mass. Shoe	Jan. 28, 1868.
83,564	Startzman, William H., Big Lick, Va. Cultivator	Oct. 27, 1868.
81,702	Staufen, Werner, France. Vegetable fiber as a substitute for hair	Sept. 1, 1868.
	Stayner, Augustus E., *et al.* (*See* Ellershausen, Stayner & Gusman.)	
	Steadman, Thomas S., deceased, by Thomas A. Steadman, administrator, Lyons, Mich. Clover and grass seed harvester (Extension)	May 13, 1868.
	Same same (Extension)	May 13, 1868.
	Same same (Extension)	May 13, 1868.
78,616	Stearns, Albert F., Dorchester, Mass. Cutter-head for planing machines	June 2, 1868.
78,696	Stearns, Caleb S., assignor to self, Charles F. Davis, and Thomas Corey, Marlboro, Mass. Machine for cutting leather	June 9, 1868.
78,697	Stearns, Caleb S., assignor to self and Thomas Corey, Marlboro, Mass. Machine for splitting and rolling leather	June 9, 1868.
3,026	Same Machine for splitting and stripping leather (Reissue)	July 7, 1868.
81,837	Stearns, E. H., Erie, Pa. Head block	Sept. 1, 1868.
76,839	Stearns, Edward I., Cambridge, Md. School desk	Apr. 14, 1868.
2,928	Stearns, Frederick, Detroit, Mich. Bottle (Design)	Feb. 4, 1868.
75,806	Same Hair dressing compound	Mar. 24, 1868.
	Same (*See* Beckley, Philip G., assignor.)	
78,547	Stearns, Joseph B., Boston, Mass. Telegraph apparatus	June 2, 1868.
78,548	Same same	June 2, 1868.
84,970	Stearns, J. L., Mahomet, Ill. Plow	Dec. 15, 1868.
73,471	Stebbins, Charles, Owego, N. Y. Wagon bolster	Jan. 21, 1868.
81,027	Stebbins, Francis, Hinsdale, N. H. Gauge cock	Aug. 11, 1868.
73,206	Stebbins, Gains P., Sparta Center, Mich. Gate	Jan. 7, 1868.
83,419	Stebbins, M. C., Springfield, Mass. Portable gas apparatus	Oct. 27, 1868.
83,739	Same Piston valve	Nov. 3, 1868.
	Steck, Charles, and Franz J. Walz. (*See* Walz & Steck.)	
73,937	Stedman, O. F., Ravenna, Ohio. Watch	Jan. 28, 1868.
2,953	Same same (Reissue)	May 26, 1868.
82,656	Same Westfield, N. Y. Wash boiler. (Antedated June 2, 1868)	Sept. 29, 1868.
	Steel, Alexander, *et al.* (*See* Tappey, Lumsden & Steel.)	
73,207	Steele, Albert J., New York, N. Y. Uterine electrode and abdominal supporter	Jan. 7, 1868.
	Steele, G. C., *et al.* (*See* Winchell, James F., assignor.)	
	Same same.	
75,481	Steele, Harvey B., West Winsted, Conn. Horse hay-fork	Mar. 10, 1868.
76,840	Same Machine for cleansing and renovating feathers	Apr. 14, 1868.
81,551	Same Winsted, Conn., Car coupling	Aug. 25, 1868.
77,121	Steele, Oliver B., Franklin, Pa. Combined rule and pocket knife	Apr. 21, 1868.
75,593	Steele, Robert J., jr., Rockingham, N. C. Harness trace	Mar. 17, 1868.
77,849	Same Spring seat for saddles	May 12, 1868.
	Steer, Isaac H., deceased, by Martin P. M. Cassity, administrator, Nemaha County, Kansas. Making nuts (Extension)	Dec. 17, 1868.
	Steere, F. A., and Phillip Esser. (*See* Esser & Steere.)	
3,153	Steffe, Jacob, assignor to Francis Buckwalter & Co., Philadelphia, Pa. Cook stove (Design)	Aug. 4, 1868.
80,883	Steffe, William, assignor to self and Jesse Reynolds, Philadelphia, Pa. Radiator	Aug. 11, 1868.
2,830	Steger, Joseph, New York, N. Y. Car starting apparatus (Reissue)	Jan. 14, 1868.
73,764	Same same	Jan. 28, 1868.
74,950	Same Hose coupling. (Antedated February 14, 1868)	Feb. 25, 1868.
78,152	Same Scuttle cover and ladder	May 19, 1868.
83,418	Same Car brake	Oct. 27, 1868.
85,407	Same Car starter	Dec. 29, 1868.
	Steger, Joseph, and W. H. Smith. (*See* Smith & Steger.)	
	Steger, Joseph, and Benjamin Fatham. (*See* Fatham & Steger.)	
75,432	Stehman, Jacob, Lancaster, Pa. Photographic printing apparatus	Mar. 10, 1868.
75,313	Stein, Charles, Philadelphia, Pa. Fluid meter	Mar. 10, 1868.
81,956	Stein, M. J., New York, N. Y. Machine for sewing the uppers to the soles of boots and shoes	Sept. 8, 1868.
85,486	Stein, Michael J., New York, N. Y. Machine for channeling boot and shoe soles	Dec. 29, 1868.
84,228	Stein, William, Camden, N. J. Target	Nov. 17, 1868.
	Steinbach, A., *et al.* (*See* Wraek, Charles, assignor.)	
75,068	Steinbach, Charles, Lima, Mich. Punching machine	Mar. 3, 1868.
	Steinbaeh, Charles F. (*See* Lovie, Albert, assignor.)	
80,515	Steinbök, August, New York, N. Y. Boring tool	July 28, 1868.
81,552	Steinbrueke, Christian Adolph, Louisville, Ill. Halter	Aug. 25, 1868.
75,069	Steinegger, George, Highland, Ill. Gang plow	Mar. 3, 1868.
78,024	Steinel, Edward, Amsterdam, N. Y. Mosquito bar	May 19, 1868.
	Steiner, David, *et al.* (*See* Hainemann & Steiner) (Design.)	
76,112	Steinhauer, Theophilus, Syracuse, N. Y. Car coupling	Mar. 31, 1868.
74,165	Steinmann, Charles, Napoleonville, La. Machine for exterminating the cotton worm, &c	Feb. 4, 1868.
78,492	Steinmetz, C. Ph., Madison, Wis. Plow	June 2, 1868.
81,306	Steinway, Theodore, New York, N. Y. Piano-forte	Aug. 18, 1868.
3,173	Stelle, David D., assignor through mesne assignments to Peter P. Runyon, Johnson Letson, and George J. Janeway, New Brunswick, N. J. Combined planter, harrow, and cultivator (Reissue)	Oct. 27, 1868.
74,626	Steller, C. E., Chicago, Ill. Harrow	Feb. 18, 1868.
	Stempleman, Henry, *et al.* (*See* Oefinger & Grupp, assignors.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Stengel, Jost, and John F. Gauweiler. (*See* Gauweiler & Stengel.)	
78,336	Stephens, Anson P., Brooklyn, N. Y. Composite pipe	May 26, 1868.
81,838	Stephens, Benjamin, Wheeling, West Va. Composition for roofing. (Antedated April 3, 1868)	Sept. 1, 1868.
84,971	Stephens, Benjamin C., Houston, Mo. Mill-stone dress	Dec. 15, 1868,
84,972	Stephens, Benjamin F., Brooklyn, N. Y. Box for pills, &c	Dec. 15, 1868.
82,889	Stephens, Edward J., North Providence, R. I. Machinery for printing yarn	Oct. 6, 1868.
83,103	Stephens, Edward J., Pawtucket, R. I. Machine for printing yarn	Oct. 13, 1868.
	Stephens, Samuel, *et al.* (*See* Symons, Harry & Stephens.)	
	Stephens, William S. (*See* Tyler, Salmon E., assignor.)	
79,405	Stephenson, Alfred W., Kensington, Vt. Balancing polishing wheels	June 30, 1868.
85,343	Sternberg, Adam, Nettle Lake, Ohio. Seeding machine	Dec. 29, 1868.
81,224	Sternbergh, J. H., Reading, Pa. Making nuts	Aug. 18, 1868.
	Sterry, De Witt C., and A. H. Seholfield. (*See* Seholfield & Sterry.)	
78,153	Sterry, Francis A., Canton, Mass. Anti-friction roll	May 19, 1868.
85,487	Steschuet, B. William, Glandorf, Ohio. Dropper for harvesters	Dec. 29, 1868.
	Stetson, Bradford. (*See* Leach, William H., assignor.)	
	Same.....same.	
83,740	Stetson, John, West Harwich, Mass. Fishing apparatus	Nov. 3, 1868.
	Steuernagel, Jaeob, *et al.* (*See* Beeker, Ross & Steuernagel.)	
	Same.....same.	
77,122	Stevens, A. G., Manchester, N. H. Door step	Apr. 21, 1868.
78,549	Stevens, Alden S., Attica, N. Y. Fruit picker	June 2, 1868.
78,550	Stevens, Benjamin D., Decorah, Iowa. Ax handle. (Antedated May 18, 1868)	June 2, 1868.
	Stevens, Charles H., and Wilson Garrison. (*See* Garrison & Stevens.)	
81,553	Stevens, Charles H., and Wilson Garrison, Syracuse, N. Y. Breast-strap slide	Aug. 25, 1868.
76,264	Stevens, Charles L., assignor to self and Albert A. Denton, Galesburg, Ill. Steam water elevator	Mar. 31, 1868.
81,307	Stevens, Charles O., Auburn, Maine. Horseshoe	Aug. 18, 1868.
79,701	Stevens, Chase A., New York, N. Y. Treating ores, metals, and minerals	July 7, 1868.
3,048	Stevens, Dudley F., Boston, Mass. Trade mark.....(Design)	May 12, 1868.
80,884	Stevens, D. S., and L. Snedeeor, Red Bank, N. J. Securing masts of vessels	Aug. 11, 1868.
73,404	Stevens, E. M., Boston, Mass. Wash boiler	Jan. 14, 1868.
2,833	Stevens, Edgar M., assignor to William N. Ely, Stratford, Conn. Pegging machine.....(Reissue)	Jan. 14, 1868.
75,807	Stevens, Edgar M., assignor to self and W. N. Ely, Chelsea, Mass. Manufacture of enameled cloth	Mar. 24, 1868.
76,265	Stevens, Edgar M., assignor to self and W. N. Ely, trustee, Chelsea, Mass. Rubber enameled cloth for boots and shoes	Mar. 31, 1868.
79,273	Stevens, Edward L., assignor to Isaac Barker, Houlton, Me. Sled	June 23, 1868.
79,785	Stevens, George B., Pluekemin, N. J. Sleigh brake	July 7, 1868.
79,702	Stevens, G. R., Chicago, Ill. Churn	July 7, 1868.
73,133	Stevens, George W., Albany, N. Y. Safety padlock for railroad cars	Jan. 7, 1868.
	Stevens, Henry B., and John Valentine. (*See* Valentine & Stevens.)	
	Stevens, J. and E., & Company. (*See* Frisbie, Russel, assignor.)	
	Same.....same.	
	Stevens, James B. and U. G. (*See* Smith, John B., assignor.)	
	Stevens, John, and Duncan McDougald Campbell. (*See* Campbell & Stevens.)	
	Stevens, J. D., and G. W. Miller. (*See* Miller & Stevens.)	
3,133	Stevens, Lafayette, assignor through mesne assignments to A. Wyekoff, Elmira, N. Y. Boring machine.....(Reissue)	Sept. 22, 1868.
73,057	Stevens, Levi, Washington, D. C. Manufacture of illuminating gas	Jan. 7, 1868.
76,841	Same.....Apparatus for manufacturing illuminating gas	Apr. 14, 1868.
78,901	Stevens, W. W., Portland, Me. Teapot	June 16, 1868.
79,406	Stevens, W. W., and John Patchen, jr., Fontogary, Ohio. Horse hay fork	June 30, 1868.
73,405	Stevens, W. X., Waterford, N. Y. Skate	Jan. 14, 1868.
	Stevenson, G., and G. W. Tull. (*See* Tull & Stevenson.)	
77,930	Stevenson, George H., Washington, Ohio. Ditching machine	May 12, 1868.
83,887	Stevenson, James B., Bloomington, Ill. Return-drip for pumps	Nov. 10, 1868.
83,741	Stevenson, S., Dansville, N. Y. Carpet stretcher	Nov. 3, 1868.
73,665	Stevenson, William, Alleghany City, Pa. Puddling furnace	Jan. 21, 1868.
80,572	Stevenson, W. A., Atkens, Mo. Hand spinning machine	Aug. 4, 1868.
74,730	Stevenson, William H., Auburn, N. Y. Machine for grinding the cutters of harvesting machines	Feb. 18, 1868.
74,731	Same.....same	Feb. 18, 1868.
75,070	Same.....Harvester	Mar. 3, 1868.
3,093	Same.....same.....(Reissue)	Aug. 18, 1868.
83,336	Stevenson, William M., Sharon, Pa. Balance slide valve	Oct. 20, 1868.
	Stever, Jeremiah, Bristol, Conn. Machine for scraping metals.....(Extension)	Dec. 8, 1868.
79,023	Steward, A., Plano, Ill. Thread show-case	June 16, 1868.
80,371	Same.....Ruffling attachment for sewing machines	July 28, 1868.
80,026	Steward, D. M., Dayton, Ohio. Car coupling	July 14, 1868.
	Steward, Thomas. (*See* Smead, Jonathan, assignor.)	
84,229	Stewart, A. R., Douglas Harbor, N. B. Machine for sharpening saws	Nov. 17, 1868.
82,764	Stewart, David, Corinna, Me. Clevis for plows	Oct. 6, 1868.
82,765	Stewart, G. A., Des Moines, Iowa. Desk and seat	Oct. 6, 1868.
79,703	Stewart, George E., East Saginaw, Mich. Corn husker	July 7, 1868.
85,254	Stewart, George W., assignor to self and Warren Akin, Adairsville, Ga. Harvester	Dec. 22, 1868.
77,123	Stewart, Hugh, assignor to George F. Wright and William Orr, jr., Clinton, Mass. Compass	Apr. 21, 1868.
74,166	Stewart, H. A., Minneapolis, Minn. Portable fence	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,308	Stewart, James, St. Cloud, Minn. Fastening handles to axes, picks, &c	Aug. 18, 1868.
73,552	Stewart, James T., assignor to Samuel R. Whitlow, Peoria, Ill. Medical compound	Jan. 21, 1868.
	Stewart, John. (*See* Van Stone, Samuel, assignor.)	
83,670	Stewart, John, Jackson, Mich. Potato digger	Nov. 3, 1868.
80,677	Stewart, John D., LaPorte, Ind. Balance slide valve	Aug. 4, 1868.
2,915	Stewart, Philo P., Troy, N. Y. Cooking stove (Reissue)	Apr. 7, 1868.
3,027	Same same (Division A, reissue)	July 7, 1868.
3,041	Same same (Division B, reissue)	July 14, 1868.
82,449	Stewart, Samuel B., Brush Valley, Pa. Coal stove	Sept. 22, 1868.
3,243	Stewart, T. B., Weathersfield, Conn. Railroad car axle box (Reissue)	Dec. 22, 1868.
85,488	Stewart, William L., Rushville, Ind. Cultivator	Dec. 29, 1868.
81,554	Sthore, Charles, assignor to self and Levi Heigus, Montana, Iowa. Mould for casting sleigh shoes	Aug. 25, 1868.
73,553	Stickney, Washington, and Nathan B. Chase, Lockport, N. Y. Composition for fuel	Jan. 21, 1868.
81,703	Stickney, W. C., and James McGee, Steubenville, N. Y. Ventilating sash adjuster	Sept. 1, 1868.
85,143	Same Device to open railway car ventilators	Dec. 22, 1868.
74,627	Stidger, H. A., Carrollton, Ohio. Beehive	Feb. 18, 1868.
	Stieren, Edward, deceased, by Philippine S. Braekenridge, administratrix, Natrona, Pa. Process for treating the mother-water of salines (Extension)	Dec. 9, 1868.
84,445	Stigale, E. M., Philadelphia, Pa. Case for preserving flowers, &c	Nov. 24, 1868.
75,594	Stiles, David L., assignor to Augusta P. Stiles, Rochester, N. Y. Fire pot for stoves	Mar. 17, 1868.
3,248	Stiles, David L., assignor through mesne assignments to Augusta P. Stiles, Rochester, N. Y. Cooking stove (Reissue)	Dec. 29, 1868.
76,842	Stiles, Ezra, New York, N. Y. Car truck	Apr. 14, 1868.
76,843	Same Car brake	Apr. 14, 1868.
76,844	Same Railroad car wheel	Apr. 14, 1868.
76,668	Stiles, L. C., and R. P. Jackman, Elgin, Ill. Stovepipe shelf	Apr. 14, 1868.
82,042	Stiles, N. C., Meriden, Conn. Device for turning shafting	Sept. 8, 1868.
84,313	Stiles, Norman C., Middletown, Conn. Adjustable press	Nov. 24, 1868.
74,443	Stillman, O. M., Westerly, R. I. Gig for cloth	Feb. 11, 1868.
76,845	Same Combined steam generator and air heater	Apr. 14, 1868.
78,902	Stillman, Richard B., Almond, N. Y. Clothes dryer	June 16, 1868.
82,256	Stillson, Henry L., Plattsburg, N. Y. Combined clothes horse, &c	Sept. 15, 1868.
82,890	Stilson, Lyman B., assignor to self and August Leich, Woodland, Minn. Harvester	Oct. 6, 1868.
81,117	Stillwell, Edwin R., Dayton, Ohio. Feed-water heater for boilers	Aug. 18, 1868.
	Same (*See* Bisbee, Thomas A., assignor.)	
	Same same.	
78,493	Stillwell, Thomas H., New York, N. Y. Ear trumpet. (Antedated May 18, 1868)	June 2, 1868.
	Stimpson, James, deceased, by Julia M. Colburn, administratrix, Baltimore, Md. Vessel for holding liquids (Extension)	Apr. 14, 1868.
2,981	Same same (Reissue)	June 9, 1868.
83,104	Stimpson, J. Henry, Boston, Mass. Gas furnace for heating soldering tools	Oct. 13, 1868.
79,407	Stimson, Alfred A., Boston, Mass. Bung for casks	June 30, 1868.
73,208	Stine, William, Elmore, Ohio. Tinner's forming machine	Jan. 7, 1868.
78,617	Same Eave trough	June 2, 1868.
84,145	Stitt, John, St. Johns, Mich. Log cart	Nov. 17, 1868.
75,483	St. John, Cornelius, Charlestown, Mass. Lamp burner	Mar. 10, 1868.
84,776	St. John, Garland B., Brooklyn, Mich. Cultivator	Dec. 8, 1868.
75,214	St. John, George B., assignor to self and Norman S. Cate, Boston, Mass. Watch key	Mar. 3, 1868.
79,408	St. John, M. W., Leonardsville, N. Y. Ball and socket joint. (Antedated June 18, 1868)	June 30, 1868.
84,716	St. John, O. S., Willoughby, Ohio. Car coupling	Dec. 8, 1868.
85,489	Same same	Dec. 29, 1868.
76,953	St. John, O. S. and T. C., Willoughby, Ohio. Machine for harvesting potatoes	Apr. 21, 1868.
83,219	St. John, R. H., Bellefontaine, Ohio. Tucking device for sewing machines	Oct. 20, 1868.
76,544	St. John, William H., and Peter Cartwright, New York, N. Y. Composition for purifying illuminating gas	Apr. 7, 1868.
	St. John, William O., and Edward Stockton. (*See* Stockton & St. John.)	
	St. Louis Cotton Factory. (*See* Meier, Theodore G., assignor) (Design.)	
	Same same (Design.)	
	St. Louis Lead and Oil Company. (*See* Waters, James S., assignor) (Design.)	
77,548	Stock, John and Jacob, New York, N. Y. Barber's chair	May 5, 1868.
	Stock, Theodore, and E. A. Müller. (*See* Müller & Stock.)	
84,015	Stockbridge, Charles H., assignor to self and Osmore O. Roberts, Northampton, Mass. Bit holder	Nov. 10, 1868.
76,545	Stocking, Jerome, and Edward P. Shaffer, Rochester, N. Y. Steam-engine slide valve	Apr. 7, 1868.
74,861	Stockstill, S. L., and W. H. H. Scarff, Medway, Ohio. Clover harvester	Feb. 25, 1868.
79,085	Stockstill, S. L., and H. H. Dille, Medway, Ohio. Meat cutter	June 23, 1868.
77,674	Stockton, Edward, and William O. St. John, Folsom, Cal. Apparatus for producing motive power	May 5, 1868.
80,781	Stockwell, Ira H., and Lizzie C. Goodwin, Worcester, Mass. Tatting shuttle	Aug. 4, 1868.
82,173	Stoddard, Charles and Amos, Naples, N. Y. Cooking-stove ventilator	Sept. 15, 1868.
81,957	Stoddard, William, Winona, Minn. Fanning mill	Sept. 8, 1868.
83,742	Stoddard, William M., San Francisco, Cal. Binder for sewing machines	Nov. 3, 1868.
83,337	Stoddard, Worden E., Fort Edward, N. Y. Weatherboard gauge	Oct. 20, 1868.
84,146	Same Scrubbing machine	Nov. 17, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,274	Stoddart, David, San Francisco, Cal. Reciprocating steam engine	June 23, 1868
75,484	Stohlmann, Frederick A., Brooklyn, N. Y. Truss pad	Mar. 10, 1868
75,485	Same.....Syringe	Mar. 10, 1868
	Stokely, B., *et al.* (*See* King, Jacob, assignor.)	
73,406	Stokes, F. U., Cincinnati, Ohio. Check-rein holder	Jan. 14, 1868
84,314	Stokes, John, assignor to Wesson Fire Arms Company, Springfield, Mass. Gun lock	Nov. 24, 1868
80,573	Stokes, Joseph, and John Brough, Trenton, N. J. Water bosh for puddling furnaces	Aug. 4, 1868
79,409	Stokes, Samuel S., Westboro, Ohio. Churn	June 30, 1868
82,043	Stoll, Michael, assignor to self, Benjamin Snavely, and Anthony Iske, Conestoga Township, Pa. Potato plow	Sept. 8, 1868.
84,691	Stoll, Michael, and Henry Gross, assignors to Henry Gross, Middletown, Pa. Manure	Dec. 8, 1868
85,186	Stoll, P. J., Marshallsville, Ohio. Hitching-strap buckle	Dec. 22, 1868
75,215	Stone, A. S., Plainview, Minn. Grain binder	Mar. 3, 1868
	Stone, A. S., and J. J. Butts. (*See* Butts & Stone.)	
79,925	Stone, Charles E., Amesbury, Mass., and Alfred Herbert, Salisbury, Mass. Tool for fitting bands on hubs	July 14, 1868
74,252	Stone, Chester, Ravenna, Ohio. Fruit frame	Feb. 11, 1868.
78,618	Stone, Daniel J., Warwick, R. I. Mop wringer	June 2, 1868
76,846	Stone, Draper, Rochester, N. Y. Fruit jar	Apr. 14, 1868
	Stone, E. S., *et al.* (*See* Vandergrift, French & Stone.)	
80,234	Stone, Hiram, Cleveland, Ohio. Fruit jar	July 21, 1868.
81,118	Stone, Jacob, assignor to self and Abram F. Randolph, Belvidere, N. J. Grate of railroad car stoves	Aug. 18, 1868.
81,429	Stone, James H., Washington, D. C. Fan for sewing machines	Aug. 25, 1868.
83,220	Stone, James S., and G. W. Chamberlin, Fitchburg, Mass. Bird trap	Oct. 20, 1868.
75,706	Stone, John H., Philadelphia, Pa. Construction of sheet-metal tea and coffee pots.	Mar. 17, 1868.
82,766	Same.....Sheet-metal can. (Antedated Sept. 26, 1868)	Oct. 6, 1868.
	Stone, John S. (*See* Ames, Horace B., assignor.)	
79,872	Stone, Joseph M., assignor to self, George L. Davis, and John A. Wiley, North Andover, Mass. Card cylinder	July 14, 1868.
	Stone, Joseph M., *et al.* (*See* Ashworth, John, assignor.)	
	Same.....same.	
76,669	Stone, N. F., Chicago, Ill. Can opener. (Antedated April 1, 1868)	Apr. 14, 1868.
78,243	Stone, Orrin, Ionia, Mich. Cultivator	May 26, 1868.
74,167	Stone, Paschal, assignor to Joseph Veazie and Augustus F. Dole, Charlestown, Mass. Box opener	Feb. 4, 1868.
75,595	Stone, S. D., Warwick, R. I. Cattle stall	Mar. 17, 1868.
79,410	Stone, Thomas, assignor to self and Virgil H. Lyon, Plainfield, Ind. Car, wagon, and other vehicles	June 30, 1868.
	Stone, W. F., and R. S. Laird. (*See* Laird & Stone.)	
	Stone, William M. (*See* Barden, John S., assignor.)	
77,850	Stone, Zaphna, Kinsmans, Ohio. Aërial navigator	May 12, 1868.
85,408	Stonebanks, Joseph, College Point, N. Y. Attaching wheels to sleighs	Dec. 29, 1868.
79,609	Stonecipher, Nathan, Cambridge City, Ind. Track clearer for harvester	July 7, 1868.
84,016	Stoner, Alferd F., West Unity, Ohio. Cultivator	Nov. 10, 1868.
74,168	Stoner, John B., assignor to self, L. Mendelson, and T. Crommelin, New York, N. Y. Life-preserving apparatus	Feb. 4, 1868.
74,169	Same.....Ballasting vessels	Feb. 4, 1868.
3,167	Same.....same.....(Reissue)	Oct. 20, 1868.
3,232	Same.....Life-preserving apparatus.....(Reissue)	Dec. 15, 1868.
83,420	Stoner, John B., L. Mendelson, and Theodore Crommelin, New York, N. Y. Ballasting vessels	Oct. 27, 1868.
83,565	Stoops, L. M., Grandview, Ind. Beehive	Oct. 27, 1868.
3,254	Storer, David W., Bangor, Maine. Trade mark.....(Design)	Nov. 17, 1868.
	Storer, Jacob J., and James D. Whelpley. (*See* Whelpley & Storer.)	
2,890	Storer, John, New York, N. Y. Lubricator for steam engines.....(Reissue)	Mar. 3, 1868.
76,266	Storey, George, Wheeling, West Va. Mode of treating malt and other liquors. (Antedated March 20, 1868)	Mar. 31, 1868.
	Storke, E. G., *et al.* (*See* Palmer, S. W. and J. F., assignors.)	
77,675	Storle, Ole O., assignor to self and Isaac N. Mason, North Cape, Wis. Harvester rake	May 5, 1868.
84,017	Storle, Ole O., assignor to self and J. B. Smith, Norway, Wis. Horse hay fork	Nov. 10, 1868.
84,315	Storle, Ole O., and Lorens Swenson, Norway, Wis. Horse rake	Nov. 24, 1868.
75,707	Storm, William Mont., New York, N. Y. Clothes Wringer. (Antedated March 10, 1868)	Mar. 17, 1868.
83,743	Storm, William Mont., New York, N. Y., and George H. Ennis, Hudson County, N. J. Machine for fulling and felting hat bodies	Nov. 3, 1868.
73,666	Storrs, H. C., New York, N. Y. Locking knob latch	Jan. 21, 1868.
77,332	Same.....File handle	Apr. 28, 1868.
73,472	Storrs, John W., Birmingham, Conn. Stereoscope	Jan. 21, 1868.
	Story, Joseph M., and Isaac A. Hedges. (*See* Hedges & Story.)	
85,490	Stotz, Christian, and George Smith, Perth Amboy, N. J. Clay-pipe machine	Dec. 29, 1868.
80,678	Stouffer, George W., Lewistown, Pa. Spoke tenon	Aug. 4, 1868.
75,486	Stouffer, Hiram C. and Abraham, Beaver Township, Ohio. Horse hay fork	Mar. 10, 1868.
84,591	Stouffer, Hiram C., assignor to self and George Smith, Beaver Township, Ohio. Hay carrier	Dec. 1, 1868.
84,915	Stout, George W., and John C. Richardson, assignors through mesne assignments to George W. Stout, James H. Prentice, James Davis, jr., and Samuel K. Hawley, Newark, N. J. Hat-ironing machine	Dec. 15, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
78, 154	Stout, Stephen, Tremont, Ill. Trace holder	May 19, 1868.
74, 444	Stover, Andrew J., Sandyville, Iowa. Stove flue supporter	Feb. 11, 1868.
73, 667	Stover, Benjamin F., Ladoga, Ind. Washing machine	Jan. 21, 1868.
78, 025	Stover, Benjamin F. and Abram H., Ladoga, Ind. Churn-dasher head	May 19, 1868.
76, 847	Stover, D. C., Dayton, Ohio. Attachment for cultivator shovels	Apr. 14, 1868.
83, 671	Stover, Henry D., New York, N. Y. Mortising and tenoning machine	Nov. 3, 1868.
84, 847	Same.....Planing machine	Dec. 8, 1868.
	Stow, E., and A. D. Smith. (*See* Smith & Stow.)	
74, 862	Stow, Henry M., San Francisco, Cal. Street pavement	Feb. 25, 1868.
75, 708	Same.....Well drill	Mar. 17, 1868.
85, 409	Same.....Railroad ticket and punch for cutting coupons therefrom	Dec. 29, 1868.
75, 487	Stow, O. W., Plantsville, Conn. Machine for forming tubular beads on sheet metal gutters	Mar. 10, 1868.
3, 069	Same.....Machine for bending sheet metal.....(Reissue)	Aug. 4, 1868.
84, 316	Stowe, Anson C., San José, Cal. Carriage spring	Nov. 24, 1868.
85, 144	Same.....same	Dec. 22, 1868.
79, 873	Stowe, George, Braceville, Ohio. Hoisting grate	July 14, 1868.
84, 230	Stowell, Barna T., Quincy, Ill. Excavator	Nov. 17, 1868.
74, 951	Stowell, William J., Baltimore, Md. Railway switch	Feb. 25, 1868.
81, 028	Same.....same	Aug. 11, 1868.
81, 029	Same.....same	Aug. 11, 1868.
81, 030	Same.....Lock nut	Aug. 11, 1868.
84, 916	Strange, E., E. W., and E. C., Taunton, Mass. Saw grinder	Dec. 15, 1868.
76, 113	Strange, J. W., Bangor, Maine. Thread and twine cutter	Mar. 31, 1868.
76, 267	Strasser, Albert, Montgomery, Ala. Artificial leg	Mar. 31, 1868.
80, 782	Strasser, Albert, and B. M. Lewey, Montgomery, Ala. Stand for mosquito nets.	Aug. 4, 1868.
	Strasser, Joseph, and George K. Smith. (*See* Smith & Strasser.)	
76, 114	Stratton, James, Philadelphia, Pa. Carburetting air	Mar. 31, 1868.
76, 115	Stratton, James, assignor to self, William Wallace, and Robert N. Wetherill, Philadelphia, Pa. Hydro-carbon burner	Mar. 31, 1868.
82, 174	Stratton, Joseph D., and Thomas Wilson, assignors to Joseph D. Stratton, Mackinaw, Ill. Cheese press	Sept. 15, 1868.
81, 031	Stratton, O. G., Greenfield, Mass. Bitstock	Aug. 11, 1868.
74, 774	Straub, A. W., Philadelphia, Pa. Portable grinding mill	Feb. 25, 1868.
73, 938	Straus, Louis, Louisville, Ky. Apparatus for cleaning privies	Jan. 28, 1868.
82, 175	Straut, Hooper B., Greenleaf, Minn. Washboard	Sept. 15, 1868.
	Straw, Levi H., *et al.* (*See* Bean, Frank, assignor.)	
76, 546	Strawn, James, Plymouth, Mich. Carriage bolt	Apr. 7, 1868.
73, 473	Streat, George, New York, N. Y. Oiled fabric	Jan. 21, 1868.
84, 592	Street, William Tell, Frankford, Pa. Life-line for sea bathing	Dec. 1, 1868.
80, 783	Streeter, James S., assignor to self and City Machine Company, Providence, R. I. Fly frame flyer	Aug. 4, 1868.
81, 839	Streeter, Luther, assignor to self and Ransom Shepard, Chicopee, Mass. Garden hoe	Sept. 1, 1868.
85, 038	Streeter, L. R., Chelsea, Mass. Plate for artificial teeth	Dec. 15, 1868.
2, 968	Streeter, L. R., assignor to Alfred B. Ely, trustee, Newton, Mass. Plate for artificial teeth.....(Reissue)	June 9, 1868.
79, 086	Streeter, Martin, assignor to self and Artell Austin, New Haven, Conn. Shutter operator	June 23, 1868.
84, 147	Streit, Charles, Indianapolis, Ind. Extension lounge	Nov. 17, 1868.
76, 670	Stremme, Conrad C., Austin, Texas. Bung	Apr. 14, 1868.
	Streng, George M., and Joseph Stadler. (*See* Stadler & Streng.)	
73, 848	Strevell, William, Jersey City, N. J., and G. B. Kerper and S. B. Wells, New York, N. Y. Leather belting	Jan. 28, 1868.
73, 849	Stricker, George, Catawissa, Pa. Vehicle	Jan. 28, 1868.
	Strickland, David, and George Richards. (*See* Richards & Strickland.)	
84, 018	Strickland, R., Albany, N. Y. Tea and coffee pot	Nov. 10, 1868.
74, 445	Strickler, Henry, Carlisle, Pa. Hoisting drum	Feb. 11, 1868.
76, 954	Strickler, Henry, Carlisle Borough, Pa. Hay hoisting drum and grain fork	Apr. 21, 1868.
3, 213	Strock, Daniel, Chambersburg, Pa. Horse rake.....(Reissue)	Nov. 24, 1868.
74, 170	Strode, Thomas T., Mortonville, Pa. Calculating and registering machine	Feb. 4, 1868.
75, 071	Strong, George M., Boston, Mass. Sleigh bell	Mar. 3, 1868.
73, 266	Strong, Oliver, Green Center, Ind. Hand loom	Jan. 14, 1868.
	Strong, William N., *et al.* (*See* Wilson, Sylvanus C., assignor.)	
84, 317	Strothman, Edward and John, Milwaukie, Wis. Straw cutter	Nov. 24, 1868.
82, 562	Stroud, J. C., Lockhart, Texas. Cultivator	Sept. 29, 1868.
79, 512	Strough, George H., Watertown, N. Y. Horse hay fork	June 30, 1868.
	Strouse, I., & Company. (*See* Cargill, W. B., assignor.)	
	Strouse, Simon, and Adam Good. (*See* Good & Strouse.)	
	Same.....same.	
	Strout, Cyrus W., and Amos Wilder. (*See* Wilder & Strout.)	
	Strow, Frederick, and Robert Taylor. (*See* Taylor and Strow.)	
75, 808	Strube, Andrew, Frederick, Md. Power hammer	Mar. 24, 1868.
82, 657	Struse, H. D., Brooklyn, N. Y. Clothes dryer	Sept. 29, 1868.
	Stuart, A. P., and P. A. Downer. (*See* Downer & Stuart.)	
77, 549	Stuart, David, and Lewis Bridge, assignors to Stuart, Peterson & Company, Philadelphia, Pa. Base-burning stove	May 5, 1868.
79, 275	Same.....Base-burning fireplace stove	June 23, 1868.
83, 798	Same.....Cooking stove	Nov. 3, 1868.
80, 235	Stuart, David, and A. Wemyss, assignors to Stuart, Peterson & Company, Philadelphia, Pa. Stove plate	July 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Stuart, F. D., and George F. Lewis. (*See* Lewis & Stuart.)	
	Stuart, Henri L. (*See* Boynton, John F., assignor.)	
	Same..... (*See* Williams, Cyrus M., assignor.)	
78,619	Stuart, L. C., New York, N. Y. Electro-magnetic engine	June 2, 1868.
	Stuart, Peterson & Company. (*See* Stuart & Wemyss, assignors.)	
	Stuart, Robert, *et al.* (*See* McDougall, Hugh, assignor.)	
75,216	Stubbs, Enoch E., West Elkton, Ohio. Combination padlock	Mar. 3, 1868.
75,488	Same.....Bolt fastening	Mar. 10, 1868.
82,563	Stuck, Levi, Bryan, Ohio. Method of obtaining dental models	Sept. 29, 1868.
80,516	Stucky, Stephen, New Albany, Ind. Feed-water heater	July 28, 1868.
85,344	Studer, George, Richmond, Ind. Apparatus for pressing cigars	Dec. 29, 1868.
75,072	Studley, Alvan, Natick, Mass. Curtain fixture	Mar. 3, 1868.
82,658	Stuhltrager, Philip J., Philadelphia, Pa. Compound safe-door hinge	Sept. 29, 1868.
79,156	Stump, Andrew, assignor to self and Charles Colby, Bodega, Cal. Churn. (Antedated June 6, 1868)	June 23, 1868.
76,116	Sturcken, Otto Edward Henry, San Francisco, Cal. Window frame	Mar. 31, 1868.
75,809	Sturdevant, D. B., and B. H. Harmon, Clifton Springs, N. Y. Mode of removing tin from sheet metal	Mar. 24, 1868.
	Same.....(*See* Harmon & Sturdevant.)	
80,236	Sturdy, George J., and S. W. Young, Providence, R. I. Japanning metals	July 21, 1868.
84,717	Sturdy, J. E., Augusta, Maine. Tack holder and carpet stretcher	Dec. 8, 1868.
81,958	Sturgeon, Eli, Columbiana, Ohio. Safety bridge for railroad cars	Sept. 8, 1868.
79,157	Sturgeon, John M., New York, N. Y. Postage stamp. (Antedated June 10, 1868.)	June 23, 1868.
	Sturgeon, Sheldon. (*See* McBeth, James E., assignor.)	
79,513	Sturgis, D., assignor to self and M. Thatcher, Byron, Mich. Straw cutter. (Antedated June 27, 1868)	June 30, 1868.
	Stutenroth, Charles W., and Morris B. Powell. (*See* Powell & Stutenroth.)	
83,672	Styer, Joseph T., assignor to self and Eber Bradley, Richwood, Ohio. Sheep-shearing table	Nov. 3, 1868.
77,124	Suhr, Frederick T., Titusville, Pa. Apparatus for burning hydro-carbons. (Antedated April 7, 1868)	Apr. 21, 1868.
75,489	Sullenberger, Asher W., Laurel, Ind. Car coupling	Mar. 10, 1868.
85,345	Sullenberger, W. H., assignor to self and J. C. Martin, Harrisburg, Pa. Sash stop and lock	Dec. 29, 1868.
79,276	Sullivan, Edward, Pittsburg, Pa. Reamer. (Antedated June 6, 1868)	June 23, 1868.
79,024	Sullivan, Eugene, assignor to the American Horse Collar Company, New York, N. Y. Fabric for covering horse collars	June 16, 1868.
	Sullivan, George M., *et al.* (*See* McCreary, Thomas, assignor.)	
78,155	Sullivan, Michael H., Providence, R. I. Cribbing preventer	May 19, 1868.
81,430	Sullivan, T. J., Albany, N. Y. Permutation lock	Aug. 25, 1868.
82,472	Sully, Alfred, United States Army. Army wagon	Sept. 22, 1868.
79,514	Sulter, Frederick, St. Paul, Minn. Steam boiler furnace	June 30, 1868.
74,628	Sulzbacher, Mirum, New York, N. Y. Bureau bedstead	Feb. 18, 1868.
76,671	Sulzman, Charles, Waterford, N. Y. Door bolt and lock	Apr. 14, 1868.
2,987	Sum, Philip, New York, N. Y. Show-case molding.....(Design)	Mar. 31, 1868.
75,810	Summerill, James B., Penn's Grove, Pa. Hay elevator	Mar. 24, 1868.
81,555	Summers, Alfred F., assignor to self, Chauncey Nye, and Thomas A. Slack, Peoria, Ill. Post-hole borer	Aug. 25, 1868.
75,997	Summers, J. W., Sandy Hill, N. Y. Horse hay fork	Mar. 24, 1868.
	Sumner, Eli J., and Richard P. Johnson. (*See* Johnson & Sumner.)	
84,973	Sunderland, L. A., Chagrin Falls, Ohio. Milk can	Dec. 15, 1868.
	Sutcliff, Henry, and John E. Tucker. (*See* Smith, William C., assignor.)	
81,704	Sutherland, Brush, Chicago, Ill. Water wheel	Sept. 1, 1868.
74,253	Sutherland, James, Morris, Ill. Wagon for loading logs, stone and hay	Feb. 11, 1868.
78,551	Sutherland, James, Brooklyn, N. Y. Liquid meter	June 2, 1868.
75,998	Sutherland, James, and Francis Moakley, East Hampton, Mass. Steam pump engine. (Antedated Feb. 18, 1868)	Mar. 24, 1868.
76,672	Sutherland, James A., Elmwood, Ill. Machine for curbing wells	Apr. 14, 1868.
82,361	Same.....Horse collar	Sept. 22, 1868.
74,446	Sutherland, William H., Seven Mile, Ohio. Sash stop	Feb. 11, 1868.
76,848	Sutherlen, B. W., Freesoil, Minn. Sulky plow	Apr. 14, 1868.
84,777	Sutphen, George E., Louisiana, Mo. Horse rake	Dec. 8, 1868.
77,414	Sutliff, James, East Boston, Mass. Steam generator	Apr. 28, 1868.
81,225	Same.....same	Aug. 18, 1868.
75,999	Sutliff, W. W., Town Line, Pa. Carriage spring	Mar. 24, 1868.
	Sutter, E. V. (*See* Wehrly, Samuel, assignor.)	
81,431	Sutton, Charles D., Tarrytown, N. Y. Spring for vehicles	Aug. 25, 1868.
	Sutton, George J. (*See* Wait, J. L., assignor.)	
81,840	Sutton, James W., Detroit, Mich. Water heater for steam generators	Sept. 1, 1868.
80,679	Sutton, Sedgwick A., assignor to self, W. Uhl and Lysander Flagg, Dixon, Ill. File-cutting machine	Aug. 4, 1868.
84,392	Sutton, William, Washington, Ga. Saw cotton gin	Nov. 24, 1868.
83,421	Swafford, Levi W., Edward Butler, and John R. Hess, Muscatine, Iowa. Blind-slat operator	Oct. 27, 1868.
	Swain, Charles H., and Jerome B. Gardner. (*See* Gardner & Swain.)	
	Swain, C. F., and A. R. Eggleston. (*See* Eggleston & Swain.)	
	Swain, Delos, and Daniel Fuller. (*See* Fuller & Swain.)	
73,668	Swain, Enoch, Lewistown, Pa. Wheel tightener	Jan. 21, 1868.
77,931	Swain, James H., San Francisco, Cal. Boot and shoe last	May 12, 1868.
	Swallow, G. C., and R. Cutler. (*See* Cutler & Swallow.)	
	Swalm, George A., *et al.* (*See* Reight, Charles A., assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,176	Swalm, Seneca A., and Charles C. Schmitt, New York, N. Y. Fire escape	Sept. 15, 1868.
	Swan, Caleb, executor of Daniel Hayward, deceased. (*See* Hayward, Daniel.) (Extension.)	
76,955	Swan, James, Seymour, Conn. Machine for making auger bits	Apr. 21, 1868.
76,956	Same.....Auger handle	Apr. 21, 1868.
78,620	Same.....Manufacture of augers and bits	June 9, 1868.
80,027	Same.....Manufacture of auger bits	July 14, 1868.
3,160	Swan, John, Baltimore, Md. Sleeping car (Reissue)	Oct. 13, 1868.
78,620	Swan, Samuel, New York, N. Y. Bench hook for carpenter's benches	June 2, 1868.
78,156	Swan, William, assignor to self and Louis Duhain, jr., New York, N. Y. Mode of ornamenting fabrics	May 19, 1868.
80,680	Swart, James, Hoffman's Ferry, N. Y. Corn and potato coverer	Aug. 4, 1868.
79,411	Swarthout, Coe, Joliet, Ill. Salve	June 30, 1868.
	Swartwout, Thomas. (*See* Enos, John M., assignor.)	
2,966	Swartz, Daniel M., and Jonathan Kreamer, assignors to C. Aultman, Canton, Ohio. Harvester rake (Reissue)	June 23, 1868.
	Swasey, Edward, and William Robbins. (*See* Robbins & Swasey.)	
73,134	Swasey, Samuel H., Morristown, Vt. Barrel churn	Jan. 7, 1868.
76,268	Swayne, Wager, United States Army. Piston	Mar. 31, 1868.
85,187	Sweeney, Charles, East Bloomfield, Mass. Churn	Dec. 22, 1868.
	Sweeney, John, and James W. Russell. (*See* Paige, W. H., assignor.)	
79,277	Sweeney, Michael, Wheeling, West Va. Lamp chimney	June 23, 1868.
79,786	Sweeney, Michael, assignor to Sweeney, Bell & Company, Wheeling, West Va. Glass pressing machine	July 7, 1868.
3,149	Same.....Lamp chimney (Reissue)	Oct. 6, 1868.
3,181	Sweeney, Michael, James E. Mathews, and Thomas Hartley, Wheeling, West Va. Glass mold (Reissue)	Nov. 3, 1868.
79,158	Sweeney, Peter, and John Bradburn, New York, N. Y. Platform for rock drills	June 23, 1868.
83,105	Sweeney, Samuel L., Morrison, Ill. Corn planter	Oct. 13, 1868.
73,474	Sweet, Eli, assignor through two assignments to T. W. Vincent, Eber Sweet, and Benj. J. Jones, Whitney's Point, N. Y. Tongue for hay-loading machines	Jan. 21, 1868.
75,073	Sweet, George W., Troy, N. Y. Ash pan for cooking stoves	Mar. 3, 1868.
85,145	Sweet, John E., Syracuse, and J. Boyd Elliott, New York, N. Y., assignors to Orlando B. Potter and Solomon J. Gordon. Machine for making cut nails	Dec. 22, 1868.
	Sweet, Nathaniel. (*See* Enos, Levi S., assignor.)	
79,412	Sweet, Oliver C., Albany, N. Y. Machine for drying tubular fabrics. (Antedated June 19, 1868)	June 30, 1868.
82,564	Same.....Machine for drying and stretching fabrics. (Antedated Sept. 24, 1868)	Sept. 29, 1868.
	Sweetland, Albert C., *et al.* (*See* Draper, Sweetland & Draper.)	
75,074	Sweetland, Alvah, assignor to self and Milton J. Palmer, Syracuse, N. Y. Hame fastener	Mar. 3, 1868.
79,704	Sweetland, Anthony B., assignor to self and James Daley, Fitchburg, Mass. Refrigerator	July 7, 1868.
74,447	Sweetland, Jerome B., Pontiac, Mich. Corn harvester	Feb. 11, 1868.
76,000	Same.....Harvester rake	Mar. 24, 1868.
77,125	Same.....Horse hay fork	Apr. 21, 1868.
79,159	Same.....Hook	June 23, 1868.
83,566	Same.....Wash boiler	Oct. 27, 1868.
81,556	Sweetland, J. B., and Silas T. Fenn, Pontiac, Mich. Wash boiler	Aug. 25, 1868.
	Sweetland, Jerome B., *et al.* (*See* Hicks & Doty, assignors.)	
	Swenson, Lorens, and Ole O. Storle. (*See* Storle & Swenson.)	
82,362	Swesey, Samuel, Malta, Ohio. Quartz mill	Sept. 22, 1868.
77,676	Swett, G. L., Leominster, Mass. Shelf rest	May 5, 1868.
	Swett, James H., Pittsburg, Pa. Hinging of the griping jaw of spike machines in weighted levers (Extension)	Feb. 26, 1868.
79,515	Same.....Birmingham, Pa. Railway joint	June 30, 1868.
79,516	Same.....Machine for making rivets	June 30, 1868.
81,557	Swett, Leonard S., and James Graham, Vassar, Mich. Gate for turbine water-wheels	Aug. 25, 1868.
83,005	Swickard, Noah, Galva, Ill. Wagon and car unloader	Oct. 13, 1868.
	Swift, Moses C., and Francis W. Tilton. (*See* Tilton & Swift.)	
77,126	Swindell, James H., Camden, N. J. Indexing books and ledgers	Apr. 21, 1868.
77,932	Swindell, William, Alleghany City, Pa. Puddling and boiling furnace	May 12, 1868.
	Swineford, A. P., *et al.* (*See* Gram, Ernst W., assignor.)	
76,673	Swingle, George J., Knoxville, Ill. Fly trap	Apr. 14, 1868.
74,952	Swinnerton, W. R., Peoria, Ill. Mechanical movement	Feb. 25, 1868.
75,314	Switzer, John, Lynn, Mass. Mode of securing the ends of felloes and spokes in carriage wheels	Mar. 10, 1868.
80,885	Switzer, John J., assignor to self and Edwin H. Fittz, Roxbury, Mass. Stop motion for looms	Aug. 11, 1868.
74,953	Sylla, Philo, assignor to self, W. F. and Edwin H. Sylla, Elgin, Ill. Hat racks for seats	Feb. 25, 1868.
79,519	Symes, Robert, St. Louis, Mo. Device for ventilating mill stones	June 30, 1868.
76,957	Symonds, Dexter, Marlow, N. H. Process for tanning	Apr. 14, 1868.
83,221	Symons, Richard D., John T. Harry, and Samuel Stephens, Grass Valley, Cal. Ore separator and concentrator	Oct. 20, 1868.
76,269	Taber, C. R. and J. O., Salem, Ohio. Dropping platform for harvesters	Mar. 31, 1868.
79,518	Same.....Harvester	June 30, 1868.
80,681	Taft, B. F., assignor to self and Daniel Needham, Groton Junction, Mass. Hay and cotton press	Aug. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
83, 338	Taft, Daniel F., New Bedford, Mass. Corn planter	Oct. 20, 1868.
80, 237	Taft, George C., Worcester, Mass. Wrench. (Antedated July 11, 1868)	July 21, 1868.
2, 870	Taft, James M., North Providence, R. I. Trade-mark label (Design)	Jan. 28, 1868.
77, 677	Tagart, Hugh, Jacksontown, Ohio. Cattle guard for railroads	May 5, 1868.
79, 278	Taggart, B. B., and C. W. Brown, Watertown, N. Y. Hat, bonnet, &c	June 23, 1868.
3, 206	Taggart, Francis, Lewis S. Chichester, and Clark W. Mills, assignors through mesne assignments to Lewis S. Chichester, George H. Nichols, and Clark W. Mills, Brooklyn, N. Y. Grain elevator (Reissue)	Nov. 24, 1868.
	Taggart, John, Boston, Mass. Machine for excavating earth (Extension)	July 3, 1868.
83, 888	Same Machine for splitting leather	Nov. 10, 1868.
74, 254	Taggart, John, assignor to self and Daniel C. Holden, Roxbury, Mass. Water meter	Feb. 11, 1868.
75, 596	Taggart, John, assignor through mesne assignments to self, Isaac Ames, and Sarah P. Taggart, Roxbury, Mass. Brick machine	Mar. 17, 1868.
76, 270	Taggart, John, assignor to self and Jerome A. Bacon, Roxbury, Mass. Machine for making paper pulp	Mar. 31, 1868.
	Tagliabue, Guiseppe. (*See* Boyle, Robert Kirk, assignor.)	
75, 075	Talbot, E. C., Holden, Mass. Fishing tackle	Mar. 3, 1868.
76, 849	Talbott, S. J., assignor to self, James H. Hall, and James H. Gray, Milford, N. H. Plate lifter	Apr. 14, 1868.
82, 767	Talcott, George W., assignor to self and Isaac D. Voak, Buffalo, N. Y. Combined floating fire-engine and wrecking-pump	Oct. 6, 1868.
	Talcott, John B. (*See* Haslam, Septimus, jr., assignor.)	
2, 933	Tallman, Abel C., Philadelphia, Pa. Skate runner (Design)	Feb. 11, 1868.
82, 363	Tallman, James, Clayton, Ill. Beehive	Sept. 22, 1868.
81, 705	Tallman, Newton, West New Brighton, N. Y. Oiler for machinery	Sept. 1, 1868.
75, 811	Talpey, Joseph A., assignor to self and Mellen Bray, Somerville, Mass. Rotary pump	Mar. 24, 1868,
76, 674	Tambling, William H., Mazo Manie, Wis. Bed bottom	Apr. 14, 1868.
84, 778	Tamblyn, James, Virginia City, Nev. Automatic stop for ears	Dec. 8, 1868.
	Tamin, Jean Marie Onesime. (*See* Mallet, J. T. A., assignor.)	
82, 565	Tamkin, George, Newburg, N. Y. Stove-pipe damper	Sept. 29, 1868.
	Tandy, George Granger, and William Perkins. (*See* Perkins & Tandy.)	
83, 006	Taney, Joseph, and John H. Brown, Bangor, Maine. Railway-car bumper	Oct. 13, 1868.
82, 177	Tanner, George, Freetown, N. Y. Fruit gatherer	Sept. 15, 1868.
73, 850	Tanner, J. M., Albert Lea, Minn. Water wheel	Jan. 28, 1868.
81, 558	Tanner, Lovel F., Milan, Ind. Farm gate	Aug. 25, 1868.
80, 429	Tansey, Verlin G., assignor to self and James W. Simpson, Indianapolis, Ind. Fire kindler	July 28, 1868.
73, 669	Tapley, J. F., Springfield, Mass. Ruling machine	Jan. 21, 1868.
	Tapley, J. F., & Company. (*See* West, Charles F., assignor.)	
74, 863	Taplin, Alvin, Somerville, Mass. Lamp	Feb. 25, 1868.
82, 178	Tappey, William H., William C. Lumsden and Alexander Steel, Petersburg, Va. Cotton press	Sept. 15, 1868.
	Tarbell, Edmund. (*See* Hartford, D. Frank, assignor.)	
81, 032	Tarbox, Eugene L., Nashville, Tenn. Stencil plate	Aug. 11, 1868.
83, 673	Tarbox, Horace, Warwick, R. I. Automatic car coupling	Nov. 3, 1868.
75, 597	Tarpley, Henry, Wesley, Ky. Horse power	Mar. 17, 1868.
76, 271	Tarr, John Blake, Fair Haven, Mass. Manufacture of spherical shot and shell	Mar. 31, 1868.
79, 610	Same Machine for polishing spherical shot and shell	July 7, 1868.
79, 611	Same Cast-iron car wheel	July 7, 1868.
82, 450	Same Chicago, Ill. Carpenter's plane. (Antedated Sept. 16, 1868.)	Sept. 22, 1868.
83, 222	Same Fair Haven, Mass. Manufacture of steel ingots	Oct. 20, 1868.
83, 223	Same Cast-steel tire	Oct. 20, 1868.
83, 224	Same Steam-engine	Oct. 20, 1868.
81, 432	Tarrant, Esau, Muskegon, Mich. Machine for turning logs in saw mills	Aug. 25, 1868.
	Tartiere, Lucien A., and Jules Fougerat. (*See* Fougerat & Tartiere.)	
81, 033	Tassius, Louis, Norwalk, Ohio. Artificial leg	Aug. 11, 1868.
73, 157	Tate, Isaac C., New London, Conn. Brace for bits	May 19, 1868.
84, 393	Tate, William E., Cambridgeport, Mass. Water wheel	Nov. 24, 1868.
73, 670	Tate, William J., New Haven, Conn. Adjustable spirit level	Jan. 21, 1868.
83, 422	Tatham, Benjamin, and Joseph Steger, New York, N. Y. Car brake	Oct. 27, 1868.
75, 490	Tattershall, Richard, Beloit, Wis. Spring bed bottom	Mar. 10, 1868.
	Tattershall, Richard, and John A. Burchard. (*See* Burchard & Tattershall.)	
82, 659	Taverdon, C. L., and Jules Moret, France. Pump	Sept. 29, 1868.
79, 025	Taylor, Abner, New Hartford, Conn. Farm gate	June 16, 1868.
76, 547	Taylor, Albert L., Springfield, Vt. Clothes pin	April 7, 1868.
80, 238	Same Cutlery	July 21, 1868.
2, 885	Taylor, Ambrose, Osawatomie, Kansas. Last (Reissue)	Feb. 25, 1868.
81, 559	Taylor, A. E., New Britain, Conn. Letter file	Aug. 25, 1868.
3, 234	Same Bell attachment (Reissue)	Dec. 15, 1868.
80, 372	Taylor, Barnett, Forestville, Minn. Grain register	July 28, 1868.
81, 034	Same Hand cultivator	Aug. 11, 1868.
81, 706	Taylor, Benjamin C., Dayton, Ohio. Horse hay rake	Sept. 1, 1868.
77, 127	Taylor, Charles A., Chicago, Ill. Trunk	Apr. 14, 1868.
74, 775	Taylor, C. F., Vassalboro, Me. Cultivator	Feb. 25, 1868.
73, 135	Taylor, Daniel W., Bell County, Texas. Medical compound	Jan. 7, 1868.
84, 148	Taylor, Edward W., Morristown, Pa. Hydro-carbon burner	Nov. 17, 1868.
81, 433	Taylor, Edwin, Tecumseh, Mich. Steam generator	Aug. 25, 1868.
80, 430	Taylor, Edwin P., New Bedford, Mass. Button boot	July 28, 1868.
76, 548	Taylor, Enoch, Memphis, Tenn. Baling press	Apr. 7, 1868.
75, 076	Taylor, Esau D., Hornellsville, N. Y. Base for ball players	Mar. 3, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
79,612	Taylor, E. P., St. Louis, Mo. Apparatus for hardening stone	July 7, 1868.
76,549	Taylor, George G., Charlestown, Mass. Match stand	Apr. 7, 1868.
75,217	Taylor, George H., New York, N. Y. Apparatus for exercise	Mar. 3, 1868.
75,218	Same.....same	Mar. 3, 1868.
77,933	Taylor, George H., New York, N. Y. Oscillating rubbing machine for medical uses	May 12, 1868.
	Taylor, George L., *et al.* (*See* Woolverton, Samuel, assignor.)	
82,566	Taylor, Gilbert F., New York, N. Y. Guard for carpet-sweeping machine	Sept. 29, 1868.
79,413	Taylor, Henry, Middletown, Wis. Hop press	June 30, 1868.
	Taylor, H. A. (*See* Irving B., assignor.)	
	Same.....same.	
	Same.....same.	
	Same.....same.	
75,219	Taylor, Henry R., Westport, Conn. Gear-cutting tool	Mar. 3, 1868.
77,851	Taylor, Hiram, Cincinnati, Ohio. Lubricator	May 12, 1868.
69,279	Same.....same	June 23, 1868.
	Taylor, Hudson, trustee. (*See* Plant, Pascal, assignor) .....(Reissue.)	
	Same.....same.....(Reissue.)	
78,770	Taylor, H. G., Port Hope, C. W. Combined square and bevel	June 9, 1868.
75,077	Taylor, Jacob, Beloit, Ohio. Sheep rack	Mar. 3 1868.
83,106	Taylor, James, Canton, N. Y. Sugar-juice evaporator	Oct. 13, 1868.
78,026	Taylor, Jay C., Ann Arbor, Mich. Spring bed bottom	May 19, 1868.
	Taylor, John, *et al.* (*See* Forest, John, assignor.)	
	Taylor, Levi B. (*See* Hill, S. B., assignor.)	
	Same.....same.	
3,192	Taylor, Luke, Springfield, Vt. Mop head.....(Reissue)	Nov. 10, 1868.
3,215	Same.....same .....(Reissue)	Nov. 24, 1868.
79,290	Taylor, L. D., Granville Center, Pa. Combined land-roller, fertilizer, and seed sower	June 23, 1868.
	Taylor, L. S., and A. B. Candee. (*See* Candee & Taylor.)	
84,516	Taylor, Michael C., Grass Valley, Cal. Pump-valve chamber	Dec. 1, 1868.
	Taylor, N. G., *et al.* (*See* Pepper, Daniel W., assignor.)	
80,574	Taylor, O. H., Brooklyn, N. Y. Grate bar	Aug. 4, 1868.
82,044	Taylor, O. H., assignor to William E. Parrish, Brooklyn, N. Y. Bit stock	Sept. 8, 1868.
83,889	Taylor, O. H., assignor to self, John A. Parks and Darius Allen, Brooklyn, N. Y. Apparatus and process for roasting coffee	Nov. 10, 1868.
84,593	Taylor, Robert, and Frederick Strow, Philadelphia, Pa. Apparatus for molding pots and crucibles	Dec. 1, 1868.
83,340	Taylor, R. T., Everton, Ind. Shield for corn planters	Oct. 20, 1868.
74,629	Taylor, S. C., Toledo, Ohio. Dental instrument	Feb. 18, 1868.
79,519	Taylor, Spencer P., Oxford, Ohio. Harness buckle. (Antedated June 24, 1868)	June 30, 1868.
80,682	Same.....Horse collar	Aug. 4, 1868.
81,841	Taylor, Thomas, Washington, D. C. Machine for cleaning feathers	Sept. 1, 1868.
82,891	Same.....Mode of preparing plaster casts	Oct. 6, 1868.
84,779	Taylor, Thomas R., Brodhead, Wis. Pile for railroad rails	Dec. 8, 1868.
	Taylor, V. N., *et al.* (*See* Denison, C. H., assignor.)	
79,874	Taylor, W. H., Baldwinsville, N. Y. Harness buckle	July 14, 1868.
80,431	Taylor, William R., and James F. Sloat, Brooklyn, E. D., N. Y. Steam generator	July 28, 1868.
73,671	Taylor, Zalmon, New York, N. Y. Drawer truss	Jan. 21, 1868.
76,272	Tayntor, Cyrus K., Cuyler, N. Y. Medical compound	Mar. 31, 1868.
74,255	Teal, Daniel E., Norwich, N. Y. Car for transporting and drying peat	Feb. 11, 1868.
81,309	Teal, Squire, Rochester, N. Y. Engine lathe	Aug. 18, 1868.
80,028	Teal, W. H., Weyauwega, Wis. Machine for forming sheet-metal pans	July 14, 1868.
76,550	Tears, Truman H., Leroy, Pa. Horse hay fork	Apr. 7, 1868.
80,029	Teasdale, H. M., Dansville, N. Y. Compound for roofing	July 14, 1868.
78,843	Teed, Lorenzo P., Lewisburg, Pa. Combined threshing machine and grain separator	June 9, 1868.
76,551	Tefft, George, Salem, N. Y. Music rack	Apr. 7, 1868.
79,787	Tefft, Otis A., assignor to Joseph Frazier, Plattsburg, N. Y. Sharpening saws	July 7, 1868.
	Teller, C. F., and Karl Bender. (*See* Bender & Teller.)	
81,035	Temple, Joseph, Terre Haute, Ind. Saw-filing machine	Aug. 11, 1868.
	Temple, Joseph, and John C. Hunt. (*See* Hunt & Temple.)	
	Temple, W. N., and M. H. Ripley. (*See* Ripley & Temple.)	
84,019	Tencate, John E., Pittsburg, Pa. Machine for welding tubing	Nov. 10, 1868.
82,768	Tenney, Samuel A., Muskago, Wis. Buckle	Oct. 6, 1868.
76,675	Tennie, Gottfried, assignor to Frank S. Bissell, Pittsburg, Pa. Hot-water tank for stoves	Apr. 14, 1868.
80,239	Tenny, Oliver, Littleton, Mass. Propelling vessels	July 21, 1868.
79,160	Ter Hoeven, D. A., Philadelphia, Pa. Manufacture of fertilizers	June 23, 1868.
79,281	Terrell, Daniel G., Wakefield, Pa. Brake for horse-power machines	June 23, 1868.
	Terrell, I. H., and William B. Morgan. (*See* Morgan & Terrell.)	
85,491	Terrell, John A., Bloomfield, Ky. Cannon	Dec. 29, 1868.
79,161	Terril, Elbert, Coldwater, Mich. Cultivator	June 23, 1868.
84,318	Terry, Andrew, Waterbury, Conn. Iron fence	Nov. 24, 1868.
	Terry, Griffith P., and P. H. Mann. (*See* Mann & Griffith.)	
84,517	Terry, Silas B., Waterbury, Conn. Clock	Dec. 1, 1868.
76,117	Terry, S. B., assignor to self and Waterbury Clock Company, Waterbury, Conn. Clock	Mar. 31, 1868.
79,026	Terry, William A., Bristol, Conn. Calendar clock	June 16, 1868.
	Terry, W. A., and N. A. Wright. (*See* Clark, S. W., assignor.)	
79,788	Tevis, E. Lawrence, Philadelphia, Pa. Shoe hook	July 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Tew, George P., administrator of Charles W. Clewley, deceased. (*See* Clewley, Charles W.)	
	Tewksbury, W. D., and M. S. Curtis. (*See* Curtis & Tewksbury.)	
84,231	Thacker, Henry, Oneida, N. Y. Combined rake and hoe	Nov. 17, 1868.
84,020	Thal, H., and G. Schlottmann, New Haven, Conn. Coffee pot	Nov. 10, 1868.
85,255	Thatcher, John M., Bergen, N. J. Fire-place heater	Dec. 22, 1868.
	Thatcher, M. (*See* Sturgis, D., assignor.)	
73,136	Thatcher, M. P., Pontiac, Mich. Padlock	Jan. 7, 1868.
77,333	Thayer, Augustus, Albany, N. Y. Combined screen and shovel	Apr. 28, 1868.
78,771	Same.....Implement for sharpening cutlery	June 9, 1868.
79,027	Same.....Implement	June 16, 1868.
80,432	Same.....Scissors and shears	July 28, 1868.
78,401	Thayer, A. P., Syracuse, N. Y. Machine for grinding the cutters of mowing machines	May 26, 1868.
76,001	Thayer, D. H., Ludlowville, N. Y. Harvester	Mar. 24, 1868.
76,552	Thayer, Frederic William, Boston, Mass. Hydro-carbon burner	Apr. 7, 1868.
80,517	Thayer, H. S., Boston, Mass. Submarine exploring	July 28, 1868.
79,613	Thayer, J. C., Dunton, Ill. Milk cooler	July 7, 1868.
	Thayer, R., and L. Bailey. (*See* Bailey & Thayer).....(Reissue.)	
	Thayer, Sewel G., administrator of Daniel N. Beard, deceased. (*See* Beard, Daniel N.)	
3,255	Theberath, Charles M. and Jacob H., Newark, N. J. Harness trimming ..(Design)	Nov. 17, 1868.
81,226	Thielemann, John, Newark, N. J. Piano lock	Aug. 18, 1868.
81,036	Thieme, Charles H. F., North Vernon, Ind. Priming for needle guns	Aug. 11, 1868.
83,567	Thiessen, C. W., Effingham, Ill. Corn planter	Oct. 27, 1868.
75,598	Thilmany, Waldemar, Cleveland, Ohio. Steam-engine balance slide valve	Mar. 17, 1868.
79,028	Thode, Marx, Mattoon, Ill. Subterranean walls	June 16, 1868.
85,410	Thoma, Alois, New York, N. Y. Furnace for melting and refining steel	Dec. 29, 1868.
75,078	Thoma, Alois, assignor to self, S. Bomberg, and A. W. Wilder, New York, N. Y. Furnace for decarbonizing pig iron for the preparation of steel	Mar. 3, 1868.
74,257	Thomas, Abner, Ulysses, N. Y. Packing eggs, &c	Feb. 11, 1868.
74,256	Thomas, Allen C., Camp Charlotte, Ohio. Animal trap	Feb. 11, 1868.
79,520	Thomas, Carl C. T., and Frederick A. C. Raymond, Beverly, Mass. Ladder	June 30, 1868.
80,575	Thomas, David, Hingham, Mass. Friction nipper	Aug. 4, 1868.
78,027	Thomas, Edwin, Philadelphia, Pa. Neck-tie	May 19, 1868.
80,518	Thomas, Edwin, Philadelphia, Pa. Ventilating boots and shoes	July 28, 1868.
79,875	Thomas, Enoch, Craigsville, Va. Oil, tobacco, and other presses	July 14, 1868.
83,107	Thomas, E. A., Philadelphia, Pa. Seam joint for cans, &c	Oct. 13, 1868.
80,240	Thomas, Evan O., Jersey City, N. J. Cooking stove	July 21, 1868.
76,118	Thomas, James H., Lacon, Ill. Rock drill	Mar. 31, 1868.
79,876	Thomas, James H., Lynn, Mass. Weather strip	July 14, 1868.
	Thomas, J. H., *et al.* (*See* Gardiner, C. O., assignor.)	
3,164	Thomas, J. H., and P. P. Mast, Springfield, Ohio. Seed planter. (Division A, reissue)	Oct. 20, 1868
3,210	Same.....same.....(Division B, reissue)	Nov. 24, 1868.
74,448	Thomas, John F., Adamstown, Md. Machine for distributing guano, &c	Feb. 11, 1868.
82,451	Thomas, John J., Union Springs, N. Y. Harrow	Sept. 22, 1868.
74,449	Thomas, John L., Newburg, Ohio. Belt coupling	Feb. 11, 1868.
83,108	Same.....Alliance, Ohio. Steam generator	Oct. 13, 1868.
79,162	Thomas, Lancaster, Philadelphia, Pa. Bottle mold	June 23, 1868.
82,452	Thomas, Leopold, assignor to Andrew Kloman, Alleghany City, Pa. Spike machine	Sept. 22, 1868.
85,146	Same.....Pointing spikes	Dec. 22, 1868.
	Thomas, Milam, and James R. Madison. (*See* Madison & Thomas.)	
82,892	Thomas, Morgan H., Dansville, N. Y. Churn dasher	Oct. 6, 1868.
83,007	Thomas, Nelson C., and Jacob H. Coe, Brighton, Mich. Hay elevator	Oct. 13, 1868.
78,772	Thomas, Ralph, assignor to self and E. Parker, Waterbury, Conn. Sash fastener	June 9, 1868.
	Thomas, Roberts, Stevenson & Company. (*See* Flansburgh, John D., assignor.)	
	Same.....(*See* Rose & Caley, assignors.)	
84,394	Thomas, S. J., Dawson, Ga. Water wheel	Nov. 24, 1868.
80,315	Thomas, Volney M., Brandon, Vt. Culinary apparatus	July 28, 1868.
73,672	Thomas, William G., Centralia, Pa. Gauge cock for boilers	Jan. 21, 1868.
74,630	Thomas, William H., Sacramento, Cal. Water heater for baths, tubs, &c	Feb. 18, 1868.
75,079	Thomas, W. H., Galveston, Ind. Hemmer for sewing machines	Mar. 3, 1868.
76,553	Thomas, William L., Middlebury, Ohio. Bedstead	Apr. 7, 1868.
	Thomas, William P., and Edward W. Munson. (*See* Munson & Thomas.)	
73,407	Thomas, W. R., Catasauqua, Pa. Annealing furnace	Jan. 14, 1868.
79,029	Same.....Car wheel	June 16, 1868.
80,030	Same.....Steam pump	July 14, 1868.
76,002	Thomas, W. R., and Thomas Evans, Catasauqua, Pa. Steam-engine piston valve	Mar. 24, 1868.
	Thompkins, Lyman P. (*See* Curtiss, Samuel T., assignor.)	
77,128	Thompson, Albert, Ridgway, Pa. Shingle machine	Apr. 21, 1868.
85,147	Thompson, A. B., Owego, N. Y. Railroad car coupling	Dec. 22, 1868.
74,450	Thompson, Bjarne, Chicago, Ill. Sleigh	Feb. 11, 1868.
75,812	Same.....Runner for wheeled vehicles	Mar. 24, 1868.
83,674	Thompson, Bjarne O., Chicago, Ill. Railway car brake	Nov. 3, 1868.
76,273	Thompson, Charles E., New Haven, Conn. Curtain fixture for carriages, &c	Mar. 31, 1868.
75,220	Thompson, D. B., Brooklyn, N. Y. Elevator for buildings	Mar. 3, 1868.
84,718	Thompson, De Witt C., Ischua, N. Y. Beef steak cutter and mangler	Dec. 8, 1868.
81,434	Thompson, George, Nashua, N. H. Belt saw	Aug. 25, 1868.
83,109	Thompson, George M., Boston, Mass. Device for stretching telegraph wires	Oct. 13, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Thompson, George S. (*See* Paine, Calvin H., assignor.)	
78,552	Thompson, George W., New York, N. Y. Wagon for advertising. (Antedated May 25, 1868)	June 2, 1868.
82,364	Same.....Brooklyn, N. Y. Sweat for hats	Sept. 22, 1868.
85,138	Same.....Medicated paper for the water closet	Dec. 22, 1868.
2,871	Thompson, Henry G., assignor to the Hartford Carpet Company, New York, N. Y. Carpet pattern. .....(Design)..	Jan. 28, 1868.
2,872	Same.....same.....(Design)..	Jan. 28, 1868.
2,873	Same.....same.....(Design)..	Jan. 28, 1868.
2,874	Same.....same.....(Design)..	Jan. 28, 1868.
2,875	Same.....same.....(Design)..	Jan. 28, 1868.
2,876	Same.....same.....(Design)..	Jan. 28, 1868.
2,877	Same.....same.....(Design)..	Jan. 28, 1868.
2,878	Same.....same.....(Design)..	Jan. 28, 1868.
2,879	Same.....same.....(Design)..	Jan. 28, 1868.
2,880	Same.....same.....(Design)..	Jan. 28, 1868.
2,881	Same.....same.....(Design)..	Jan. 28, 1868.
2,882	Same.....same.....(Design)..	Jan. 28, 1868.
2,883	Same.....same.....(Design)..	Jan. 28, 1868.
2,884	Same.....same.....(Design)..	Jan. 28, 1868.
2,885	Same.....same.....(Design)..	Jan. 28, 1868.
2,886	Same.....same.....(Design)..	Jan. 28, 1868.
2,887	Same.....same.....(Design)..	Jan. 28, 1868.
2,888	Same.....same.....(Design)..	Jan. 28, 1868.
2,889	Same.....same.....(Design)..	Jan. 28, 1868.
2,890	Same.....same.....(Design)..	Jan. 28, 1868.
2,891	Same.....same.....(Design)..	Jan. 28, 1868.
2,892	Same.....same.....(Design)..	Jan. 28, 1868.
2,893	Same.....same.....(Design)..	Jan. 28, 1868.
2,894	Same.....same.....(Design)..	Jan. 28, 1868.
2,895	Same.....same.....(Design)..	Jan. 28, 1868.
2,896	Same.....same.....(Design)..	Jan. 28, 1868.
2,897	Same.....same.....(Design)..	Jan. 28, 1868.
2,898	Same.....same.....(Design)..	Jan. 28, 1868.
2,899	Same.....same.....(Design)..	Jan. 28, 1868.
2,900	Same.....same.....(Design)..	Jan. 28, 1868.
2,901	Same.....same.....(Design)..	Jan. 28, 1868.
2,902	Same.....same.....(Design)..	Jan. 28, 1868.
2,903	Same.....same.....(Design)..	Jan. 28, 1868.
3,172	Same.....same.....(Design)..	Aug. 25, 1868.
3,173	Same.....same.....(Design)..	Aug. 25, 1868.
3,174	Same.....same.....(Design)..	Aug. 25, 1868.
3,175	Same.....same.....(Design)..	Aug. 25, 1868.
3,176	Same.....same.....(Design)..	Aug. 25, 1868.
3,177	Same.....same.....(Design)..	Aug. 25, 1868.
3,178	Same.....same.....(Design)..	Aug. 25, 1868.
3,179	Same.....same.....(Design)..	Aug. 25, 1868.
3,180	Same.....same.....(Design)..	Aug. 25, 1868.
3,181	Same.....same.....(Design)..	Aug. 25, 1868.
3,182	Same.....same.....(Design)..	Aug. 25, 1868.
3,183	Same.....same.....(Design)..	Aug. 25, 1868.
75,221	Thompson, Hiram, Worcester, Mass. Machine for heading bolts	Mar. 3, 1868.
82,257	Thompson, Hiram, assignor to R. Ball & Company, Worcester, Mass. Sewing machine	Sept. 15, 1868.
76,958	Thompson, Hiram C., Bristol, Conn. Die for making clock collets	Apr. 21, 1868.
81,959	Thompson, Howard M., and Charles W. Burbank, assignors to selves and George H. Knowlton, Alfred, Maine. Tailor's press board	Sept. 8, 1868.
73,673	Thompson, Ira F., Providence, R. I. Knife cleaner	Jan. 21, 1868.
76,003	Thompson, I. M., Edinburg, Ind. Water wheel	Mar. 24, 1868.
78,553	Thompson, James K., assignor to self and William B. Howard, Chicago, Ill. Turn table	June 2, 1868.
81,960	Same.....Bridge	Sept. 8, 1868.
84,452	Thompson, James S., Lynden, Vt. Apparatus for boiling sap and other liquids	Feb. 11, 1868.
79,030	Thompson, John A., Auburn, N. Y. Machine for grinding mowing machine knives	June 16, 1868.
79,031	Thompson, John A., Bucyrus, Ohio. Machine for cleaning the intestines of slaughtered animals	June 16, 1868.
82,365	Thompson, John A., Auburn, N. Y. Refrigerator and sideboard	Sept. 22, 1868.
75,709	Thompson, John A., assignor to self and Lorenzo W. Nye, Auburn, N. Y. Machine for grinding knives of harvesters	Mar. 17, 1868.
84,719	Thompson, John F., Greensboro, Pa. Hydraulic apparatus	Dec. 8, 1868.
83,110	Thompson, J. J., Richwood, Ohio. Hay rake and loader	Oct. 13, 1868.
83,111	Thompson, J. J., and V. F. Collier, Richwood, Ohio. Cultivator	Oct. 13, 1868.
73,939	Thompson, John M., Saltilloville, Ind. Medical compound	Jan. 28, 1868.
82,179	Thompson, John W. and Francis M., Greenfield, Mass. Bit stock	Sept. 15, 1868.
78,028	Thompson, Joseph M., Rome, N. Y. Salt and sugar evaporator	May 19, 1868.
76,004	Thompson, J. P., Kirkville, Iowa. Washing machine	Mar. 24, 1868.
74,451	Thompson, J. S., Sycamore, Ill. Animal trap	Feb. 11, 1868.
81,842	Thompson, J. W., Bureau Junction, Ill. Churn	Sept. 1, 1868.
80,886	Thompson, M. L., assignor to self and John P. Rittenhouse, Flemington, N. J. Head for barrels	Aug. 11, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
80,031	Thompson, Nathan, Brooklyn, N. Y. Cutting nippers	July 14, 1868.
83,799	Same.....Lantern	Nov. 3, 1868
84,655	Same.....Box to contain cigars, money, &c	Dec. 1, 1868
	Thompson, N. D. (*See* Wilson & Lee, assignors.)	
73,475	Thompson, N. S., Germantown, Ohio. Animal trap	Jan. 21, 1868.
79,087	Thompson, Peter, Sardis, Ohio. Shoe laster	June 23, 1868.
	Thompson, Richard, and Emil T. Hertle. (*See* Hertle & Thompson.)	
76,005	Thompson, Robert B., New York, N. Y. Base-burning stove	Mar. 24, 1868.
75,315	Thompson, R. H. Smith, Georgetown, D. C. Device for preventing water-pipes from bursting	Mar. 10, 1868.
77,678	Thompson, R. M. Coshocton, Ohio. Lifting jack	May 5, 1868.
77,599	Thompson, Samuel, Ballston Spa, N. Y. Method of hanging sieves and screens	Mar. 17, 1868.
76,357	Thompson, Smith, assignor to S. S. Fahnestock, Montgomery County, Md. Mode of attaching shafts to vehicles	Apr. 7, 1868.
81,435	Thompson, Thomas, Buffalo, N. Y. Shingle-bolt machine	Aug. 25, 1868.
76,119	Thompson, William, Dublin, Ireland. Mouth-piece for cigars, &c	Mar. 31, 1868.
79,877	Thompson, William, Worcester, Mass. Latherest	July 14, 1868.
84,319	Thompson, William, Dublin, Ireland. Car-window ventilator. (Patented in England, Nov. 11, 1867)	Nov. 24, 1868.
84,021	Thompson, William, assignor to H. B. Myer, Cleveland, Ohio. Gas machine	Nov. 10, 1868.
73,137	Thompson, William A., New York, N. Y. Machine for treating ores of gold and silver with vapor of mercury	Jan. 7, 1868.
73,267	Thompson, William H., Biddeford, Maine. Roving frame	Jan. 14, 1868.
82,045	Thompson, W. S., and R. Vincent Love, Montgomery, Ala. Method of fastening hames	Sept. 8, 1868.
	Thomson, Edgar L., and John W. Griswold. (*See* Griswold & Thomson.)	
	Thomson, George W. (*See* Baumgras, Peter, assignor.)	(Design.)
83,890	Thomson, John S., and Kelly Girvin, Brooklyn, N. Y. Machines for sizing yarn. (Antedated Oct. 22, 1868)	Nov. 10, 1868.
74,171	Thomson, Samuel, Osceola, Wis. Broadcast seeding machine	Feb. 4, 1868.
	Thomson, Willard, and Eli H. Lord. (*See* Lord & Thomson.)	
82,180	Thorley, Thomas, Southfield, Mich. Cultivator	Sept. 15, 1868.
78,773	Thorn, G. J., Pecatonica, Ill. Windmill	June 9, 1868.
74,776	Thorn, J. W., assignor to self and Charles W. Matthews, Courtland, Ala. Cotton cleaner	Feb. 25, 1868.
75,316	Thorn, Timothy S., South Amboy, N. J. Folding fan	Mar. 10, 1868.
76,554	Thorniley, John, Fallston, Pa. Cooking stove	Apr. 7, 1868.
	Thornley, William, Philadelphia, Pa. Safety washer for securing wheels to axles	(Extension) Sept. 18, 1868.
78,244	Thornton, Matthew, Macon, Ga. Journal box for railroad cars	May 26, 1868.
	Thornton, Matthew, and A. H. Nathans. (*See* Nathans & Thornton.)	
79,163	Thornton, Samuel C., Moorestown, N. J. Railway signal	June 23, 1868.
83,675	Thornton, Sterling C., Macomb, Texas. Combined cultivator, plow, harrow and roller	Nov. 3, 1868.
75,813	Thorp, James B., Warrensville, Ohio. Wood-boring machine	Mar. 24, 1868.
79,088	Thorp, James P., Southington, Conn. Thill coupling	June 23, 1868.
	Thorp, John A., and Cyrus Roberts. (*See* Roberts & Thorp.)	
77,934	Thorp, Joseph W., assignor to self and David F. Brown, Hillsborough, N. H. Tailor's pressing machine	May 12, 1868.
	Thorp, Robert, *et al.* (*See* Monach, James, assignor.)	
74,631	Thorpe, Stillman and Wesley, Turner, Maine. Car coupling	Feb. 18, 1868.
85,346	Thrall, George W., deceased, by Emma Thrall, administratrix, and William L. Rayment, Burlington, Mich. Corn planter	Dec. 29, 1868.
82,258	Thuer, F. Alexander, assignor to Colt's Fire-arms Manufacturing Company, East Hartford, Conn. Revolving fire-arm	Sept. 15, 1868.
77,780	Thunell, Albert I., and John M. Hedstrom, Buffalo, N. Y. Rotary steam engine	May 12, 1868.
76,555	Thurber, William P., Chicago, Ill. Medical compound	Apr. 7, 1868.
	Thurston, Benj. J., and Thomas A. Harrow. (*See* Gibson, Abram J., assignor.)	
77,550	Thurston, Charles H., Marlboro, N. H. Mode of attaching knobs to screws	May 5, 1868.
83,339	Thurston, F. F., Providence, R. I. Attachment for skates	Oct. 20, 1868.
	Thurston, John D., trustee. (*See* Davenport, Joseph D., assignor.)	
84,232	Thurston, J. H., Rainsborough, Ohio. Beehive	Nov. 17, 1868.
	Thurston, J. S. (*See* Bartholomew, Oscar N., assignor.)	
79,878	Thurston, Thomas E., assignor to self and James Kearney, Newark, N. J. File-cutting machine	July 14, 1868.
81,037	Thurston, Thomas J., Lewiston, Me. Ash screen and coal hod combined	Aug. 11, 1868.
78,337	Tibbals, William, South Coventry, Conn. Priming metallic cartridges	May 26, 1868.
78,402	Tibbels, Ewing W., Chester, Pa. Stump extractor	May 26, 1868.
	Tibbets, Edwin A., and J. F. Leslie. (*See* Leslie and Tibbets.)	
	Tibitts, Charles A., and James Haverly. (*See* Haverly & Tibitts.)	
74,632	Tice, Isaac P., New York, N. Y. Windmill	Feb. 18, 1868.
74,633	Same.....Milk rack	Feb. 18, 1868.
84,848	Tice, Solomon, Cincinnati, Ohio. Hydrant	Dec. 8, 1868.
81,961	Tichenor, Anson C., Council Bluffs, Iowa. Car coupling	Sept. 8, 1868.
73,408	Tidd, Jonathan, Woburn, Mass. Machine for softening leather and hides	Jan. 14, 1868.
73,338	Tierney, Daniel, New York, N. Y. Tailor's square	May 26, 1868.
79,032	Tierney, Dennis H., New York, N. Y. Bevel and tapering gauge	June 16, 1868.
84,974	Tierney, Dennis H., Waterbury, Conn. Fastening for neck ties	Dec. 15, 1868.
73,138	Tiffany, Joel, Albany, N. Y. Apparatus for preparing paper stock	Jan. 7, 1868.
	Tiffin Agricultural Works. (*See* Barnes, A. T., assignor.)	
73,268	Tifft, J. D., Cuyahoga Falls, Ohio. Spring bed bottom	Jan. 14, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,944	Tift, George H., Morrisville, Vt. Vegetable washer	May 12, 1868.
77,679	Tift, S. H., Morrisville, Vt. Potato washer	May 5, 1868.
83,423	Tilden, Henry A., New Lebanon, N. Y. Manufacture of vinegar	Oct. 27, 1868.
73,409	Tilden, Howard, Boston, Mass. Lamp	Jan. 14, 1868.
	Same.....(*See* Prouty, Henry W., assignor.)	
85,181	Tileston, William M., New York, N. Y. Paper fastener	Sept. 15, 1868.
73,058	Tillson, Isaiah, South Abington, Mass. Railway chair	Jan. 7, 1868.
77,415	Tilman, Noah H., and D. G. Good, Arcanum, Ohio. Table fan and caster stand	Apr. 28, 1868.
	Tilton, Calvin R., and Preston Ware. (*See* Ware & Tilton.)	
81,310	Tilton, Francis W., and Moses C. Swift, New Bedford, Mass. Clothes-line supporter (Antedated Aug. 12, 1868)	Aug. 18, 1868.
75,600	Tilton, Frederick W., Moline, Ill. Seed-planting machine. (Antedated March 7, 1868)	Mar. 17, 1868.
75,601	Same.....Bristol Station, Ill. Seed sower. (Antedated March 7, 1868)	Mar. 17, 1868.
83,660	Tilton, Jeremiah C., Sanbornton Bridge, N. H. Composition for dressing hair	Sept. 29, 1868.
74,258	Tilton, John S., Philadelphia, Pa. Sleeve for brushes	Feb. 11, 1868.
74,634	Tilton, Leonard, Brooklyn, E. D., N. Y. Machine for bundling kindling wood	Feb. 18, 1868.
80,241	Same.....Wood-splitting machine	July 21, 1868.
73,674	Timby, Theodore R., Saratoga, N. Y. Paper cutter	Jan. 21, 1868.
74,453	Timmons, William W., assignor to Almeth White, Rahway, N. J. Soda water bottle	Feb. 11, 1868.
	Timson, E. H., *et al.* (*See* Parrott & Timson.)	
76,850	Tineh, Edward T., assignor to self and George R. Harris. Salem, Ind. Washing machine	Apr. 14, 1868.
	Tindall, G. G., and H. M. Shaw. (*See* Shaw and Tindall.)	
83,121	Tindall, Henry, Chicago, Ill. Process of roasting and chloridizing ores	Oct. 13, 1868.
83,122	Same.....Furnace for roasting and chloridizing ores.	
	Tingley, Albert H., Providence, R. I. Machine for sawing stone and marble. (Extension)	July 16, 1868.
74,259	Tingly, John, Philadelphia, Pa. Ice-cream freezer	Feb. 11, 1868.
74,954	Tingley, John, assignor to Philadelphia Wood and Hollow Ware Manufacturing Company, Philadelphia, Pa. Churn	Feb. 25, 1868.
81,843	Tingley, John, assignor to self and Samuel L. Davis, Philadelphia, Pa. Tightening band for vessels	Sept. 1, 1868.
	Tingley, Lucas D., and Henry Felthoff. (*See* Felthoff & Tingley.)	
73,675	Tipton, John, Malaga, Ohio. Hoof expander	Jan. 21, 1868.
73,554	Tipton, John, and J. Carl, assignors to John Tipton, Malaga, Ohio. Boot crimp	Jan. 21, 1868.
74,635	Tisdale, Josiah, South Dedham, Mass. Peat machine	Feb. 18, 1868.
77,334	Titcomb, R. S., Gloversville, N. Y. Folding bedstead or crib	Apr. 28, 1868.
81,227	Titcomb, Smith, Amesbury, Mass. Carriage	Aug. 18, 1868.
76,851	Tittle, Daniel J., assignor to Abbie M. Tittle, Albany, N. Y. Machine for raking potatoes	Apr. 14, 1868.
79,282	Same.....Horse power	June 23, 1868.
	Titus & Bostwick. (*See* Mood, Lynfred, assignor.)	
80,032	Titus, Charles, Union, Me. Dressing barrels	July 14, 1868.
	Titus, C. M. (*See* Bergstresser, E. L., assignor) .....(Reissue.)	
74,864	Titus, Hiram A., Gloversville, N. Y. Bread and vegetable cutter	Feb. 25, 1868.
80,033	Toan, John S., King's Ferry, N. Y. Horseshoe	July 14, 1868.
83,568	Toay, James, Mineral Point, Wis. Harvester	Oct. 27, 1868.
78,844	Tobey, Elisha H., assignor to self and A. R. Hale, Bridgeport, Conn. Device for raising and lowering windows	June 9, 1868.
83,112	Same.....Sash lock	Oct. 13, 1868.
	Tobey, W. R. (*See* Barealo, Myron J., assignor.)	
84,656	Toby, William R., Nunda, and Myron J. Barealo, Mt. Morris, N. Y. Revolving harrow	Dec. 1, 1868.
74,017	Todd, Asahel, jr., assignor to self, A. F. Sheldon, John S. Todd, T. S. Ledyard, and L. S. Cuyler, Pultneyville, N. Y. Construction of fence	Feb. 4, 1868.
74,018	Same.....same.	Feb. 4, 1868.
74,636	Todd, A. W, Chicago, Ill. Frame for supporting and moving cloth to be creased	Feb. 18, 1868.
	Todd, G. and W. & Company. (*See* Stanley, Henry, assignor.)	
	Todd, Paul P. (*See* Galbraith, Edward A., assignor.)	
74,955	Toll, Jose, Locust Grove, Ohio. Churn	Feb. 25, 1868.
81,814	Tollner, Charles, Pulaski, N. Y. Smoking pipe	Sept. 1, 1868.
78,554	Tomlinson, N. L. New York, N. Y. Machine for making tree nails	June 2, 1868.
80,784	Tomlinson, Robert K., Brownsburg, Pa. Washing and wringing machine	Aug. 4, 1868.
	Tompkins, A. J. (*See* Kennedy, George, assignor.)	
77,129	Tompkins, Charles R., and John Wright, Rochester, N. Y. Saw-mill	Apr. 21, 1868.
	Tompkins, Clark. (*See* Ward, Benjamin, assignor.)	
83,891	Tompkins, Robert F., and Hugh T. Williams, New York, N. Y. Mitering machine	Nov. 10, 1868.
81,436	Thompson, Thomas, jr., New York, N. Y. Fire escape	Aug. 25, 1868.
80,242	Tongue, Samuel J., assignor to self and Jabez Jenkins, Philadelphia, Pa. Mineing cleaver	July 21, 1868.
	Tonner, A. C., *et al.* (*See* Buckius, George H., assignor.)	
	Same.....same.	
	Same.....(*See* Yates, Wm., assignor.)	
75,317	Toof, Edwin J., Fort Madison, Iowa. Lamp extinguisher	Mar. 10, 1868.
76,318	Same.....Wick regulator	Mar. 10, 1868.
77,130	Same.....Try square. (Antedated April 11, 1868)	Apr. 21, 1868.
77,131	Same.....Paper stamp and inkstand combined	Apr. 21, 1868.
78,158	Same.....Pencil holder	May 19, 1868.
80,843	Same.....Madison, Iowa. Lamp burner	Aug. 11, 1868.
84,917	Same.....Fort Madison, Iowa. Horse rake	Dec. 15, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,959	Toomey, Samuel, Wilmot, Ohio. Shifting rail for carriage seats	Apr. 21, 1868.
77,680	Same.....Mode of constructing carriage wheels	May 5, 1868.
83,800	Topping, George, Chicago, Ill. Mitten	Nov. 3, 1868.
84,518	Torney, P. J., Washington, D. C. Machine for sawing marble	Dec. 1, 1868.
81,560	Torpey, Alfred A., Chicago, Ill. Brick press	Aug. 25, 1868.
81,228	Torrey, E. S., New York, N. Y. Weather strip	Aug. 18, 1868.
	Torrey, E. S. and J. (*See* Gilroy, Washington L., assignor).....(Reissue.)	
75,710	Torrey, J. W., assignor to self and John S. Johnson, Milford, Mass. Protector for the body	Mar. 17, 1868.
85,256	Torstrick, Henry, New York, N. Y. Bone, coal, and other filters	Dec. 22, 1868.
78,159	Toselli, Jean Baptiste, France. Apparatus for freezing	May 19, 1868.
76,556	Tostevin, Thomas, Council Bluffs, Iowa. Cutter-head for wood planing machines	Apr. 7, 1868.
80,519	Totheroh, William, Reading, Pa. Lamp	July 28, 1868.
84,395	Totten, C. Arthur, Hudson, N. J. Wash boiler	Nov. 24, 1868.
83,569	Totten, P. R., Adams, Ill. Cultivator	Oct. 27, 1868.
	Totten, Robert C. (*See* Reese, Jacob, assignor.)	
85,492	Touzet, J. C. France. Apparatus for manufacturing shoes	Dec. 29, 1868.
78,798	Tower, Ambrose, New York, N. Y. Pen and pencil holder	June 9, 1868.
73,139	Towers, William H., Boston, Mass. Water-proof fabric for the manufacture of traveling bags, trunks, carriage tops, and other articles	Jan. 7, 1868.
84,149	Same.....Hoop skirt	Nov. 17, 1868.
	Towle, Hamilton E. (*See* Humaston, John P., assignor.)	
77,681	Towle, Robert W., Searsport, Me. Handle for smoothing iron	May 5, 1868.
78,494	Towles, William P., Baltimore, Md. Suspender	June 2, 1868.
83,341	Towndrow, Josephus Smith, assignor to W. P. Humphrey, Moline, Ill. Pocket drinking cup	Oct. 20, 1868.
73,476	Towne, Alban N., Chicago, Ill. Expanding felloes and tightening spokes	Jan. 21, 1868.
73,477	Same.....Coal box stove	Jan. 21, 1868.
73,940	Same.....Car replacer	Jan. 28, 1868.
80,034	Same.....Lock nut	July 14, 1868.
83,801	Same.....Music stool and rack	Nov. 3, 1868.
84,022	Towne, William J., assignor to Silver Lake Manufacturing Company, Newtonville, Mass. Packing for joints of steam engines	Nov. 10, 1868.
	Townsend, G. F., *et al.* (*See* Hoffman, Austin D., *et al.*)	
75,602	Townsend, G. G., Rochester, N. Y. Shoe-knife guard	Mar. 17, 1868.
84,720	Same.....Metal last	Dec. 8, 1868
	Trabue, G. F., *et al.* (*See* Coulter, Trabue & Lowrey.)	
74,865	Tracy, Harriet Ruth, New York, N. Y. Crib attachment for bedsteads	Feb. 25, 1868
82,182	Tradenick, Richard H., Pittsburg, Pa. Lubricator	Sept. 15, 1868.
78,029	Trainer, James, Vinton Station, Ohio. Animal trap	May 19, 1868.
	Trainham, W. H., and J. B. Winston. (*See* Bragg, W. N., assignor.)	
	Trall, R. T. (*See* Long, R. H., assignor.)	
73,269	Trapp, William W., assignor to Tobias Kohn, Hartford, Conn. Machinery for polishing thread	Jan. 14, 1868.
82,661	Trapp, William W., assignor to Tobias Kohn, Hartford, Conn. Polishing thread	Sept. 29, 1868.
77,335	Traub, Frederick, Philadelphia, Pa. Operating the harness in looms	Apr. 28, 1868.
82,769	Traut, Justus A., assignor to the Stanley Rule & Level Company, New Britain, Conn. Adjusting spirit levels	Oct. 6, 1868.
	Traut, J. A. and H. Richards. (*See* Richards & Traut.)	
	Traver, James, *et al.* (*See* Anthony, Cornelius, assignor.)	
85,189	Travis, Dudley W., Enfield, N. Y. Corn cultivator	Dec. 22, 1868.
3,235	Travis, James F., New York, N. Y. Branch for gasalier.....(Design)	Nov. 10, 1868.
3,256	Same.....same.....(Design)	Nov. 17, 1868.
84,975	Same.....Chandelier	Dec. 15, 1868.
3,124	Travis, James F., assignor to Archer, Pancoast & Company, New York, N. Y. Gasalier.....(Design)	July 21, 1868.
	Treadwell, A. G., and George Butterfield. (*See* Butterfield & Treadwell.)	
73,851	Treadwell, Bradley, Reading, Conn. Insect guard for horses	Jan. 28, 1868.
84,320	Tremain, Charles W., Chicago, Ill. Boiler tube scraper	Nov. 24, 1868.
	Tremain, Porter. (*See* Russell, E. P., assignor.)	
73,059	Treman, Lafayette L., Ithaca, N. Y. Windlass	Jan. 7, 1868.
74,454	Tremper, John, Wilmington, Del. Steam generator	Feb. 11, 1868.
	Trenchard, J. F. (*See* Sink, Thomas P., assignor.)	
76,557	Trent, Joseph, Millerton, N. Y. Volute spring	Apr. 7, 1868.
	Tressel, J. H. (*See* Moore, Freeman, assignor.)	
82,893	Trill, C. F., Baltimore, Md. Steam generator	Oct. 6, 1868.
75,603	Trimble, George W., assignor to self, E. Hughes, and Wesley Buckel, Bloomsburg, Pa. Miner's lamp	Mar. 17, 1868.
	Trimble, Isaac R., Long Green, Md. Wooden splice-piece for railways. (Extension	Oct. 7, 1868.
	Trimmer, Paul, and Levi Scott. (*See* Scott & Trimmer.)	
74,732	Tripp, Nicholas, Niagara Falls, N. Y. Vibrating lever power	Feb. 18, 1868.
81,707	Tripp, S. D., Lynn, Mass. Reversing cutting machine. (Antedated Aug. 20, 1868)	Sept. 1, 1868.
77,614	Tripp, William, Epsom, N. H. Wood saw horse	July 7, 1868.
	Trippe, James M. (*See* Matteson, Elisha, assignor.)	
83,802	Tromly, Michael, Mt. Vernon, Ill. Clock movement	Nov. 3, 1868.
85,233	Same.....Washington, D. C. Gun-lock	Nov. 17, 1868.
	Trotter, Charles W., and Bartholomew Gommenginger. (*See* Gommenginger & Trotter.)	
77,417	Trowbridge, Newton, Tully, N. Y. Washing machine	Apr. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,418	Trowbridge, Newton, and Edward Richardson, Tully, N. Y. Roofing cement	Apr. 28, 1868.
75,319	Trowbridge, William, New Orleans, La. Cotton-bale tie	Mar. 10, 1868.
83,008	Trowbridge, W. O., assignor to Mason & Hamlin Organ Company, Newton Corner, Mass. School desk and musical instrument	Oct. 13, 1868.
73,410	Troxell, John P., Hancock, Md. Sausage stuffer	Jan. 14, 1868.
78,555	Troxell, John P., assignor to self and Samuel H. Davis, Hancock, Md. Sausage stuffer	June 2, 1868.
	Truby, John W., and Isaac Roush. (*See* Roush & Truby.)	
80,683	True, George S., Leavenworth, Kansas. Label holder	Aug. 4, 1868.
	True, N. S., and E. F. Percival. (*See* Percival & True.)	
81,561	Truesdale, Charles, assignor to self and William Resor & Company, Cincinnati, Ohio. Cupola and blast furnace	Aug. 25, 1868.
76,558	Truesdell, L. E., Chicago, Ill. Bridge	Apr. 7, 1868.
78,403	Same.....Lock-bar for bridges	May 26, 1868.
	Truex, J. H., and O. Forsyth. (*See* Forsyth & Truex,)	
74,455	Trullinger, John C., Oswego, Oregon. Water wheel	Feb. 11, 1868.
84,396	Trumbore, Samuel, Easton, Pa. Governor for steam-engines	Nov. 24, 1868.
	Trumbull, George, and Richard Walker. (*See* Walker & Trumbull.)	
82,894	Trump, S. N., Baltimore, Md. Tea tray	Oct. 6, 1868.
79,414	Truslow, Edward, New York, N. Y. Bag tie	June 30, 1868.
80,035	Truxell, A. J., Salem, Va. Lard press and sausage stuffer	July 14, 1868.
	Truxell, A. J., and J. W. Neal. (*See* Neal & Truxell.)	
80,036	Tyron, J. R., La Crosse, Wis. Compound for welding	July 14, 1868.
	Tuck, Joseph Henry, Brooklyn, N. Y. Packing for stuffing boxes, &c. (Extension)	Aug. 24, 1868.
3,037	Tucker, Charles L., Chicago, Ill. Manufacture and preservation of lard. (Division A, reissue)	July 14, 1868.
3,038	Same.....Manufacture of lard.....(Division B, reissue)	July 14, 1868.
3,039	Same.....Process of putting up lard for storage and transportation. (Division C, reissue)	July 14, 1868.
81,229	Same.....Cementing and strengthening boxes for packing lard and other substances	Aug. 18, 1868.
84,657	Same.....Box for lard, butter, and similar substances	Dec. 1, 1868.
77,682	Tucker, G. W., Elba Township, Ill. Gate	May 5, 1868.
3,081	Tucker, Hiram, assignor through mesne assignments to the Tucker Manufacturing Company, Boston, Mass. Spring-bed bottom.....(Reissue)	Aug. 11, 1868.
83,009	Tucker, Jesse, and Abel B. Palmer, Adrian, Mich. Water wheel	Oct. 13, 1868.
85,257	Tucker, John E., assignor to self, Lewis Bonney, and Joseph C. Snow, Boston, Mass. Faucet	Dec. 22, 1868.
	Tucker, John E., and Henry Sutcliff. (*See* Smith, W. C., assignor.)	
84,721	Tucker, Stephen D., New York, N. Y. Machine for grinding circular saws	Dec. 8, 1868.
85,411	Same.....Machine for coating the surface of electrotype molds with plumbago	Dec. 29, 1868.
85,493	Same.....Printing press	Dec. 29, 1868.
	Tucker, Stephen D., and R. M. Hoe. (*See* Hoe & Tucker.)	
80,243	Tucker, Sydney D., Troy, N. Y. Cloth plaiting attachment for sewing machines	July 21, 1868.
80,684	Tucker, Washington H., Sunman, Ind. Wagon brake	Aug. 4, 1868.
	Tucker, William, and Theodore Snell. (*See* Snell & Tucker.)	
	Tucker, William, and Emery Andrews. (*See* Andrews & Tucker.)	
84,658	Tucker, William B., Columbus, Ohio. Churn	Dec. 1, 1868.
83,225	Tudor, Frederic, Boston, Mass. Screw bolt	Oct. 20, 1868.
83,113	Tufts, Augustus, Malden, Mass. Diaphragm bellows for dry gas meter. (Antedated Oct. 3, 1868)	Oct. 13, 1868.
77,336	Tufts, Joshua, Athens, Ohio. Steam pumping engine	Apr. 28, 1868.
82,662	Tull, J. W., and G. Stevenson, Zionsville, Ind. Boot and shoe heel	Sept. 29, 1868.
78,621	Tuller, Homer, Ash Grove, Ill. Beehive	June 2, 1868.
85,258	Tunbridge, John, Newark, N. J. Method of extracting gold and silver from their ores	Dec. 22, 1868.
75,222	Tunison, John C., Decatur, Ill. Stationary spittoon for cars	Mar. 3, 1868.
83,424	Tunstall, J. B., Boydton, Va. Hydraulic press	Oct. 27, 1868.
81,038	Tunstill, William, Paterson, N. J. Braiding machine	Aug. 11, 1868.
	Tupper, L. B. (*See* Vandercar, John, assignor.)	
84,321	Tupper, Newell, Grand Blanc, Mich. Adjustable flood gate	Nov. 24, 1868.
	Turchin, John B. (*See* Mariner, George A., assignor.)	
77,781	Turel, Jules, Kendallville, Ind. Mode of lettering marble	May 12, 1868.
	Turley, J., *et al.* (*See* Milroy, Vaughn & Turley.)	
82,567	Turley, Marshall, Council Bluffs, Iowa. Steam generator	Sept. 29, 1868.
	Turnbull, John M. (*See* Dryden, W. A., assignor.)	
	Turner, Andrew H., and Anderson H. Piland. (*See* Piland & Turner.)	
76,274	Turner, Chester, Grand Rapids, Mich. Water meter or motor	Mar. 31, 1868.
74,172	Turner, Chester B., Grand Rapids, Mich. Rotary steam-engine	Feb. 4, 1868.
	Turner, Dewitt C., and Hiram Moon. (*See* Moon & Turner.)	
77,935	Turner, D. H., New York, N. Y. Apparatus for cooling and purifying bone black	May 12, 1868.
3,257	Turner, Edwin H., Quincy, Ill. Trade mark.....(Design)	Nov. 17, 1868.
	Turner, Elisha. (*See* Adt, F., assignor.)	
	Same.....(*See* Hotchkiss, Leander, assignor.)	
83,342	Turner, Enoch B., Providence, R. I. Horseshoe machine	Oct. 20, 1868.
	Turner, Enoch B., and John Groves. (*See* Groves & Turner.)	
73,676	Turner, Henry, New York, N. Y. Feeding apparatus for flocking machines	Jan. 21, 1868.
75,814	Turner, Henry, assignor to self and Mellen Bray, Boston, Mass. Spring chain	Mar. 24, 1868.
81,845	Turner, John, Norwich, Conn. Machine for covering cord. (Antedated Aug. 25, 1868)	Sept. 1, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Turner, Jonathan S., New Haven, Conn. Alarm clock.....(Extension)..	Sept. 8, 1868
	Turner, Malcolm C. (*See* Lapham & Pratt, assignors.)	
79, 415	Turner, Peter B., Quincy, Mass. Bracket for shingle roofs.....	June 30, 1868
80,098	Turner, Reuben C., Mendon, Mich. Machine for cutting leather filling and other purposes.....	July 21, 1868.
	Turner, Seymour & Judds. (*See* Seymour, Frederick J., assignor)...(Reissue.)	
	Same.....(*See* Judd & Smith, assignors).....(Design)	
	Turner, Sidney S. Westboro, Mass. Sewing machine.....(Extension)..	Aug. 17, 1868.
80, 785	Turner, William F., Philadelphia, Pa. Umbrella.....	Aug. 4, 1868
75, 604	Turpie, David, assignor to the Boston & Sandwich Glass Company, Sandwich, Mass. Glass mold.....	Mar. 17, 1868.
85, 190	Turrell, George B., New York, N. Y. Cooler for beer and other liquids.....	Dec. 22, 1868.
	Tute, Rensalaer, *et al.* (*See* Locke, Charles S., assignor.)	
76, 275	Tuttle, S. D., Eaton, Ohio. Subsoil plow.....	Mar. 31, 1868.
	Tuttle, S. D., *et al.* (*See* Abbott, Tuttle & Holt.)	
74, 173	Tuttle, S. E., Genoa, Nev. Apparatus for raising heavy weights.....	Feb. 4, 1868.
83, 803	Tuttle, William, Boston, Mass. Street railway switch.....	Nov. 3, 1868.
	Tweed, Henry A., and J. Ashton Greene. (*See* Blake, G. W., assignor).(Reissue.)	
	Same.....same.....(Reissue.)	
73, 677	Twigg, George, Birmingham, England. Corkscrew.....	Jan. 21, 1868.
74, 019	Twining, Alexander C., New Haven, Conn. Caster. (Antedated Jan. 8, 1868)..	Feb. 4, 1868.
75, 080	Same.....Socket for casters.....	Mar. 3, 1868.
76, 559	Same.....Railway signal and alarm.....	Apr. 7, 1868.
76, 006	Twining, William E., Morrison, Ill. Car coupling.....	Mar. 24, 1868.
	Twitchell, C. S., and H. S. Golightly. (*See* Golightly & Twitchell.)	
79, 789	Twombly, Orison, Holderness, N. H., and William Noyes, jr., Newburyport, Mass. Knitting machine.....	July 7, 1868.
84, 918	Tyler, Charles N., New York, N. Y. Wash boiler.....	Dec. 15, 1868.
83, 892	Tyler, Charles N. and Augusta C., Buffalo, N. Y. Crimping pin.....	Nov. 10, 1868.
77, 337	Tyler, E. D., Gibson, Pa. Fellœ dowel pin.....	Apr. 28, 1868.
3, 015	Tyler, John, West Lebanon, N. Y. Water wheel.....(Reissue)..	June 30, 1868.
3, 018	Same.....same.....(Reissue)..	June 30, 1868.
	Tyler, N. P. (*See* Lawrenee, C. H., assignor.)	
83, 804	Tyler, P. Shelton, Boston, Mass. Paper boat.....	Nov. 3, 1868.
	Tyler, P. Shelton, and Francis E. Boyd. (*See* Boyd & Tyler.)	
	Same.....same.....(Reissue.)	
83, 805	Tyler, R. W., Wayne, Mich. Saw-set.....	Nov. 3, 1868.
79, 705	Tyler, Salmon E., assignor to self and William S. Stephens, Beloit, Wis. Spring-bed bottom.....	July 7, 1868.
	Tyler, S. E., and W. M. Jones. (*See* Jones & Tyler).....(Reissue.)	
	Same.....same.....(Reissue.)	
82, 569	Tyler, Thomas G., New York, N. Y. Awning.....	Sept. 29, 1868.
80, 685	Tyler, T. W., Corry, Pa. Churn dasher.....	Aug. 4, 1868.
74, 866	Tyng, Levi B., Lowell. Mass. Skate.....	Feb. 25, 1868.
79, 089	Tyrrell, Robert, Sumner, Ill. Tire-bending machine.....	June 23, 1868.
78, 030	Tyson, Charles S., Old Point Comfort, Va. Gun carriage.....	May 19, 1868.
75, 711	Tyson, James P., Philadelphia, Pa. Carriage thill.....	Mar. 17, 1868.
78, 699	Tyzick, James, St. John, N. B. Nail extractor.....	June 9, 1868.
82, 568	Tyziek, James, and Henry W. Eskildson, New York, N. Y. Nail extractor.....	Sept. 29, 1868.
80, 244	Ucker, Thomas, and A. Hutchins, Amanda, Ohio. Corn and cob mill.....	July 21, 1868.
	Udall, J. E., and J. B. Lewis. (*See* Lewis & Udall.)	
	Uecke, William, and Hermann Koeller. (*See* Koeller & Uecke.)	
81, 708	Uhl, John, Brooklyn, N. Y. Saw-set.....	Sept. 1, 1868.
	Uhl, W., *et al.* (*See* Sutton, Sedgwiek A., assignor.)	
3, 297	Uhlinger, W. P., Philadelphia, Pa. School desk.....(Design)..	Dec. 22, 1868.
83, 570	Uitting, Leonhardt, assignor to self, G. Massa, Ch. Ammlung, and H. Zimmerman, Philadelphia, Pa. Hasp for trunk locks.....	Oct. 27, 1868.
	Uline, Andrew B., and Gardenir G. Kidder. (*See* Moore, Jasper P., assignor.)	
	Same.....(*See* Mann & Terry, assignors.)	
74, 867	Ullman, Sigmund, New York, N. Y. Envelope.....	Feb. 25, 1868.
81, 962	Same.....same.....	Sept. 18, 1868.
81, 963	Same.....same.....	Sept. 18, 1868.
75, 657	Ullmann, Charles T., New York, and Marcus Boekman, Brooklyn, N. Y. Hand engine.....	Mar. 17, 1868.
	Ulrich, J., *et al.* (*See* Nacher, Jacob, assignor.)	
	Ulrieh, William, and Julius Bein. (*See* Bein & Ulrich.)	
80, 433	Umbaeh, John, Kankakee, Ill. Constructing baek pads to harness.....	July 28, 1868.
77, 551	Umpleby, Joseph F., Albany, N. Y. Needle book.....	May 5, 1868.
84, 519	Underhill, Edward F., New York, N. Y. Device for attaching vines to trellises..	Dec. 1, 1868.
82, 453	Underkuffler, Nathaniel S., Norristonville, Pa. Sausage stuffer and lard press...	Sept. 22, 1868.
85, 412	Underwood, F. J., assignor to B. D. Buford, Rock Island, Ill. Cultivator.....	Dec. 29, 1868.
3, 094	Underwood, George L., Boston, Mass. Card basket.....(Design.)	July 21, 1868.
3, 125	Same.....Picture frame.....(Design.)	July 21, 1668.
3, 126	Same.....same.....(Design.)	July 21, 1868.
3, 127	Same.....same.....(Design.)	July 21, 1868.
3, 128	Same.....Ink tray.....(Design.)	July 21, 1868.
3, 129	Same.....same.....(Design.)	July 21, 1868.
81, 562	Underwood, James C., Surry C. H., Va. Machine for picking and cleaning peanuts.....	Aug. 25, 1868.
78, 700	Underwood, John, Muscatine, Iowa. Harvester rake.....	June 9, 1868.
82, 770	Underwood, Lester, Ottawa, Ill. Hay raker and loader.....	Oct. 6, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Unger, Gustav, and Jacob Silbermann. (*See* Silbermann & Unger.)	
	Same .....same.	
	Unger, Oswald. (*See* Pohl, Richard, assignor.)	
	Union Comb Company. (*See* Brown, George F. H., assignor.)	
	Union Hardware Company. (*See* Migeon, A. F., assignor.)	
	Union Manufacturing Company. (*See* Shepard, Amos, assignor.)	
	Union Metallic Cartridge Company. (*See* Edwards, Amory, assignor)...(Design.)	
	Union Nut Company. (*See* Savage, Julius B., assignor).....(Reissue.)	
	Union Steam Valve Company. (*See* Barden, John S., assignor.)	
	United States Pin Company. (*See* Fowler, Thaddeus, assignor.)	
	Universal Pump and Manufacturing Company. (*See* Fryer, Robert M., assignor.)	
73,852	Unvezagt, Clemens, Terre Haute, Ind. Hand loom	Jan. 28, 1868.
82,454	Upham, George William, Amherst, N. H. Cement	Sept. 22, 1868.
	Upham, James P., *et al.* (*See* Fuller, Jim B., assignor.)	
82,046	Upshur, Thomas H. W., Norfolk, Va. Medical compound	Sept. 8, 1868.
	Upton, George B., *et al.* (*See* Ehrhardt, L. H. G., assignor.)	
77,419	Upton, James S., Battle Creek, Mich. Grain separator	Apr. 28, 1868.
82,455	Same.....Shaft coupling	Sept. 22, 1868.
79,034	Uren, Richard, and John Walker, assignors to selves and John Uren, Houghton, Mich. Stamp mill	June 16, 1868.
73,209	Urie, James, Evansville, Ind. Plow	Jan. 7, 1868.
85,148	Urie, Thomas, Springfield, Iowa. Wagon brake	Dec. 22, 1868.
77,682	Ustick, Stephen, assignor to George L. Miller, Philadelphia, Pa. Pea sheller	May 5, 1868.
80,245	Ustick, William W., La Crosse, Wis. Apparatus for cutting and mitering printers' rules	July 21, 1868.
82,895	Utley, Albert M., H. N. Kimball, and William Reynolds, Watertown, N. Y. Boxing, bandaging, and preparing cheese	Oct. 6, 1868.
78,339	Utley, Gabriel, Chapel Hill, N. C. Plow	May 26, 1868.
77,852	Utley, Grey, Charlotte, N. C. Hay and cotton press	May 12, 1868.
81,571	Vail, Alexander, Henry, Ill. Plow	Aug. 25, 1868.
	Vail, Alexander H., and Thomas Hull. (*See* Hull & Vail.)	
	Vail, E. Wright, *et al.* (*See* Allaire, Seamen, assignor.)	
83,744	Vaill, E. W., Worcester, Mass. Folding chair	Nov. 3, 1868.
	Same.....(*See* McAleer, George, assignor.)	
79,615	Vale, Joseph, Beloit, Wis. Bake oven	July 7, 1868.
84,919	Valentine, John, and Henry B. Stevens, Buffalo, N. Y. Clothes-line reel	Dec. 15, 1868.
76,276	Valentine, W. P., Buffalo, N. Y. Roofing compound	Mar. 31, 1868.
79,616	Same.....Refining and purifying spiritous liquors	July 7, 1868.
80,786	Valetton, Louis D., assignor to Hensel, Reichert, Wolff & Company, Philadelphia, Pa. Loom for weaving fringe	Aug. 4, 1868.
76,560	Valliquette, John B., Chicago, Ill. Bridge	Apr. 7, 1868.
	Valois, Louis, and Albert Kazenmayer. (*See* Kazenmayer & Valois.)	
81,563	Van Alstine, C. C. E., New Haven, Conn. Casting chains	Aug. 25, 1868.
85,149	Van Amringe, G. E., New York, N. Y. Tube for steam generators	Dec. 22, 1868.
85,347	Van Anden, William, Poughkeepsie, N. Y. Railway rail chair	Dec. 29, 1868.
80,037	Van Ansdall, Baker, Keokuk, Iowa. Boot sole. (Antedated July 6, 1868)	July 14, 1868.
84,920	Van Benthuysen, Henry B., Emporium, Pa. Base-burning stove	Dec. 15, 1868.
	Van Buren, Alexander L., *et al.* (*See* Mallary, G. H., assignor.)	
74,733	Van Camp, A., Washington, D. C. Preserving eggs	Feb. 18, 1868.
74,174	Vance, R. L., St. Louis, Mo. Vinegar still	Feb. 4, 1868.
76,277	Vance, Samuel B. H., assignor to Mitchell, Vance & Co., New York, N. Y. Cock for gas burners	Mar. 31, 1868.
79,521	Vance, Samuel B. H., and Edgar M. Smith, assignors to Mitchell, Vance & Co., New York, N. Y. Composition clock case	June 30, 1868.
84,322	Vance, William H., New Corydon, Ind. Compound for treating ring-bone, spavin, &c., in horses	Nov. 24, 1868.
	Vandecar, Bennet, and Charles Payne. (*See* Payne & Vandecar.)	
	Vandegrift, J., and M. Richards. (*See* Richards & Vandegrift).....(Reissue.)	
73,140	Vandegrift, J. N. and S. T., S. D. French, and E. S. Stone, Wabash, Ind. Car coupling	Jan. 7, 1868.
84,659	Vandemark, A. B., Phelps, N. Y. Combination lock	Dec. 1, 1868.
84,660	Vanderbilt, W. W., New York, N. Y. Operating capstans	Dec. 1, 1868.
74,637	Vandrear, John, assignor to Thaddeus B. Beecher, Brooklyn, N. Y. Boot-blacking apparatus	Feb. 18, 1868.
80,844	Vandrear, John, assignor to L. B. Tupper, Brooklyn, N. Y. Fire grate	Aug. 11, 1868.
	Vandercook, Alfred E. and Oscar, *et al.* (*See* Porter, Benjamin, assignor.)	
	Vandercook, Charles H., and Charles S. Chaffee. (*See* Chaffee & Vandercook) (Design.)	
82,896	Vanderpool, Medders, Polk County, Oregon. Grain harvester	Oct. 6, 1868.
81,119	Vanderslice, Isaac, Philadelphia, Pa. Milk can	Aug. 18, 1868.
73,478	Vandersliee, William K., jr., San Francisco, Cal. Cigar holder	Jan. 21, 1868.
81,230	Vandervoer, Benjamin D., and Daniel Riddel, Freehold, N. J. Potato digger	Aug. 18, 1868.
81,231	Vander Weide, Michel, assignor to Cassius M. Clay, Russia. Submarine lantern	Aug. 18, 1868.
74,175	Vander Weyde, P. H., Philadelphia, Pa. Mode of preparing ærated liquids. (Antedated Jan. 27, 1868)	Feb. 4, 1868.
81,232	Vander Weyde, P. H., assignor to Alfred Phillips and John MacDougall, New York, N. Y. Apparatus for the manufacture of illuminating gas	Aug. —, 1868.
83,676	Vande Sande, Peter, assignor to self and Stephen Coleman, Rochester N. Y. Machine for cutting meat and other articles	Nov. 3, 1868
	Van Deusen, J. B., and John Powers. (*See* Powers & Van Deusen.)	
84,594	Van Doren, Francis, Adrian, Mich. Corn planter	Dec. 1, 1868
84,595	Same.....Shingle stool	Dec. 1, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
2,871	Van Doren, Isaac, assignor through mesne assignments to Andrew J. Holman, Philadelphia, Pa. Rake for harvesters ..... (Reissue)	Feb. 18, 1868
82,183	Vanduzer, John D., Tyrone, N. Y. Sewing machine	Sept. 15, 1868
	Van Dyne, J. B., *et al.* (*See* Grant, Van Dyne & Pugh.)	
85,413	Van Etten, H. V., Auburn, N. Y. Device for catching and holding domestic animals	Dec. 29, 1868
80,246	Van Fleet, A., Ashton, Ill. Horse-collar fastening	July 21, 1868
78,701	Van Gieson, A. H., deceased, by A. E. Van Gieson, administrator, assignor to Newark Patent Leather Co., Newark, N. J. Knife for splitting leather	June 9, 1868
75,320	Van Gieson, W. H., Passaic, N. J., and John J. Crooke, New York, N. Y. Machine for making butt hinges	Mar. 10, 1868
84,023	Van Guysling, Aaron, West Albany, N. Y. Railway chair and support	Nov. 10, 1868
82,771	Van Hagen, Isaac, Chicago, Ill. Die for stamping stove-pipe dampers	Oct. 6, 1868
83,806	Van Hoesen, William S., Saugerties, N. Y. Mop-head and scrubbing brush	Nov. 3, 1868.
78,340	Van Hoevenbergh, James D., Kingston, N. Y. Carriage	May 26, 1868.
83,343	Same.....Spring adjuster	Oct. 20, 1868.
79,530	Van Horn, John B., Trenton, N. J. Clamp for wood-bending machines	June 30, 1868
81,120	Van Horn, Joseph S., and W. H. Pack, Jersey City, N. J. Spring slat bed bottom	Aug. 18, 1868
83,807	Van Kannel, T., Cincinnati, Ohio. Ticket case	Nov. 3, 1868
78,622	Van Kersen, Izaak, Kalamazoo, Mich. Mode of transporting loose prairie fence by wheels	June 2, 1868
80,247	Van Norman, Arthur, Detroit, Mich. Potato digger	July 21, 1868
83,808	Van Norman, Jacob, and William Young, Easton, Pa. Rain-water cut-off	Nov. 3, 1868
76,561	Van Nortwick, James H., Sturgis, Mich. Windmill	Apr. 7, 1868
82,047	Same.....Saw filing machine	Sept. 8, 1868
2,873	Van Order, Abram, Ithaca, N. Y. Construction of boats ..... (Reissue)	Feb. 18, 1868.
81,846	Vanorman, Oliver, Ripon, Wis. Seat for vehicles	Sept. 1, 1868
78,341	Van Ornum, A. J., Hartford, Vt. Wood turning lathe	May 26, 1868
81,964	Van Orsdale, Augustus, Jasper, N. Y. Steam condenser	Sept. 8, 1868.
84,397	Van Patton, A., Weyauwega, Wis. Book-cover protector	Nov. 24, 1868
78,342	Van Patten, John B. T., Sing Sing, N. Y. Globe valve	May 26, 1868.
77,132	Van Pelt, Ira and John S., Petersburg, Va. Carriage coupling	Apr. 21, 1868.
77,133	Van Pelt, Samuel D., Anderson, Ind. Scaffold bracket	Apr. 21, 1868.
75,658	Van Rensselaer, John S., Albany, N. Y. Apparatus for relief of involuntary discharge of urine	Mar. 17, 1868
82,570	Van Sickle, Garrett, Auburn, N. Y. Device for unloading hay	Sept. 29, 1868.
78,343	Van Sickle, L. M., Woodbridge, N. J. Brick machine	May 26, 1868.
83,745	Vanstone, Samuel, Providence, R. I. Machine for making nuts	Nov. 3, 1868.
76,562	Vanstone, Samuel, assignor to self and John Stewart, Providence, R. I. Chain link	Apr. 7, 1868.
2,980	Van Syckel, Samuel, Titusville, Pa. Grate bar ..... (Reissue)	June 9, 1868.
	Same..... same ..... (Extension)	Oct. 28, 1868.
78,702	Van Vechten, A. V. W., New York, N. Y. Head and shoulder rest	June 9, 1868.
75,223	Van Voorhis, H. B., Pittsburg, Pa. Coal stove	Mar. 3, 1868.
	Van Voorhis, Quincey, *et al.* (*See* Lawler & Gibson, assignors.)	
76,676	Van Vorhis, Flavius J., and Thomas C. Workman, Stockwell, Ind. Rotary steam-engine	Apr. 14, 1868.
74,956	Van Vranken, B., Schenectady, N. Y. Brick machine	Feb. 25, 1868.
81,711	Van Wagenen, G., Racine, Wis. Medical compound for treating horses, cattle, &c.	Sept. 1, 1868.
	Van Wie, Enoch. (*See* Johnson. Alfred S., assignor.)	
78,344	Van Winkle, John, New York, N. Y. Wood cleaver	May 26, 1868.
75,491	Van Wormer, Jasper, and Michael McGarvey, Albany, N. Y. Coal stove	Mar. 10, 1868.
84,024	Same.....Base-burning stove	Nov. 10, 1868.
75,492	Varley, C. F., New York, N. Y. Telegraph pole	Mar. 10, 1868.
75,815	Same.....Insulator for telegraphs	Mar. 24, 1868.
76,358	Same.....Electric telegraph	Apr. 7, 1868.
76,960	Same.....Insulator for telegraphs	Apr. 21, 1868.
78,495	Same.....England. Telegraphing	June 2, 1868.
78,845	Same.....Same. Electro-pneumatic apparatus for transmitting despatches	June 9, 1868.
81,847	Varley, James, Hudson City, N. J. Wash boiler	Sept. 1, 1868.
83,571	Varner, Elias F., Harveysburg, Ohio. Fodder cutter	Oct. 27, 1868.
77,684	Vatter, Henry, Lawrence, Mass. Return-flue stove pipe	May 5, 1868.
76,278	Vaughan, A. C., Philadelphia, Pa. Auger	Mar. 31, 1868.
	Vaughan, Daniel. (*See* Best, William T., assignor.)	
74,638	Vaughan, James, and John McGee, Galena, Ill. Pump	Feb. 18, 1868.
	Vaughan, William H., and Emery T. Wheeler. (*See* Wheeler and Vaughan.)	
79,926	Vaughn, Hiram, Thomas Chadwell, E. H. Childress, and G. A. Webber, Nashville, Tenn. Apparatus for the manufacture of whisky. (Antedated July 2, 1868)	July 14, 1868.
	Vaughn, J., *et al.* (*See* Miloy, Vaughn & Turley.)	
76,359	Vaughn, John, Miami County, and Eli Chamness, Grant County, Ind. Ditching machine	Apr. 7, 1868.
78,031	Same.....Subsoil plow	May 19, 1868.
	Vaughn, William H., *et al.* (*See* McIntosh, J. L., assignor.)	
79,522	Vaux, Ethan P., Washington, D. C. Metallic roofing	June 30, 1868.
80,038	Vawter, Achilles J., Indianapolis, Ind. Office bed. (Antedated July 10, 1868)	July 14, 1868.
84,661	Veazie, Frederick, Worcester, Mass. Blind fastener	Dec. 1, 1868.
	Veazie, Joseph, and Augustus L. Dole. (*See* Stone, Paschal, assignor.)	
74,260	Veazie, Joseph A., Boston, Mass Removing ink and colors from printed paper	Feb. 11, 1868.
	Same.....(*See* Brown, Nathaniel H., assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76, 120	Veber, William, jr., Shingle Creek, N. Y. Milk shelf	Mar. 31, 1868.
75, 224	Veber, W. F., Perrysburg, Ohio. Gate post	Mar. 3, 1868.
81, 039	Vedder, Nicholas S., Troy, N. Y. Cooking stove	Aug. 11, 1868.
82, 897	Same.....same	Oct. 6, 1868.
2, 958	Vedder, Nicholas S., assignor to George Williamson and Company, Troy, N. Y. Plate of a hop stove.....(Design)..	Mar. 17, 1868.
2, 988	Vedder, Nicholas S., assignor to Edward J. Hicks and Gurdon G. Wolfe, Troy, N. Y. Plate of a stove.....(Design)..	Mar. 31, 1868.
2, 989	Same.....Door and leg of a cook stove.....(Design)..	Mar. 31, 1868.
2, 990	Vedder, Nicholas S., and Francis Ritchie, assignors to William Resor and Company, Troy, N. Y. Cook stove.....(Design)..	Mar. 31, 1868.
76, 563	Verhoeven, Michael, Rochester, N. Y. Lime kiln	Apr. 7, 1868.
84, 446	Vernier, William F., Philadelphia, Pa. Carriage spring	Nov. 24, 1868.
74, 176	Vernol, R. C., New York, N. Y. Walking vehicle	Feb. 4, 1868.
76, 007	Verplanck, Philip, jr., Binghamton, N. Y. Dash board and rein holder	Mar. 24, 1868.
78, 556	Verry, George, assignor to self and O. B. Graves, Norwich, Conn. Valve and steam passage	June 2, 1868.
84, 234	Verstraet, Louis, France. Hydrocarbon burner	Nov. 17, 1868.
75, 816	Vester, Franz, Newark, N. J. Drill	Mar. 24, 1868.
81, 437	Same.....Burial case	Aug. 25, 1868.
85, 494	Vetterlin, Frederick, Switzerland. Magazine fire-arm	Dec. 29, 1868.
77, 552	Vickers, John H., assignor to Norwich Lock Company, Norwich, Conn. Combined knob latch and lock. (Antedated April 22, 1868)	May 5, 1868.
	Vickers, J. H., and A. F. Smith. (*See* Smith and Vickers.)	
79, 416	Vickers, Thomas Edward, England. Machine for rolling tires	June 30, 1868.
74, 456	Vicle, P. B., Rochester, N. Y. Fruit basket	Feb. 11, 1868.
79, 164	Viets, H. M., Carlisle, Ohio Making cheese hoops	June 23, 1868.
84, 921	Same.....Milk can	Dec. 15, 1868.
73, 141	Vigeant, Jacob, Marlboro, Mass. Shoemaker's hammer	Jan. 7, 1868.
75, 605	Vignal, Carl, New York, N. Y. Vegetable mashing and cutting machine	Mar. 17, 1868.
	Vincent, T. W., *et al.* (*See* Sweet, Eli, assignor.)	
75, 081	Vine, William, and William H. Jubb, Norwalk, Conn. Dyer's vat	Mar. 3, 1868.
84, 235	Vincy, James, Manchester, N. H. Paper-making machine	Nov. 17, 1868.
81, 709	Viol, Adolphe Pierre, and Cesaire Pierre Duflot, jr., France. Bleaching and dyeing feathers	Sept. 1, 1868.
78, 557	Virdin, William W., Baltimore, Md. Tide motor	June 2, 1868.
74, 734	Vittum, Francis J., assignor to W. N. Ely, Newburyport, Mass. Leather-splitting machine	Feb. 18, 1868.
84, 025	Same.....Hand-pegging machine	Nov. 10, 1868.
	Voak, Isaac D. (*See* Talcott, George W., assignor.)	
76, 564	Voegtle, Jacob, Indianapolis, Ind. Stove drum	Apr. 7, 1868.
84, 026	Voegtli, Franz, assignor to Antonio Voegtli, Montgomery City, Mo. Reel for yarn, &c	Nov. 10, 1868.
74, 868	Vogel, Charles, New York, N. Y. Trip hammer	Feb. 25, 1868.
75, 493	Vogel, H., assignor to Wilson & Hood, Berlin, Prussia. Photometer	Mar. 10, 1868.
80, 520	Vogel, Kasimer, assignor to Eben W. Lothrop, Chelsea, Mass. Sewing machine for button holes	July 28, 1868.
84, 027	Vogel, W., assignor to Ezra Durand, Norwich, Conn. Musical instrument	Nov. 10, 1868.
	Vogler, Charles, and John A. Hahn. (*See* Hahn & Vogler.)	
84, 028	Voiles, J. E., assignor to self and John W. Hutchings, Madison, Ind. Horse rake	Nov. 10, 1868.
73, 060	Volkmar, Charles, Baltimore, Md. Painters' canvas	Jan. 7, 1868.
84, 922	Von Jeinsen, Ernest, New York, N. Y. Breech-loading fire-arm	Dec. 15, 1868.
	Same.....(*See* Morgenstern, William, assignor.)	
	Von Wessely, Joseph R. (*See* Kuehn, Carl, assignor.)	
	Same.....(*See* Asthower, Fritz, assignor.)	
	Same.....(*See* Fassler, August, assignor.)	
	Vorse, A. S., and D. H. Young. (*See* Harger, David, assignor.)	
76, 360	Vosburgh, William C., Brooklyn, N. Y. Drop light for chandeliers	Apr. 7, 1868.
75, 659	Vose, Ambrose S., Randolph, Vt. Calendar	Mar. 17, 1868.
	Vose, Joshua E. (*See* De Bretton, Geert, assignor.)	
	Vossnack & Steins. (*See* Kaiser, Gottlob, assignor.)	
78, 345	Vowles, George, New Hudson, Mich. Potato digger	May 26, 1868.
84, 029	Vowles, Joseph, Milford, Mich. Cultivator	Nov. 10, 1868.
77, 338	Vrooman, H. S., Boston, Mass. Support for passengers in cars	Apr. 28, 1868.
	Vuillemin, Jules D. Huguenin. (*See* Roskopf, George Frederic, assignor.)	
81, 710	Vurgason, N. A., Brooklyn, N. Y. Lamp-chimney cleaner	Sept. 1, 1868.
82, 772	Same.....Skirt supporter	Oct. 6, 1868.
80, 373	Wack, Charles, assignor to self, Charles Miller, and A. Steinbach, Evansville, Ind. Back-band hook	July 28, 1868.
78, 623	Wackman, Smith D., Auburn, N. Y. Machine for grinding the cutters of mowing machines	June 2, 1868.
79, 165	Same.....Axles for vehicles	June 23, 1868.
79, 035	Waddell, W. H. and L., Churchville, Va. Churn	June 16, 1868.
	Wade, Levi C., and Freeman K. Sibley. (*See* Sibley and Wade.)	
78, 032	Wadhams, Edward, assignor to self and A. Wadhams, Yorkville, N. Y. Metallic tags for straps. (Antedated December 28, 1867)	May 19, 1868.
85, 150	Wadleigh, Joseph, Chebanse, Ill. Tongue for harvester	Dec. 22, 1868.
74, 457	Wadsworth, Arthur, assignor to self and Robert Schell, Newark, N. J. Watch	Feb. 11, 1868.
80, 434	Wadsworth, James W., Durham, Conn. Rein holder	July 28, 1868.
3, 056	Wadsworth, W. B., Cleveland, Ohio. Water elevator.....(Division A, reissue)..	July 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
3,057	Wadsworth, W. B., Cleveland, Ohio. Water elevator.....(Division B, reissue)..	July 28, 1868.
82,366	Wagener, Jeptha A., New York, N. Y. Sewing machine	Sept. 22, 1868.
74,639	Wagenhorst, James J., assignor to self, C. H. Zink, and W. R. Weand, Philadelphia, Pa. Till alarm and lock	Feb. 18, 1868.
	Wager, Fales & Co. (*See* Smith, John C., assignor.)	
82,898	Waggoner, J. C., St. Louis, Mo. Smut mill	Oct. 6, 1868.
81,438	Wagner, Adolph, assignor to Samuel Beinstein, New York, N. Y. Loom for circular weaving	Aug. 25, 1868.
	Wagner, Albert, *et al.* (*See* Nulsen, Haueisen & Wagner.)	
78,624	Wagner, Awsbent H., Staunton, Va. Grinding mill	June 2, 1868.
75,225	Wagner, Franz, and Louis Sexauer, New York, N. Y. Water meter	Mar. 3, 1868.
80,787	Wagner, Friedrich, Danville, Pa. Cock for racking off beer	Aug. 4, 1868.
81,712	Wagner, F. F., Harrisburg, Pa. Car seat	Sept. 1, 1868.
82,899	Same.....Railway car seat	Oct. 6, 1868.
75,494	Wagner, John, Washington, D. C. Attaching horseshoes	Mar. 10, 1868.
76,121	Wagner, John, Cumberland, Md. Dinner kettle	Mar. 31, 1868.
77,420	Wagner, Oscar A., Davenport, Iowa. Artificial slate surface	Apr. 28, 1868.
74,957	Wagoner, Elijah, assignor to self and G. W. Mathews, Westminster, Md. Rice planter	Feb. 25, 1868.
80,576	Wagstaff, W., Millbury, Ohio. Tea kettle, coffee pot, &c	Aug. 4, 1868.
80,248	Wahl, Christian, Chicago, Ill. Apparatus for drying glue	July 21, 1868.
80,249	Same.....Machine for drying glue	July 21, 1868.
80,250	Same.....same	July 21, 1868.
74,640	Wahlgren, Charles E., Knoxville, Ill. Washing machine	Feb. 18, 1868.
81,713	Wailey, C. W., assignor to New Orleans Pneumatic Propelling Company, New Orleans, La. Paper reservoir for compressed air	Sept. 1, 1868.
82,184	Same.....Cut-off valve gear for steam-engines	Sept. 15, 1868.
84,030	Same.....Pump for compressing air	Nov. 10, 1868.
84,447	Same.....Pneumatic street railway car	Nov. 24, 1868.
83,344	Wain, Hugh, Ravenna, Ohio. Gas machine	Oct. 20, 1868.
79,706	Wainwright, Theophilus A., assignor to self and Albert Farmer, Wilson, N. C. Cotton plow	July 7, 1868.
	Wainwright, William H., and William H. Evans. (*See* Evans & Wainwright.)	
80,251	Wait, H. M., Woodstock, Ill. Band puller	July 21, 1868.
78,160	Wait, John Jackson, Oreana, Nev. Lamp-chimney cleaner	May 19, 1868.
78,033	Wait, J. L., assignor to self and George J. Sutton, East Cambridge, Mass. Composing stick	May 19, 1868.
81,439	Wait, P. H., Sandy Hill, N. Y. Curb for water wheels	Aug. 25, 1868.
80,845	Waite, E. W., New Haven, Conn. Carriage prop joint	Aug. 11, 1868.
82,456	Same.....Joint for carriage top props	Sept. 22, 1868.
75,082	Waite, Increase S., Hubbardston, Mass. Machine for finishing card handles	Mar. 3, 1868.
84,237	Waite, R., Blue Earth City, Minn. Wind wheel	Nov. 17, 1868.
74,261	Waite, R. H., Newark, N. J. Hand card	Feb. 11, 1868.
84,238	Waite, Thomas, Plymouth, Ohio. Cultivator	Nov. 17, 1868.
3,054	Waitt, George W., Philadelphia, Pa. Trade mark.....(Design)..	May 26, 1868.
79,790	Same.....Manufacture of desiccated cocoanut	July 7, 1868.
78,404	Wakefield, Charles A., Pittsfield, Mass. Seed planter.....(Extension)..	July 23, 1868.
3,123	Wakeman, Zalmon B., Rockford, Ill. Railroad rail	May 26, 1868.
75,083	Same.....Railway rail and splice.....(Reissue)..	Sept. 15, 1868.
	Wakenshaw, William, assignor to T. B. Peddic, Newark, N. J. Traveling bag	Mar. 3, 1868.
	Walbaum, W., and J. A. Pipo. (*See* Pipo & Walbaum.)	
75,321	Walbridge, H. B., Toledo, Ohio. Bed bottom	Mar. 10, 1868.
79,417	Walcott, George B., Jackson, Mich. Machine for making horseshoe nails	June 30, 1868.
77,421	Walcott, H. S., assignor to Boston Shoe-stud and Button Company, Boston, Mass. Boot and shoe stud	Apr. 28, 1868.
	Walcott, H. S., and D. H. Priest. (*See* Priest & Walcott.)	
80,887	Waldie, James, assignor to self and George Kennedy, Ipswich, Mass. Knitting machine	Aug. 11, 1868.
	Waldo, Campbell G., *et al.* (*See* Hayes, Waldo & Main.)	
76,852	Waldron, C. F., New York, N. Y. Lamp for vehicles	Apr. 14, 1868.
77,782	Waldron, John J., assignor to self, Timothy G. Palmer, and Henry Brown, East Durham, N. Y. King bolt for wagons	May 12, 1868.
80,099	Wale, Alfred J., Philadelphia, Pa. Knitting machine	July 21, 1868.
74,458	Wales, Nathaniel, Boston, Mass. Decoy bird	Feb. 11, 1868.
	Walker, A., *et al.* (*See* Wilson, Walker & Foster.)	
78,625	Walker, Alvah, Oswego, N. Y. Water elevator	June 2, 1868.
80,521	Walker, Andrew, Claremont, N. H. Gang plow	July 28, 1868.
80,522	Same.....Seed sower and harrow	July 28, 1868.
76,853	Walker, Andrew Barclay, Warrington, England. Apparatus for brewing, malting, &c	Apr. 14, 1868.
79,523	Walker, A. H., Oswego, N. Y. Water heater for steam boilers	June 30, 1868.
77,339	Walker, Charles, Chester, Vt. Bed bottom	Apr. 28, 1868.
77,783	Walker, David, Newark, N. J. Blotter	May 12, 1868.
75,495	Walker, Eaton, Dundee, Ill. Device for connecting rotary into reciprocating motion	Mar. 10, 1868.
77,134	Walker, Edward L., Benford's Store, Pa. Horse hay fork	Apr. 21, 1868.
77,135	Walker, Emory P., Belchertown, Mass. Butter worker	Apr. 21, 1868.
76,565	Walker, Felix, Memphis, Tenn. Coal stove	Apr. 7, 1868.
81,848	Same.....Sash fastening	Sept. 1, 1868.
84,031	Walker, Felix, New Orleans, La. Sash stop and holder	Nov. 10, 1868.
79,418	Walker, Francis H., Boston, Mass. Button-hole cutter	June 30, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,210	Walker, George, Middletown, N. Y. Saw	Jan. 7, 1868.
74,177	Walker, George S., Erie, Pa. Step and extension ladder	Feb. 4, 1868.
81,714	Same.....Stove-pipe drum	Sept. 1, 1868.
80,686	Walker, Isaac H., Newton, Ill. Combined plow and planter	Aug. 4, 1868.
83,677	Walker, James F., Murrayville, Ill. Corn planter	Nov. 3, 1868.
80,100	Walker, James T., Albany, N. Y. Dish-cloth holder	July 21, 1868.
83,814	Same.....Collar machine	Nov. 3, 1868.
	Same.....(*See* Zepf, Jacob, assignor.)	
	Walker, John, and Richard Uren. (*See* Uren & Walker.)	
	Walker, John G., *et al.* (*See* Allen, Alexander, assignor.)	
73,211	Walker, Joseph H., Grand Rapids, Mich. Horse hay fork	Jan. 7, 1868.
77,136	Same.....same	Apr. 21, 1868.
76,677	Walker, Londus B., Chicago, Ill. Saw mill	Apr. 14, 1868.
85,039	Walker, Richard, and George Trumbull, Batavia, N. Y. Draft equalizer	Dec. 15, 1868.
75,817	Walker, Robert L., Globe Village, Mass. Steam boiler furnace	Mar. 24, 1868.
77,784	Walker, Russ B., Claremont, N. H. Waxing floors	May 12, 1868.
80,783	Walker, Sylvester G., assignor to self, William C. Allen, and Abijah Powers, Corydon, N. H. Adjustable ox yoke	Aug. 4, 1868.
2,991	Walker, Thomas, assignor to Edward J. Hicks, and Gurdon G. Wolfe, Troy, N. Y. Stove door (Design)	Mar. 31, 1868.
76,361	Walker, Thomas and Thomas F., Birmingham, England. Apparatus for taking soundings. (Patented in England Dec. 20, 1866)	Apr. 7, 1868.
76,566	Walker, William H., Fond-du-Lac, Wis. Shingle machine	Apr. 7, 1868.
	Walker, William N., and Charles S. Lord. (*See* Lord & Walker) ....(Design.)	
2,934	Walker, Willis C., St. Louis, Mo. Trade mark (Design)	Feb. 11, 1868.
77,685	Walker, W. J., Brooklyn, N. Y. Acid powder as a substitute for yeast	May 5, 1868.
	Wall, William, *et al.* (*See* Enright, John, assignor.)	
77,553	Wallace, Daniel F., Ripley, Ohio. Hemp break	May 5, 1868.
81,440	Same.....Quilting-frame	Aug. 25, 1868.
75,606	Wallace, Lorenzo, Leavenworth, Kansas. Harvester	Mar. 17, 1868.
78,846	Wallace, Luther R., assignor to self, Richard B. Robbins, and N. B. Fassett, Adrian, Mich. Seeder, drill, and roller	June 9, 1868.
2,837	Wallace, N. B., Fond-du-Lac, Wis. Watch (Reissue)	Mar. 3, 1868.
79,036	Wallace, William, Ansonia, Conn. Machine for forming lamp tubes	June 16, 1868.
	Wallace, William, *et al.* (*See* Stratton, James, assignor.)	
83,114	Wallen, H. D., jr., Fort Columbus, N. Y. Caloric engine	Oct. 13, 1868.
79,707	Walling, W. P., Swarz Creek, Mich. Water elevator	July 7, 1868.
73,061	Wallis, John N. and Theodore, Fleming, N. Y. Harrow	Jan. 7, 1868.
80,101	Wallis, S. G., Waterford, Pa. Balm	July 21, 1868.
	Walls, John. (*See* Cline, James, assignor.)	
74,641	Wallworth, Thomas, Great Britain. Computing apparatus. (Antedated Feb. 14, 1868)	Feb. 18, 1868.
76,122	Walpert, F., Baltimore, Md. Machine for removing burrs from hair	Mar. 31, 1868.
	Walpole, W. R., *et al.* (*See* Allen, Alexander, assignor.)	
83,010	Walrath, Peter and Jesse, Chittenango, N. Y. Brick machine	Oct. 13, 1868.
	Walsh, Arthur, and James P. Sibley. (*See* Sibley & Walsh.)	
73,678	Walsh, Thomas and Augustin, New York, N. Y. Bucket for dredging machines	Jan. 21, 1868.
83,572	Walter, A. W., Canton, Ohio. Door hinge	Oct. 27, 1868.
	Walter, Charles E. (*See* Loomis, Samuel L., assignor.)	
73,765	Walter, J. F., jr., New York, N. Y. Metallic lathing	Jan. 28, 1868.
82,185	Walter, Jacob M., and Samuel Shank, Springfield, Ohio. Post-hole borer	Sept. 15, 1868.
	Walter, James C. (*See* Moses, Lewis, assignor.)	
73,142	Walters, David C., Warsaw, Ind. Attachment for hoppers of grinding mills	Jan. 7, 1868.
75,712	Walters, George, and Thomas Shaffer, Phœnixville, Pa. Fagot for beam	Mar. 17, 1868.
82,663	Same.....Method of constructing columns, &c	Sept. 29, 1868.
82,664	Same.....same	Sept. 29, 1868.
83,226	Same.....Wrought iron column	Oct. 20, 1868.
83,425	Same.....Method of constructing wrought iron columns	Oct. 27, 1868.
77,137	Walter, John W., Riceville, Iowa. Machine for boring hubs	Apr. 21, 1868.
79,531	Walters, J. W., Tiffin, Ohio. Clothes sprinkler	June 30, 1868.
81,233	Walters, W. B., Lock Haven, Pa. Composition for cleaning and renovating brick walls	Aug. 18, 1868.
77,686	Walther, Bartholomew and Peter, New York, N. Y. Hitching post	May 5, 1868.
	Walton, Collins W. (*See* Wright, Wm. P., assignor.)	
73,555	Walton, Elisha W., assignor to Joseph H. Atkinson, Drytown, Cal. Tamping and blasting machine for splitting wood	Jan. 21, 1868.
75,084	Same.....Drill sharpener	Mar. 3, 1868.
78,744	Walton, Elisha W., assignor to self and W. H. Derrick, Stockton, Cal. Horse hoe	June 9, 1868.
78,558	Walton, James, Sunfish, Ohio. Cider and wine mill	June 2, 1868.
77,853	Walton, Jonathan, Brooklyn, N. Y. Bail ear for pails. (Antedated April 30, 1868)	May, 12, 1868.
74,642	Walton, Joseph, Delevan, Wis. Wagon brake	Feb. 18, 1868.
82,900	Walton, R. K., Clarington, Ohio. Spike	Oct. 6, 1868.
78,626	Walton, William, East Palestine, Ohio. Cultivator	June 2, 1868.
74,740	Walworth, C. A., Utica, N. Y. Device for teaching commercial transactions	Feb. 18, 1868.
75,085	Walz, Frank J., and Charles Steck, Hudson, N. J. Beer faucet	Mar. 3, 1868.
80,687	Wampach, John, Shakopee, Minn. Tire cooler	Aug. 4, 1868.
75,607	Wandell, Wilber S., Battle Creek, Mich. Gate	Mar. 17, 1868.
74,958	Wanklin, Henry, United States revenue steamer Wilderness. Salinometer pot	Feb. 25, 1868.
81,849	Want, Edwin, assignor to self and J. E. Spencer, New Haven, Conn. Eye glass	Sept. 1, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
85,495	Want, Henry, and John Lundgren, New Haven, Conn. Manufacture of spectacle bows	Dec. 29, 1868.
74,178	Warburton, Anson L., and Henry Bendir, Fort Wayne, Ind. Metallic end for spring bars for carriages	Feb. 4, 1868.
84,323	Warburton, W. F., Philadelphia, Pa. Hat ventilator	Nov. 24, 1868.
80,252	Ward, A. F., assignor to W. S. Batchelder & Company, Marietta, Ohio. Combined plumb, square, and level	July 21, 1868.
84,324	Ward, A. F., and J. H. Bean, assignors to selves, J. W. L. and L. S. Brown, and Samuel Bean, Marietta, Ohio. Cane and willow stripper	Nov. 24, 1868.
76,854	Ward, Benjamin, assignor to Clark Tompkins, Troy, N. Y. Knitting machine	Apr. 14, 1868.
	Ward, Daniel, and John Freeland. (*See* Freeland & Ward.)	
	Ward, David P., and John W. Minor. (*See* Minor & Ward.)	
73,479	Ward, D. T., Cardington, Ohio. Churn	Jan. 21, 1868.
	Ward, Isaac B. (*See* Williams, Charles, assignor.)	
	Ward, John, jr, *et al.* (*See* McKillop, John, assignor.)	
85,191	Ward, Joseph E., assignor to Andrew Dwight Campbell, Great Britain. Mold for forming hats	Dec. 22, 1868.
84,780	Ward, Moses N., assignor to self, Benjamin S. Grant, and Thomas Hersey, Bangor, Me. Timber grapple	Dec. 8, 1868.
79,791	Ward, R., Edinburg, Ind. Smut mill	July 7, 1868.
82,901	Ward, (Mrs.) R. A. N. A., Philadelphia, Pa. Brace and skirt supporter combined	Oct. 6, 1868.
83,893	Ward, S. W. H., New York, N. Y. Coating and water-proofing collars, cuffs, and other articles of wearing apparel	Nov. 10, 1868.
85,259	Same.....Carriage wheel	Sept. 22, 1868.
75,496	Ward, Thomas, Columbus, Ohio. Vapor burner	Mar. 10, 1868.
77,687	Ward, Walter, Mt. Holly, N. J. Shaft attachment to wagons	May 5, 1868.
75,497	Ward, William, Cleveland, Ohio. Oil for paint, &c	Mar. 10, 1868.
82,902	Same.....Metallic roofing	Oct. 6, 1868.
82,457	Ward, William M., and P. Bennage, Eureka, Ill. Bedstead	Sept. 22, 1868.
84,662	Ward, William T., Indianapolis, Ind. Wagon brake	Dec. 1, 1868.
82,903	Ward, Winthrop, Mystic Bridge, Conn. Window strip attachment	Oct. 6, 1868.
84,236	Wardsworth, William, and E. H. Semple, St. Louis, Mo. Machine for picking wool	Nov. 17, 1868.
	Wardwell, E. S., and J. D. Leach. (*See* Leach & Wardwell.)	
73,062	Ware, Preston, and Calvin R. Tilton, Newton, Mass. Mode of closing up boot legs	Jan. 7, 1868.
75,086	Ware, W. Powell, assignor to self and James J. DeBarry, New York, N. Y. Sign for street lamps	Mar. 3, 1868.
77,554	Wareham, Charles E., Port Washington, Wis. Rotary scrubbing machine. (Antedated April 23, 1868)	May 5, 1868.
	Warfield, E. A., and J. O. Adams. (*See* Aldrich, Robert H., assignor.)	(Reissue.)
83,011	Waring, Arthur L., Coshocton, Ohio. Animal trap	Oct. 13, 1868.
75,818	Waring, J. B., New York, N. Y. Car starting and stopping apparatus	Mar. 24, 1868.
84,923	Waring, J. B., assignor through mesne assignments to W. E. Dickson, Brooklyn, N. Y. Wash boiler	Dec. 15, 1868.
82,904	Waring, John T., Yonkers, N. Y. Felted fabric. (Antedated Sept. 28, 1868)	Oct. 6, 1868.
84,325	Same.....Felted tufted fabric	Nov. 24, 1868.
	Warker, T., and C. Shultz. (*See* Shultz & Warker.)	
	Same.....same	(Design.)
83,227	Warne, Mahlon, Philadelphia, Pa. Head rest	Oct. 20, 1868.
83,228	Same.....Policeman's mace	Oct. 20, 1868.
83,229	Same.....Sabot	Oct. 20, 1868.
	Warner, Albert. (*See* Sanford, Leverett A., assignor.)	
	Same.....same.	
76,008	Warner, Alexander, Williamsburg, N. Y. Fruit jar and preserving vessel. (Antedated March 18, 1868)	Mar. 24, 1868.
76,009	Same.....Means for closing preserving vessels. (Antedated March 18, 1868)	Mar. 24, 1868.
76,567	Warner, Charles H., New Haven, Conn. Clock alarm	Apr. 7, 1868.
76,855	Warner, Charles H., Pittsfield, Mass. Window blind	Apr. 14, 1868.
81,234	Warner, C. W., New Haven, Vt. Horse hay rake	Aug. 18, 1868.
80,577	Warner, Daniel, assignor to self, James T. Bowman, Richard C. Dougherty, and Daniel J. Huckins, Boston, Mass. Lamp-wick trimmer	Aug. 4, 1868.
82,186	Warner, Eli G., Union Township, Ohio. Rail fence	Sept. 15, 1868.
78,496	Warner, George, Cleveland, Ohio. Cap for marine stove-pipes	June 2, 1868.
73,411	Warner, Henry, Newark, N. J. Machine for sizing hat bodies	Jan. 14, 1868.
	Warner, Jackson, *et al.* (*See* Lavender & Lowe, assignors.)	(Reissue.)
76,362	Warner, L. A., Freeport, Ill. Corn popper and coffee roaster	Apr. 7, 1868.
77,854	Warner, L. S., Chicago, Ill. Concrete block press	May 12, 1868.
78,161	Warner, W. Y., Wilmington, Del. Snow plow	May 19, 1868.
80,523	Warnock, Robert, and Charles Abbey, 2d, Ridgeville, Ohio. Grain rake	July 28, 1868.
74,179	Warren, C. M. H., Brooklyn, N. Y. Pen holder	Feb. 4, 1868.
79,419	Warren, C. T., Linden, N. J. Mosquito-bar for windows	June 30, 1868.
76,856	Warren, E., and T. Brangwin, Ceresco, Mich. Dray. (Antedated April 8, 1868)	Apr. 14, 1868.
82,905	Warren, E. K., Rochester, N. Y. Tank for fermenting ale, beer, &c	Oct. 6, 1868.
75,608	Warren, Gardner, Roxbury, Mass. Extracting tannin from bark. (Antedated March 6, 1868)	Mar. 17, 1868.
77,138	Warren, Gardner, assignor to self and Hezekiah H. Bryant, Roxbury, Mass. Process of treating woolen and silk goods	Apr. 21, 1868.
81,850	Warren, Gardner, assignor to William M. Byrnes, Boston, Mass. Sliding sash	Sept. 1, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84,722	Warren, John L., Detroit, Mich. Saw	Dec. 8, 1868.
74,643	Warren, Joseph, Lodi, Ohio. Corn sheller	Feb. 18, 1868.
77,227	Same ..... same	Apr. 28, 1868.
77,855	Warren, Thomas P., Norfolk, Va. Plow	May 12, 1868.
78,775	Warren, Thomas P., assignor to D. W. Warren, Norfolk, Va. Clevis iron	June 9, 1868.
73,412	Warren, William H., Worcester, Mass. Crank planer	Jan. 14, 1868.
75,498	Same ..... Planer's chuck	Mar. 10, 1868.
84,596	Warren, William M. and Charles A., assignors to the Warren Manufacturing Company, Watertown, Conn. Sash fastener	Dec. 1, 1868.
79,166	Warriner, R., and J. H. Baker, Saratoga Springs, N. Y. Corn husker, straw and stalk cutter	June 23, 1868.
73,063	Warth, Albin, Stapleton, N. Y. Sewing machine	Jan. 7, 1868.
73,064	Same ..... same	Jan. 7, 1868.
77,422	Same ..... Pen-holder. (Antedated April 19, 1868)	Apr. 28, 1868.
85,040	Warth, Albin, assignor to self and Eberhard Faber, Stapleton, N. Y. Shuttle for sewing machines	Dec. 15, 1868.
73,143	Warwick, Joseph, Springboro', Ohio. Sulky plow	Jan. 7, 1868.
77,139	Wash, James, Mt. Sterling, Ill. Beehive	Apr. 21, 1868.
84,663	Washbourne, F., New York, N. Y. Screw	Dec. 1, 1868.
84,032	Washburn, B. D., Boston, Mass. Shutter fastener	Nov. 10, 1868.
	Washburn, Benjamin D. (*See* Baker, Hardy N., assignor) ..... (Design.)	
79,879	Washburn, G., New York, N. Y. Lock bolt. (Antedated June 27, 1868)	July 14, 1868.
74,959	Washburn, George I., Worcester, Mass. Feed-water heater	Feb. 25, 1868.
82,571	Washburn, John R., West Stafford, Conn. Lathe chuck	Sept. 29, 1868.
85,414	Wassell, Edwin, Pittsburg, Pa. Machine for making horseshoes	Dec. 29, 1868.
	Waterbury Brass Company. (*See* Wooster, Horace B., assignor.)	
	Waterbury Clock Company. (*See* Terry, S. B., assignor.)	
79,037	Waterbury, Enos, Stamford, Conn. Sewing machine	June 16, 1868.
73,144	Waterhouse, Miles, Passaic, N. J. Flock duster	Jan. 7, 1868.
78,559	Same ..... Apparatus for dyeing	June 2, 1868.
80,578	Waterhouse, W. F., Weyauwega, Wis. Hop drier	Aug. 4, 1868.
	Waterman, Henry, Hudson, N. Y. Safety valve ..... (Extension)	Nov. 13, 1868.
	Waterman, Henry, and George W. Richardson. (*See* Richardson & Waterman.)	
82,367	Waterman, John B., Summit, Mich. Hames and strap fastener	Sept. 22, 1868.
76,568	Waterman, Joseph S., Roxbury, Mass. Corpse-preserving case	Apr. 7, 1868.
80,316	Waterman, L. B., Chicago, Ill. Clothes dryer	July 28, 1868.
75,499	Waterman, L. B., assignor to John Carlon & Company, Indianapolis, Ind. Inking apparatus for color printing	Mar. 10, 1868.
79,420	Waterman, Nehemiah, and Alfred T. Perkins, Toledo, Ohio. Paper cap	June 30, 1868.
84,520	Waters, Charles H., assignor to the Clinton Wire-cloth Company, Groton, Mass. Machine for painting wire cloth	Dec. 1, 1868.
84,521	Same ..... Groton, Mass. Machine for printing figures on wire cloth	Dec. 1, 1868.
81,441	Waters, Elisha, Troy, N. Y. Vessel for holding petroleum and other liquids	Aug. 25, 1868.
79,421	Waters, Elisha, and George A., Troy, N. Y, Boat	June 30, 1868.
79,167	Waters, Gardner, Cincinnati, Ohio. Lubricator (Antedated March 31, 1868)	June 23, 1868.
82,368	Same ..... same	Sept. 22, 1868.
	Same ..... (*See* Hadley, George D., assignor.)	
74,960	Waters, Hervey, Boston, Mass. Blank for hoe	Feb. 25, 1868.
74,735	Waters, H. N., assignor to self and Newton Case, Hartford, Conn. Feed-water heater of steam generators	Feb. 18, 1868.
3,044	Waters, James S., assignor to St. Louis Lead & Oil Company, St. Louis, Mo. Trade mark ..... (Design)	May 12, 1868.
80,374	Waters, Zero, Bloomington, Ill. Hat holder	July 28, 1868.
84,781	Watkins, Francis, England. Nut machine. (Antedated Nov. 28, 1868)	Dec. 8, 1868.
84,782	Same ..... Bolt-making machine	Dec. 8, 1868.
75,500	Watkins, G. A., Proctorsville, Vt. Device for weaving chair seats	Mar. 10, 1868.
76,569	Same ..... Chair seat	Apr. 7, 1868.
77,228	Same ..... same ..... (Antedated April 6, 1868)	Apr. 28, 1868.
79,880	Watkins, James T., Santa Clara, Cal. Gang plow	July 14, 1868.
73,679	Watkins, John E., Smithfield, Ky. Railroad rail clamp or chair	Jan. 21, 1868.
79,524	Watkins, J. R., Maine Prairie, Minn. Clothes' drier	June 30, 1868.
81,715	Watkins, M. S., Mansfield, Texas. Hat	Sept. 1, 1868.
80,317	Watrous, Edwin, Mystic River, Conn. Coffee mill	July 28, 1868.
79,525	Watrous, John N., West Meriden, Conn. Sash supporter	June 30, 1868.
78,497	Watrous, W. H., Hartford, Conn. Electro-plating frame	June 2, 1868.
84,448	Watson, B. F., and A. Shephard, Bridgeport, Ohio. Curtain clasp	Nov. 24, 1868.
75,087	Watson, B. J., Troy, Wis. Heat-radiating attachment to stove	Mar. 3, 1868
79,708	Watson, Charles S., Philadelphia, Pa. Low-water indicator	July 7, 1868
80,524	Watson, James T., and Henry E. Robinson, Richmond, Ind. Straw cutter	July 28, 1868
79,422	Watson, Jeremiah M., assignor to self and William B. Wickes, Sharon, Mass. Plant protector	June 30, 1868.
	Watson, John. (*See* Cheeseman, Andrew M., assignor.)	
79,792	Watson, Thomas, Brooklyn, N. Y. Device for operating shutters	July 7, 1868.
75,660	Watson, W. C., Paterson, N. J. Portable book clamp	Mar. 10, 1868.
74,644	Watson, W. G., Paterson, N. J. Silk cleaner	Feb. 18, 1868.
74,777	Watson, William H., New York, N. Y. Machine for sheeting and pressing tobacco	Feb. 25, 1868.
76,363	Watson, William J., Benton Center, N. Y. Wood-turning lathe	Apr. 7, 1868.
	Watson, William P., and Andrew Smith. (*See* Smith & Watson.)	
	Watson, W. P., *et al.* (*See* Smith, Andrew, assignor.)	
	Watson, William W., and James La F. King. (*See* King, Watson, assignor.) (Reissue.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,851	Watt, Alexander, England. Bleaching soap	Sept. 1, 1868.
3,071	Watt, George, Richmond, Va. Plow (Reissue)	Aug. 4, 1868.
77,140	Watters, C. D. P., New York, N. Y. Egg cup	Apr. 21, 1868.
73,680	Wattis, Edward, jr., Philadelphia, Pa. Fastening metallic collars to bottles	Jan. 21, 1868.
74,869	Wattis, Edward, sr., Philadelphia, Pa. Pepper-caster bottle	Feb. 25, 1868.
75,609	Wattles, Joseph W., Canton, Mass. Clearer for ring-spinning machines	Mar. 17, 1868.
75,610	Same.....Ring and traveller spinning machine	Mar. 17, 1868.
3,165	Same.....Ring for ring and traveler spinning machine (Reissue)	Oct. 20, 1868.
83,426	Same.....Ring for spinning machines	Oct. 27, 1868.
	Watts, Hiram, and John W. Morrett. (*See* Morrett & Watts,)	
76,010	Watts, Joseph, Birmingham, Great Britain. Heating furnace	Mar. 24, 1868.
81,716	Watts, Joseph, Brazil, Ind. Churn	Sept. 1, 1868.
80,253	Waugaman, Eli, Blairsville, Pa. Combined cider mill and press	July 21, 1868.
73,270	Way, Francis K., Springfield Ohio. Machine for twisting wax-ends	Jan. 14, 1868.
81,311	Way, John, Waterbury, Conn. Strap-holding device	Aug. 18, 1868.
80,435	Way, John A., assignor to the Darrow Manufacturing Company, Bristol, Conn. Washer	July 28, 1868.
73,480	Way, Seth, La Porte, Ind. Gang plow	Jan. 21, 1868.
78,162	Same.....Sled	May 19, 1868.
84,449	Same.....Cultivator	Nov. 24, 1868.
74,736	Wayman, Edmund G., assignor to Robert V. Snodgrass, Louisville, Ky. Preparing hemp and flax fibre for the manufacture of dusters, &c.	Feb. 18, 1868.
	Weakley, T. B. (*See* Zinn, John Hartzell, assignor.)	
	Weand, W. R., *et al.* (*See* Wagenhorst, James J., assignor.)	
79,709	Weare, Joseph, Fitchburg, Mass. Surface file handle	July 7, 1868.
	Weatherill, Henry, and Joseph Cockshoot. (*See* Cockshoot & Weatherill.)	
77,875	Weathers, James, Greensburg, Ind. Mode of attaching hubs to axles	May 12, 1868.
80,789	Weaver, Daniel, Guilderland, N. Y. Sewing machine	Aug. 4, 1868.
85,260	Weaver, George, and H. Nelson Allen, assignors to selves and E. R. Cheney, Boston, Mass. Barrel head and top	Dec. 22, 1868.
82,665	Weaver, George L., Hartford, Connecticut. Journal box	Sept. 29, 1868.
79,038	Weaver, Jacob, jr., Elizabethville, Pa. Corn planter and seed drill	June 16, 1868.
80,888	Weaver Joel D., assignor to self, C. A. Sherwood, and L. S. Bunnell, Troy, N. Y. Spirit meter	Aug. 11, 1868.
77,423	Weaver, Rebecca, Washington, D. C. Trunk	Apr. 28, 1868.
78,903	Same.....Fastening for buttons	June 16, 1868.
81,312	Weaver, Theophilus, Harrisburg, Pa. Clothes' hook and line-holder combined	Aug. 18, 1868.
84,450	Same.....Safety-horse hitch. (Antedated Sept. 22, 1868)	Nov. 24, 1868.
	Same.....(*See* Patton, Wm. P., assignor.)	
81,442	Weaver, W. B., Reading Center, N. Y. Saw set	Aug. 25, 1868
75,322	Webb, C. H., New York, N. Y. Adding machine	Mar. 10, 1868.
76,857	Webb, Charles R., Philadelphia, Pa. Boom gear	Apr. 14, 1868.
73,853	Webb, George, Lewiston, Maine. Bridle bit	Jan. 28, 1868.
74,459	Webb, Josiah, Spartansburg, Pa. Washing machine	Feb. 11, 1868.
82,259	Same.....Clothes wringer	Sept. 15, 1868.
84,451	Webb, Milo, Chenango Forks, N. Y. Mechanical movement	Nov. 24, 1868.
	Webb, Thomas S., *et al.* (*See* Martin, Barrett & Webb.)	
85,496	Webb, Timothy U., Springfield, Ill. Gang plow (Antedated Dec. 22, 1868)	Dec. 29, 1868.
76,858	Webber, Eugene, Portage, Mich. Horse collar	Apr. 14, 1868.
	Webber, G. A., *et al.* (*See* Vaughn, Chadwell, Childress & Webber.)	
	Webber, John, and Edward McGivern. (*See* Kinney, Israel, assignor.)	
	Weber, Anthony, and Earnest Kaufmann. (*See* Kaufmann & Weber.)	
82,458	Weber, Charles, and Henry Reimann, West Meriden, Conn. Lamp	Sept. 22, 1868.
83,230	Weber, George R., Springfield, Ill. Washing machine	Oct. 20, 1868.
78,498	Webster, Alexander, Seneca Falls, N. Y. Apparatus for distilling	June 2, 1868.
76,961	Webster, Charles, New Haven, Vt. Feed-water heater for boilers	Apr. 21, 1868.
76,364	Webster, D. P., New York, N. Y. Furnace for smelting lead ores	Apr. 7, 1868.
76,678	Same.....Bottle for holding hydro-fluoric acid	Apr. 14, 1868.
76,679	Same.....Smelting lead ores	Apr. 14, 1868.
77,786	Webster, E. Z., Louisville, Ky. Stove for railroad cars	May 12, 1868.
85,041	Same.....Norwich, Conn. Hat conformator	Dec. 15, 1868.
78,034	Webster, Harvey, Cambridge, Vt. Whiffletree	May 19, 1868.
78,035	Same.....Thill coupling	May 19, 1868.
77,141	Webster, J. B., Stockton, Cal. Seed sower and harrow attachment to gang plows	Apr. 21, 1868.
	Webster, John G., *et al.* (*See* Hilton, Webster & Wheeler.)	
2,859	Webster, John T., assignor to Edward Harvey, New York, N. Y. Floor oil-cloth pattern (Design)	Jan. 14, 1868.
73,413	Webster, Joseph R., Boston, Mass. Mode of straining wood saws	Jan. 14, 1868.
76,011	Webster, Nelson, Plainfield, N. J. Weeding tool	Mar. 24, 1868.
74,645	Webster, R. A., Sandisfield, Mass. Inner sole	Feb. 18, 1868.
79,090	Webster, R. A., assignor to self and John and R. J. Dowd, Sandisfield, Mass. Inner sole for boots and shoes	June 23, 1868.
78,163	Webster, William, Morrisania, N. Y. Weaving pile fabrics	May 19, 1868.
82,773	Same.....Loom for weaving pile fabrics. (Antedated Aug. 24, 1868)	Oct. 6, 1868.
77,936	Wedekind, Gustav, Philadelphia, Pa. Lamp shade	May 12, 1868.
79,526	Same.....same	June 30, 1868.
85,042	Wedekind, Gustav A., and Helmuth Dueberg, New York, N. Y. Burning kiln	Dec. 15, 1868.
74,961	Weed, Alfred, Boston, Mass. Boring faucets	Feb. 25, 1868.
78,499	Same.....Self-boring stop-cock	June 2, 1868.
82,774	Weed, Andrew J., Hardwick, Vt. Sugar pan derrick	Oct. 6, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,859	Weed, Henry J., assignor to self, E. S. Card, and F. Carpenter, Cazenovia, N. Y. Chimney cap	Apr. 14, 1868.
74,262	Weed, Otis H., Charlestown, Mass. Bedstead slat	Feb. 11, 1868.
77,424	Weeden, William N., Boston, Mass. Tag fastening	Apr. 28, 1868.
	Weeden, W. N., and E. A. Locke. (*See* Locke & Weeden.)	
	Same.....same.	
	Same.....same.	
82,459	Weedon, H. W., High Point, N. C. Soap and detergent compound	Sept. 22, 1868.
79,039	Weeks, Alfred M., New York, N. Y. Lamp shade	June 16, 1868.
79,423	Weeks, Arnel, Syracuse, N. Y. Machine for making cigars	June 30, 1868.
81,852	Weeks, William, Albany, N. Y. Die for stamping wooden boxes	Sept. 1, 1868.
	Weever, Horatio D., and John W. Hollingsworth. (*See* Hollingsworth & Weever.)	
79,040	Wegman, Franz Rudolph, assignor to self and Tobias Kohn, Saxony. Wire spring mattress. (Patented in Saxony March 6, 1865)	June 16, 1868.
	Weguelin, John Christopher Rees. (*See* Marshall, John, assignor.)	
77,787	Wehrly, Samuel, San Francisco, Cal. Trunk-lid supporter	May 12, 1868.
79,793	Same.....Spur	July 7, 1868.
78,703	Wehrly, Samuel, assignor to self and E. V. Sutter, San Francisco, Cal. Spur. (Antedated May 4, 1868)	June 9, 1868.
	Weidenmann, I., and M. G. Imbach. (*See* Imbach & Weidenmann.)	
77,555	Weidig, John, assignor to William W. Lyman, Philadelphia, Pa. Fruit jar	May 5, 1868.
78,627	Weihe, Herman C., Philadelphia, Pa. Counter shafting	June 2, 1868.
78,245	Weiland, Godfried, assignor to self and Ira R. Amsden, Buffalo, N. Y. Harvester	May 26, 1868.
81,443	Weild, William, assignor to Elias S. Higgins, England. Operating pile wires in looms	Aug. 25, 1868.
73,681	Weiler, William, Washington, N. J. Car coupling	Jan. 21, 1868.
76,279	Same.....Portable rock-drilling machine	Mar. 31, 1868.
80,579	Same.....Rock-drilling machine	Aug. 4, 1868.
84,239	Weinmann, Bernhard, Cincinnati, Ohio. Steam whistle	Nov. 17, 1868.
73,854	Weirich, B., and H. H. Shartle, Middlebury, Ind. Tube well	Jan. 28, 1868.
77,142	Weirich, B., and John Smith, Middlebury, Ind. Farm-gate	Apr. 21, 1868.
81,444	Weise, David S., assignor to self, Jacob H. Bingaman, and Joseph W. Goshert, Brecknock Township, Pa. Railroad gate	Aug. 25, 1868.
78,164	Weiser, David, Philadelphia, Pa. Hammer handle	May 19, 1868.
75,088	Weisiger, J. R., Danville, Ky. Pump	Mar. 3, 1868.
85,261	Weiss, E., Switzerland. Treating cereals for the manufacture of flour, meal, &c.	Dec. 22, 1868.
84,452	Weiss, Henry W., Quakertown, Pa. Dung drag and hook	Nov. 24, 1868.
84,398	Weissenborn, Edward, Hudson City, N. J. Construction of school globes	Nov. 24, 1868.
	Welby, M. M., and C. H. Slicer. (*See* Wrightson, Hugh S., *et al.*)	
74,646	Welch, Benjamin G., Danville, Pa. Gang punch	Feb. 18, 1868.
2,959	Welch, E. N., Forestville, Conn. Clock-case sash.....(Design)	Mar. 17, 1868.
77,788	Welch, Patrick, New York, N. Y. Necktie	May 12, 1868.
73,414	Welch, Rollin C., and Joseph B. Miller, Buffalo, N. Y. Tube well	Jan. 14, 1868.
	Welch, Spring & Company. (*See* Spring, Solomon C., assignor).....(Design.)	
	Same.....same.....(Design.)	
2,857	Welch, Thomas, Churchville, N. Y. Crank-pin box.....(Reissue)	Feb. 4, 1868.
2,868	Same.....Crank pin and box for harvesters.....(Reissue)	Feb. 11, 1868.
78,904	Same.....Harvester	June 16, 1868.
80,318	Welch, Thomas W., and G. B. Starbird, Mechanicsburg, Pa. Foundation for fences	July 28, 1868.
78,905	Welch, William P., Boston, Mass. Guide for band saws	June 16, 1868.
	Weld, Mason C., *et al.* (*See* Lugo, Orazio, assignor.)	
	Weller, A., and Alonzo Armstrong. (*See* Armstrong & Weller.)	
82,906	Weller, Fayette M., Chicago, Ill. Trace fastener. (Antedated Sept. 24, 1868)	Oct. 6, 1868.
74,778	Weller, J. W., Cleveland, Ohio. Fluid meter	Feb. 25, 1868.
84,033	Wellhouse, George, Akron, Ohio. Dropping platform for harvesters	Nov. 10, 1868.
77,937	Welling, Samuel G., New Rochelle, N. Y. Bed-pan attachment for invalid beds. (Antedated May 4, 1868)	May 12, 1868.
77,938	Welling, William M., New York, N. Y. Artificial ivory. (Antedated May 2, 1868)	May 12, 1868.
	Same.....(*See* Starr, Alfred, assignor.)	
	Welling, William M., and Alfred Starr. (*See* Starr & Welling.)	
76,962	Wellington, Charles A., East Lexington, Mass. Traveling bag	Apr. 21, 1868.
81,313	Wellington, Darius, Boston, Mass. Brick machine. (Antedated Aug. 6, 1868)	Aug. 18, 1868.
81,314	Same.....Machine for separating stones from clay	Aug. 18, 1868.
85,192	Same.....Water closet	Dec. 22, 1868.
	Wellington, T. W. (*See* Smith, More, assignor.)	
	Wellman, E. G., and J. S. Bridgman. (*See* Bridgman & Wellman.)	
73,145	Wellman, H. B., Alleghany City, Pa. Lamp	Jan. 7, 1868.
78,906	Same.....Indianapolis, Ind. Construction of oil cans	June 16, 1868.
79,710	Wellman, Samuel K., Nashua, N. H. Hydraulic crane	July 7, 1868.
73,212	Wells, E. B., Northampton, Mass. Scraper attachment to ears	Jan. 7, 1868.
76,012	Wells, Ephraim B., New York, N. Y. Roofing compound	Mar. 24, 1868.
83,345	Wells, Frank B., Fishkill-on-the-Hudson, N. Y. Binding mathematical books	Oct. 20, 1868.
76,013	Wells, Franklin A., assignor to Jacob Estey & Company, Brattleboro, Vt. Reed organ	Mar. 24, 1868.
84,034	Wells, George, and S. A. Haynes, Island Pond, Vt. Mop wringer	Nov. 10, 1868.
85,043	Wells, George A., Oskaloosa, Iowa. Riddle for grain separators	Dec. 15, 1868.
74,180	Wells, George M., assignor to Moses D. Wells, London, Great Britain. Last	Feb. 4, 1868.
74,181	Same.....same.	Feb. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,425	Wells, George M., assignor to Moses D. Wells, Chicago, Ill. Last holder or jack.	Apr. 28, 1868.
2,942	Wells, Henry A., deceased, by Eliza Wells, administratrix, Brooklyn, N. Y. Machinery for making hat bodies.....(Reissue)..	May 19, 1868.
74,779	Wells, Isaac M., Jeffersonville, Ohio. Burglar alarm.....	Feb. 25, 1868.
79,617	Wells, Lemuel T., St. Louis, Mo. Printing press.....	July 7, 1868.
77,556	Wells, Marcus M., Hartwick, N. Y. Grain rake.....	May 5, 1868.
79,618	Wells, Martin, New York, N. Y. Pointed bracket for lightning rods.....	July 7, 1868.
	Wells, S. B., *et al.* (*See* Strevell, Kerper & Wells.)	
82,666	Wells, S. C., Le Roy, N. Y. Pantaloons stretching device.....	Sept. 29, 1868.
84,240	Wells, William, Ashtabula, Ohio. Spring butt.....	Nov. 17, 1868.
76,123	Wells, William C., Newark, N. J. Drill gauge.....	Mar. 31, 1868.
78,569	Wells, William C., Philadelphia, Pa. Ice creeper.....	June 2, 1868.
74,460	Welsch, Jonathan C., Edgerton, Ohio. Knitting machine.....	Feb. 11, 1868.
82,907	Welsh, Christopher C., Pleasant Valley, Pa. Machine for converting rotary into reciprocating motion.....	Oct. 6, 1868.
85,151	Welsh, George W., and George Wylie, Arlington, Wis. Wagon brake.....	Dec. 22, 1868.
77,143	Welte, Charles, Frankford, Pa. Meat cutter.....	Apr. 21, 1868.
80,102	Welty, Isaac, Olney, Ill. Sulky cultivator.....	July 21, 1868.
74,263	Wemmer, N. J. and J. P., Philadelphia, Pa. Branding instrument.....	Feb. 11, 1868.
2,931	Wemple, Jacob V. A., Quincy, Mich. Harvester.....(Reissue)..	May 12, 1868.
	Wemyss, A., and David Stuart. (*See* Stuart and Wemyss.)	
80,846	Wendell, Charles, Albany, N. Y. Slate frame.....	Aug. 11, 1868.
78,704	Wendell, Isaac P., Philadelphia, Pa. Lubricating journals of car shafts. (Antedated May 23, 1868).....	June 9, 1868.
84,326	Wendell, Isaac P., assignor to Ebert J. Wendell, Philadelphia, Pa. Journal bearing for railroad cars. (Antedated May 25, 1868.).....	Nov. 24, 1868.
76,014	Wendell, W. C., Albany, N. Y. Slate frame.....	Mar. 24, 1868.
80,254	Wendt, Hermann, assignor to Henry and Robert H. Seymour, Elizabeth, N. J. Shears.....	July 21, 1868.
80,255	Wendt, Hermann, assignor to Henry Seymour and Company, Elizabeth, N. J. Sheep shears.....	July 21, 1868.
81,564	Wenger, Edouard, assignor to self and Joseph Martischang, Richmond, Ind. Composition for pavements.....	Aug. 25, 1868.
81,853	Wenham, Francis Herbert, assignor to Andrew Shanks, England. Hot air engine.....	Sept. 1, 1868.
84,783	Wensley, James, New Brunswick, N. J. Guiding attachment for sewing machines.....	Dec. 8, 1868.
73,481	Wentworth, Hiram, and V. B. Clark, Ripon, Wis. Lantern.....	Jan. 21, 1868.
78,405	Wentworth, William P., assignor to self and Thomas S. Sprague, Detroit, Mich. Stake holder for cars. (Antedated May 16, 1868).....	May 26, 1868.
76,860	Wentz, J., Girard, Ala. Cotton, or hay press.....	Apr. 14, 1868.
75,226	Wenzell, Philipp, assignor to H. C. Lauterbaek, Mentz, Germany. Window sash supporter.....	Mar. 3, 1868.
3,258	Werk, Michael, Cincinnati, Ohio. Trade mark.....(Design)..	Nov. 17, 1868.
74,737	Werndl, Josef, Steyer, Austria. Breech-loading fire-arms.....	Feb. 18, 1868.
82,908	Werner, Daniel, St. Louis, Mo. Breech-loading pistol.....	Oct. 6, 1868.
76,570	Werner, Julius, New York, N. Y. Sofa bedstead.....	Apr. 7, 1868.
	Werner, Werner. (*See* Zippe, G., assignor.)	
76,124	Wertman, Daniel K., Centralia, Pa. Breast pad.....	Mar. 31, 1868.
78,776	Wertz, William, Pana, Ill. Car axle cap.....	June 9, 1868.
75,611	Wesgate, Joseph Davis, San Francisco, Cal. Sad-iron holder.....	Mar. 17, 1868.
84,035	Wesley, George W., Troy, Pa. Water wheel.....	Nov. 10, 1868.
82,909	Wesselhoeft, Minna, Baltimore, Md. Extract of barley malt.....	Oct. 6, 1868.
78,847	Wesson, D. B., assignor to Wesson Fire-arms Company, Springfield, Mass. Breech-loading fire-arm.....	June 9, 1868.
	Wesson, D. B., and Horace Smith. (*See* Smith and Wesson.).....(Extension)..	
	Same.....same. .....(Extension)..	
	Wesson, Edward M. (*See* Fiske, Milton A., assignor.)	
	Wesson Fire-arms Company. (*See* Stokes, John, assignor.)	
84,976	Wesson, Frank, Worcester, Mass. Revolving fire-arm.....	Dec. 15, 1868.
74,962	Wesson, Martin, Springfield, Mass. Shoe.....	Feb. 25, 1868.
84,977	Wesson, Phineas D., Providence, R. I. Steam heater.....	Dec. 15, 1868.
82,369	Wesson, Samuel, Worcester, Mass. Corn husker.....	Sept. 22, 1868.
83,809	West, Andrew, Burlington, Iowa. Bed bottom.....	Nov. 3, 1868.
	West, Andrew B., and Sylvester Bissell. (*See* Johnson, Alonzo, assignor.)	
	West, Bailey. (*See* Sanborn, Woodbury, assignor.)	
79,927	West, Charles F., assignor to J. F. Tapley & Company, Boston, Mass. Paper-ruling machine.....	July 14, 1868.
77,939	West, E. B., St. Anthony, Minn. Churn dasher.....	May 12, 1868.
	West Haven Buckle Company. (*See* Hartshorn, Sheldon S., assignor.)	
74,647	West, Isaac H., and Tertius L. Camp, Evans, N. Y. Culinary boiler.....	Feb. 18, 1868.
81,315	West, J. Burns, assignor to Samuel Finley, Geneseo, N. Y. Lathe for turning balls.....	Aug. 18, 1868.
	West, R. (*See* Hackett, Ephraim, assignor.)	
74,780	Westbrook, Abram, and Stephen O. Doan, Leona, Pa. Detaching check reins..	Feb. 25, 1868.
77,144	Westcott, Amos, Syracuse, N. Y. Churn.....	Apr. 21, 1868.
84,784	Same.....same.....	Dec. 8, 1868.
	Westcott, Amos, and Lewis T. Hawley. (*See* Hawley and Westcott.)	
82,048	Westcott, Henry P., assignor to Seneca Falls Churn Manufacturing Company, Seneca Falls, N. Y. Butter pail.....	Sept. 8, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
81,565	Westcott, J. D., Waterford, Pa. Pump piston	Aug. 28, 1868.
	Westcott, Robert. (*See* Spencer, Elihu, assignor.)	
84,150	Westfall, Wesley. Chelsea, Mich. Field roller	Nov. 17, 1868.
80,375	Westhead, Marcus Brown, England. Ribbon roll clip	July 28, 1868.
81,040	Same.....Tape box	Aug. 11, 1868.
76,365	Westinghouse, George, jr., Schenectady, N. Y. Railway frog	Apr. 7, 1868.
74,020	Westlake, William, Brooklyn, N. Y. Lantern globe	Feb. 4, 1868.
76,366	Same.....Lantern	Apr. 7, 1868.
76,367	Same.....Manufacture of spouts for tea pots	Apr. 7, 1868.
80,790	Same.....Chicago, Ill. Strainer	Aug. 4, 1868.
82,187	Westland, Charles S., and John B. Allen, Providence, R. I. Kitchen implement	Sept. 15, 1868.
74,182	Weston, C. H., Lowell, Mass. Bench hook, (for carpenters' benches)	Feb. 4, 1868.
76,015	Weston, C. I., Cummington, Mass. Dressing hides and furs	Mar. 24, 1868.
2,845	Weston, David M., Boston, Mass. Centrifugal machine for draining sugar and other substances.....(Reissue)	Jan. 14, 1868.
74,021	Same.....Machine for separating paints and other solid substances	Feb. 4, 1868.
75,323	Same.....Self-oiling hub for pulleys, &c	Mar. 10, 1868.
76,861	Same.....Belt stud	Apr. 14, 1868.
82,049	Weston, D. M., Boston, Mass. Self-balancing centrifugal machine	Sept. 8, 1868.
81,717	Weston, D. M., assignor to Green, Tweed & Company, Boston, Mass. Belt punch	Sept. 1, 1868.
77,688	Weston, Erastus D., Taunton, Mass. Cooking stove	May 5, 1868.
82,910	Same.....same	Oct. 6, 1868.
83,231	Weston, Henry, and George C. Langtry, Dayton, Nev. Concentrator for dressing ores	Oct. 20, 1868.
83,678	Weston, J. W., New York, N. Y. Fruit carrier. (Antedated October 17, 1868.)	Nov. 3, 1868.
75,089	Weston, T. A., Buffalo, N. Y. Ratchet head and lever	Mar. 3, 1868.
75,090	Same.....same	Mar. 3, 1868.
75,091	Same.....Ratchet brace	Mar. 3, 1868.
75,092	Same.....Ratchet brace, or lever	Mar. 3, 1868.
75,093	Same.....Ratchet brace lever	Mar. 3, 1868.
75,227	Weston, Thomas Aldridge, England. Coupling and brake	Mar. 3, 1868.
73,766	Westover, George C., Paducah, Ky. Combined churn and ice-cream freezer	Jan. 28, 1868.
80,103	Westover, John, Taylor, Ill. Elevator	July 21, 1868.
84,036	Wetherbee, Albert, Waltham, Mass. Composition tip for billiard cues	Nov. 10, 1868.
83,012	Wetherbee, John W., assignor to self and Richard Rowse, Charlestown, Mass. Reclining chair	Oct. 13, 1868.
80,319	Wetherell, Joseph L., Attleboro, Mass. Pad for horses' hoofs	July 28, 1868.
	Wetherill, Robert N., *et al.* (*See* Stratton, James, assignor.)	
73,146	Wetherill, Samuel, Philadelphia, Pa. Process of manufacturing white oxide of zinc	Jan. 7, 1868.
73,147	Same.....Apparatus for the manufacture of white oxide of zinc	Jan. 7, 1868.
84,073	Wetmore, H. P., Elizabeth, N. J., and J. G. Hitchcock, New York, N. Y. Cloth drawers	Nov. 17, 1868.
74,781	Wetzel, Anton, Cincinnati, Ohio. Permutation lock	Feb. 25, 1868.
	Wetzel, Paul and George. (*See* Phillips, M. E., assignor.)	
73,148	Wetzell, Ludwig, Washington, D. C. Hames tug buckle	Jan. 7, 1868.
78,246	Wharff, Joseph, Bangor, Maine. Machine for boring hubs for wagon wheels	May 26, 1868.
73,213	Wharry, John R., Moundsville, West Va. Ventilator and window shade	Jan. 7, 1868.
75,612	Same.....window netting	Mar. 17, 1868.
80,039	Wharton, George, Jerseyville, Ill. Gang plow	July 14, 1868.
82,572	Wharton, J. C., Nashville, Tenn. Tumbler stand	Sept. 29, 1868.
83,346	Same.....Jet attachment for soda fountains	Oct. 20, 1868.
74,461	Wharton, William, jr., Philadelphia, Pa. Railway frog	Feb. 11, 1868.
78,165	Same.....Railway switch	May 19, 1868.
78,500	Same.....same	June 2, 1868.
74,022	Wheat, James E., Rochester, N. Y. Letter game	Feb. 4, 1868.
84,785	Wheat, S., Middletown, and D. B. Wheat, New York, N. Y., assignors to Francis M. and Ellen A. Wheat. Refrigerator	Dec. 8, 1868.
75,713	Wheatley, R. B., Grandview, Ind. Tire-setting machine	Mar. 17, 1868.
78,406	Wheaton, L. F., Madison, Conn. Dust pan	May 26, 1868.
76,862	Wheaton, Miles B., New York, N. Y. Clothes dryer	Apr. 14, 1868.
74,462	Wheeler, Benjamin F., Calais, Vt. Wagon brake	Feb. 11, 1868.
80,256	Same.....Sleigh brake	July 21, 1868.
	Wheeler, Charles L. (*See* Hascltine, John, assignor.)	
74,463	Wheeler, Cyrenus, jr., Auburn, N. Y. Pitman connection for harvesters	Feb. 11, 1868.
76,521	Same.....Harvester	Apr. 7, 1868.
77,145	Same.....same	Apr. 21, 1868.
77,146	Same.....Harvester rake	Apr. 21, 1868.
79,881	Same.....same	July 14, 1868.
84,151	Same.....Harvester	Nov. 17, 1868.
85,044	Same.....Harvester rake	Dec. 15, 1868.
	Same.....Grain and grass harvester.....(Extension of No. 875)	Dec. 9, 1868.
	Same.....Harvester.....(Extension of No. 2,210)	Dec. 9, 1868.
	Same.....Grain and grass harvester.....(Extension of No. 877)	Dec. 9, 1868.
	Same.....same.....(Extension of No. 878)	Dec. 9, 1868.
	Same.....same.....(Extension of No. 879)	Dec. 9, 1868.
	Same.....same.....(Extension of No. 881)	Dec. 9, 1868.
	Same.....(*See* Merrell, Wm. G., assignor.)	
	Same.....(*See* Arlington, Charles C., assignor.)	
80,791	Wheeler, Elonzo S., Westport, Conn. Rivet	Aug. 4, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,016	Wheeler, Elonzo S., assignor to self and J. E. Wheeler, Westport, Conn. Button	Mar. 24, 1868.
73,214	Wheeler, Emery T., and Wm. H. Vaughan, Cannelton, Ind. Machine for sawing lath	Jan. 7, 1868.
73,415	Wheeler, George, Chicago, Ill. Lantern	Jan. 14, 1868.
73,215	Wheeler, George W., and George V. Allen, Hartford, Vt. Water wheel	Jan. 7, 1868.
	Wheeler, Henry A., *et al.* (*See* Deming, F., assignor.)	
	Wheeler, Hiram E., *et al.* (*See* Hilton, Webster & Wheeler.)	
80,792	Wheeler, H. F., Boston, Mass. Nut squaring chuck	Aug. 4, 1868.
	Wheeler, James W., *et al.* (*See* Cawl, Corning & Wheeler.)	
76,125	Wheeler, Joel M., Oxford, Conn. Steam jet head for cleaning boiler flues	Mar. 31, 1868.
	Wheeler, John, *et al.* (*See* Chandler, Wm. H., assignor.)	
77,557	Wheeler, John A., Freeborn, Minn. Wind mill	May 5, 1868.
80,257	Wheeler, John B., Neville, Ohio. Envelope	July 21, 1868.
73,855	Wheeler, J. H., Addison, Vt. Match box	Jan. 28, 1868.
77,340	Wheeler, J. T., St. Charles, Ill. Washing machine	Apr. 28, 1868.
84,074	Wheeler, John W., assignor to H. H. Wheeler, Cleveland, Ohio. Machine for spreading paint or mastic	Nov. 17, 1868.
84,597	Wheeler, Leroy B., Madison, Wis. Washing machine	Dec. 1, 1868.
82,775	Wheeler, N. W., Ripon, Wis. Combined harrow and cultivator	Oct. 6, 1868.
80,847	Wheeler, Orren L., Lewiston, Maine. Measuring faucet	Aug. 11, 1868.
76,680	Wheeler, Seth, Albany, N. Y. Pulley and gearing for machinery	Apr. 14, 1868.
79,168	Same.....Shaft coupling	June 23, 1868.
79,169	Wheeler, William O., Deposit, N. Y. Street lamp	June 23, 1868.
	Wheelock, Finlay & Company. (*See* Ford & Logan, assignors.)	
75,714	Wheelock, Jerome, Worcester, Mass. Piston	Mar. 17, 1868.
84,598	Wheelock, Luke, assignor to Winchester Repeating Arms Company, New Haven, Conn. Magazine fire-arm	Dec. 1, 1868.
	Whelan, Charles A., *et al.* (*See* Bowen, Reed & Whelan.)	
77,147	Whelan, Martin, New Haven, Conn. Carriage hub	Apr. 21, 1868.
80,040	Whelden, Andrew, South Dennis, Mass. Lantern	July 14, 1868.
83,427	Whelpley, James D., Boston, Mass. Rotary steam-engine	Oct. 27, 1868.
76,280	Whelpley, James D., and Jacob J. Storer, Boston, Mass. Steam boiler furnace	Mar. 31, 1868.
	Whetlock, Daniel. (*See* Seymour, James M., assignor.)	
81,965	Whipple, Heman, and Elon Denio, Baldwinsville, N. Y. Making forks	Sept. 8, 1868.
74,738	Whipple, James T., Chicago, Ill. Pump for deep wells	Feb. 18, 1868.
78,705	Whipple, John L., Detroit, Mich. Spring seat	June 9, 1868.
84,599	Whipple, Milton D., Cambridge, Mass. Felting hats	Dec. 1, 1868.
73,556	Whipple, S. J., assignor to self and Joseph H. Atkinson, Orville, Cal. Churn	Jan. 21, 1868.
2,923	Whisler, David, Union Township, Ohio. Ditching machine (Reissue)	May 5, 1868.
78,247	Whisler, H., and J. S. Berry, New Market, Ohio. Still	May 26, 1868.
81,041	Whissemore, John H., Mansfield, Ohio. Harness tree	Aug. 11, 1868.
75,324	Whitaker, Benjamin F., Whitestown, Ind. Gate and door spring	Mar. 10, 1868.
	Whitaker, James, and A. M. Damon. (*See* Damon & Whitaker.)	
75,094	Whitaker, Samuel H., Cincinnati, Ohio. Globe valve	Mar. 3, 1868.
3,109	Whitall, Henry, Woodbury, N. J. Machine for grinding the cutters of mowing machines (Reissue)	Sept. 1, 1868.
81,854	Whitcomb, Alonzo, Worcester, Mass. Planing machine	Sept. 1, 1868.
2,994	Whitcomb, George, Port Chester, N. Y. Horse rake (Division A, reissue)	June 16, 1868.
2,995	Same.....same (Division B, reissue)	June 16, 1868.
76,863	White, Aaron B., Mendon, Mich. Bolt trimmer	Apr. 14, 1868.
80,041	White, Albert M., Thompsonville, Conn. Railway car seat	July 7, 1868.
85,193	White, Albert M., assignor to the American Brush Company, Thompsonville, Conn. Brush-making machine	Dec. 22, 1868.
	White, Almeth. (*See* Timmons, Wm. W., assignor.)	
74,648	White, A. J., Ballston Spa, N. Y. Oil-burning apparatus	Feb. 18, 1868.
76,017	White, A. M., Thompsonville, and E. G. Burnham, Bridgeport, Conn. Faucet for soda water fountains	Mar. 24, 1868.
82,573	White, A. S., Malone, N. Y. Harrow and cultivator	Sept. 29, 1868.
	White, B. L. (*See* Hardy, Cyrus H., assignor.)	
74,183	White, Charles, Bladensburg, Md. Plow	Feb. 4, 1868.
80,376	White, Cyrus B., Port Richmond, N. Y. Gib and self-oiler	July 28, 1868.
81,445	White, C. N., assignor to self, W. S. Harris, and T. P. Roland, Batesville, Miss. Churns	Aug. 25, 1868.
76,864	White, Daniel and George H., Chicago, Ill. Street letter-box	Apr. 14, 1868.
79,041	White, D. A., Chagrin Falls, Ohio. Stovepipe damper	June 16, 1868.
77,940	White, Daniel M., Malden, Mass. Portable music stand	May 12, 1868.
84,327	White, Darius, Portland, Maine. Paint brush	Nov. 24, 1868.
73,856	White, Eli, and William Shilvock, New York, N. Y. Bung	Jan. 28, 1868.
79,711	White, E. I., Locke, N. Y. Horse hay fork	July 7, 1868.
77,689	White, George H., Huntington, N. Y. Device for preventing and curing cribbiting in horses	May 5, 1868.
78,628	White, George M., and Charles S. Mecker, New Haven, Conn. Curtain fixture	June 2, 1868.
73,557	White, Gilbert, assignor to self and Gustavus Pierrez, Harlem, N. Y. Hand-hole joint for boilers	Jan. 21, 1868.
79,882	White, H. K., Conneaut Township, Pa. Washing compound	July 14, 1868.
	Same.....same (Disclaimer filed)	Sept. 18, 1868.
	White, Henry K., and Levi K. Fuller. (*See* Fuller & White.)	
73,416	White, Hiram W., Olney, Ill. Desk and seat	Jan. 14, 1868.
	White, J. B. (*See* Cochrane, E. C., assignor.)	
73,065	White, Jacob D., Kilbourne, Ohio. Sheep rack	Jan. 7, 1868.
80,688	White, James, Harrison, Ohio. Car coupling	Aug. 4, 1868.
75,501	White, James, and Thomas Lingle, South Amboy, N. J. Car brake	Mar. 10, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,682	White, James H., San Francisco, Cal. Hydrocarbon burner	Jan. 21, 1868.
84,664	White, Jarvis B., Detroit, Mich. Combination lock	Dec. 1, 1868.
84,665	Same.....Carriage jack	Dec. 1, 1868.
84,849	Same.....Clothes dryer	Dec. 8, 1868.
81,042	White, John H., Lima, Peru. Rice pounding machine	Aug. 11, 1868.
	White, Joseph, and Wilson Jewell. (*See* Cassiday, Charles H., assignor.)	
73,216	White, Joseph P., Savannah, Ga. Marker for sewing machines	Jan. 7, 1868.
2,992	White, Leroy S., Waterbury, Conn. Spoon and fork handle.....(Design)	Mar. 31, 1868.
82,188	White, Margeannah, Providence, R. I. Shoe lacing	Sept. 15, 1868.
	White, O. A., and Martin Heliker. (*See* Heliker & White.)	
82,776	White, Otis C., Hopkinton, Mass., and Austin T. Ashmead, Hartford, Conn. Dentists' chair	Oct. 6, 1868.
77,690	White, Peter, St. Louis, Mo. Check valve. (Antedated April 22, 1868)	May 5, 1868.
75,228	White, Philo B., and Henry M. C., Dowagiac, Mich. Pump	Mar. 3, 1868.
	White, P. B., and Hugh Dool. (*See* Dool & White.)	
82,911	White, Rudolph, Newport, Pa. Clothes-line adjuster	Oct. 6, 1868.
75,819	White, Stillman, assignor to self and Christopher Dexter, Providence, R. I. Pump	Mar. 24, 1868.
	White, Stillman, and L. W. Cushing. (*See* Cushing & White.)	
75,502	White, T. B., New Brighton, Pa. Bridge	Mar. 10, 1868.
77,148	White, Thayer D., Cincinnati, Ohio. Dovetail machine	Apr. 21, 1868.
77,149	Same.....Machine for making dovetail mortises	Apr. 21, 1868.
	White, Thomas H. (*See* Porter, D'Arcy, assignor.)	
	White, Thomas H., and Warren Johnson. (*See* McNeil, Wm. S., assignor.)	
78,777	White, Warren W., and Martin King, Lowville, N. Y. Refrigerating milk can	June 9, 1868.
74,963	White, Wells H., Troy, Ohio. Concrete pavement	Feb. 25, 1868.
77,941	White, William H., Lynn, Mass. Tube well	May 12, 1868.
78,036	White, William H., New York, N. Y. Hat	May 19, 1868.
80,377	Whitehead, Job, Ames Station, Iowa. Carriage	July 28, 1868.
81,043	Whitehead, William H., Chicago, Ill. Combustion chamber in coal stoves	Aug. 11, 1868.
	Whitehill, James. (*See* Campbell, Abner, assignor.)	
76,018	Whitehill, James, Frederick, Md. Hot air furnace	Mar. 24, 1868.
75,095	Whitehouse, Ralph C., Boothbay, Me. Frying pan	Mar. 3, 1868.
77,426	Same.....Clevis	Apr. 28, 1868.
85,194	Same.....Stove oven	Dec. 22, 1868.
	Whiteley, Andrew. (*See* Gage, Wm., assignor).....(Reissue.)	
	Same.....same.....(Reissue.)	
75,229	Whitelcy, A., assignor to William N. Whitcley, jr., Springfield, Ohio. Harvester	Mar. 3, 1868.
3,058	Whiteley, Edward, Boston, Mass. Culinary boiler.....(Reissue)	July 28, 1868.
78,501	Whiteley, William, Springfield, Ohio. Plow	June 2, 1868.
74,464	Whitcley, William N., Springfield, Ohio. Harvester rake	Feb. 11, 1868.
77,691	Same.....Harvester	May 5, 1868.
79,170	Same.....Harvester rake	June 23, 1868.
80,258	Same.....Harvester	July 21, 1868.
81,044	Same.....Harvester cutter	Aug. 11, 1868.
81,045	Same.....Harvester rake	Aug. 11, 1868.
81,046	Same.....Harvester	Aug. 11, 1868.
82,050	Same.....Harvester reel and rake	Sept. 8, 1868.
84,399	Same.....Harvester	Nov. 24, 1868.
85,045	Same.....same	Dec. 15, 1868.
73,417	Whitelcy, W. N., Jerome Fassler, and O. S. Kelley, Springfield, Ohio. Cider mill	Jan. 14, 1868.
74,465	Whiteley, William N., and Jerome Fassler, Springfield, Ohio. Harvester rake	Feb. 11, 1868.
	Same.....Harvester.....(Disclaimer)	June 1, 1868.
79,171	Whiteley, William N., and Thomas Harding, Springfield, Ohio. Harvester driving wheel	June 23, 1868.
81,121	Whiterow, William H., assignor to self and to William Detrick, New Albany, Ind. Corn sheller	Aug. 18, 1868.
	Whitin, John C. (*See* Aldrich, John H., assignor.)	
	Whiting, Benjamin, *et al.* (*See* Sanderson & Shattuck, assignors.)	
81,966	Whiting, John L., Boston, Mass. Brush	Sept. 8, 1868.
3,235	Same.....same.....(Reissue)	Dec. 15, 1868.
80,689	Whiting, Richard, and Albert Hamilton, New York, N. Y. Grate for stoves, ranges, and heaters	Aug. 4, 1868.
74,466	Whiting, William E., Providence, R. I. Gauge for angers	Feb. 11, 1868.
82,051	Whitlock, Abel, Danbury, Conn. Lamp	Sept. 8, 1868.
78,848	Whitlock, John, Birmingham, Conn. Shackle jack	June 9, 1868.
83,573	Whitlock, William H., Rising Sun, Ind. Turning tool	Oct. 27, 1868.
81,446	Whitlow, Samuel R., Rosefield, Ill. Cough mixture	Aug. 25, 1868.
	Same.....(*See* Stewart, James T., assignor.)	
	Whitman & Miles Manufacturing Company. (*See* Sheldon, Samuel D., assignor.)	
82,052	Whitman, Ephraim, Fitchburg, Mass. Flower pot	Sept. 8, 1868.
80,525	Whitman, F. H., Harrison, Maine. Stove for railroad cars	July 28, 1868.
	Whitman, Lorenzo F., *et al.* (*See* Damron, Massey & Whitman.)	
83,746	Whitman, L. M., assignor to self and A. B. Enderton, Sterling, Ill. Invalid chair	Nov. 3, 1868.
79,794	Whitmarsh, Samuel, Northampton, Mass. Composition for forming moulded and coated articles. (Antedated June 27, 1868)	July 7, 1868.
81,047	Whitmore, Caleb, North Vernon, Ind. Rock drill	Aug. 11, 1868.
73,271	Whitmore, E. B., Rochester, N. Y. Fruit jar	Jan. 14, 1868.
	Whitmore, J. M., and J. N. Arvin. (*See* Arvin & Whitmore.)	
84,462	Whitmore, William C., assignor to Abijah Richardson, Macon City, Mo. Horse-shoe	Nov. 24, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,865	Whitner, Benjamin F., Madison, Fla. Combined planter and manure distributor	Apr. 14, 1868.
81,048	Whitney, Aaron Warren, Woodstock, Vt. Tinsmith's stake	Aug. 11, 1868.
83,347	Whitney, A. W. and P. A., Woodstock, Vt. Machine for bending sheet metal	Oct. 20, 1868.
83,574	Whitney, Bennet, New Brunswick, N. J: Grist mill	Oct. 27, 1868.
74,649	Whitney, Edward P., Stamford, Conn. Carriage curtain fixture	Feb. 18, 1868.
77,427	Same.....Instrument for drawing nails	Apr. 28, 1868.
85,497	Whitney, Eli, New Haven, Conn. Reversible latch	Dec. 29, 1868.
77,692	Whitney, E. R., Plattsburg, N. Y. Dumping sled	May 5, 1868.
79,283	Same.....Car coupling	June 23, 1868.
84,453	Same.....Cover for hay and grain cocks	Nov. 24, 1868.
76,368	Whitney, E. R., assignor to self and Joseph Fraser, Plattsburg. Car coupling	Apr. 7, 1868.
3,066	Whitney, Henry, East Cambridge, Mass. Perfume bottle.....(Design)	June 2, 1868.
3,067	Same.....Toilet bottle.....(Design)	June 2, 1868.
3,068	Same.....Lamp foot.....(Design)	June 2, 1868.
3,110	Whitney, Joel, assignor to James A. Woodbury, Winchester, Mass. Planing machine.....(Reissue)	Sept. 1, 1868.
	Whitney, J., and D. Harrigan. (*See* Harrigan & Whitney.)	
75,503	Whitney, Jonathan, Port Winnebago, Wis. Hop dryer	Mar. 10, 1868.
74,782	Whitney, Levi H., Vallejo, Cal. Fire lighter	Feb. 25, 1868.
76,281	Same.....Washington, D. C. Washing machine	Mar. 31, 1868.
74,870	Whitney, P. A., Woodstock, Vt. Drill and counter-sink	Feb. 25, 1868.
83,348	Same.....Counter-sink. (Antedated October 16, 1868)	Oct. 20, 1868.
74,184	Whitney, S. B., Coxsackie, N. Y. Sustaining device for draft poles for carriages	Feb. 4, 1868.
78,166	Whitney, Thomas, J., Whitpain Township, Pa. Car brake. (Antedated May 9, 1868	May 19, 1868.
83,810	Whitney, William F., Milton, N. Y. Carriage spring	Nov. 3, 1868.
83,349	Whiton, D. E., West Stafford, Conn. Lathe chuck	Oct. 20, 1868.
80,259	Whitson, G. W., Ashville, N. C. Self-loading cart	July 21, 1868.
79,883	Whittaker, Charles, Milwaukie, Wis. Apparatus for moving heavy bodies	July 14, 1868.
84,328	Same.....Rein-holder	Nov. 24, 1868.
74,650	Whittemore, A. S., Chicago, Ill. Grain thresher	Feb. 18, 1868.
81,122	Whittemore, Charles H., Lewiston, Maine. Medical compound	Aug. 18, 1868.
	Whittemore, David. (*See* Lambert, Richard C., assignor.)	
	Same.....same.	
75,096	Whittemore, Harry D., New York, N. Y. Brick kiln	Mar. 3, 1868.
	Whittemore, Henry. (*See* Flurscheim, Michael, assignor.)	
74,023	Whittemore, John R., Chicopee Falls, Mass. Horse rake	Feb. 4, 1868.
77,558	Whitten, Nathan, Etna, Me. Car coupling	May 5, 1868.
	Whittenburg, H. G. W., *et al.* (*See* Smith & Florence, assignors.)	
76,019	Whittenhall, D. S., St. Louis, Mo. Portable building	Mar. 24, 1868.
83,811	Whittier, Charles, assignor to self and Benjamin F. Campbell, Boston, Mass. Steam generator	Nov. 3, 1868.
84,037	Same.....Steam radiator	Nov. 10, 1868.
82,053	Whittier, Reuben S., Dorchester, Mass. Window screen	Sept. 8, 1868.
84,668	Whitton, F., South Carrollton, Ky. Churn	Dec. 1, 1868.
3,040	Whitworth, John, assignor to self and William H. Hawkins, Cleveland, Ohio. Cutter for wood moldings.....(Reissue)	July 14, 1868.
75,097	Whorf, Charles F., assignor to self and Charles M. Elleard, St. Louis, Mo. Hot air furnace	Mar. 3, 1868.
	Wiant, Moses, and George Gorr. (*See* Boyer, John G., assignor.)	
85,152	Wiard, Edward, assignor to self and Samuel W. Pope, Louisville, Ky. Plow	Dec. 22, 1868.
78,849	Wiard, John, New Britain, Conn. Cattle tie	June 9, 1868.
76,282	Wible, Thomas H., Quincy, Ill. Corn planter	Mar. 31, 1868.
82,667	Wickersham, John B., Philadelphia, Pa. Lubricator	Sept. 29, 1868.
75,230	Wickersham, William, Boston, Mass. Marble-cutting machine	Mar. 3, 1868.
78,629	Same.....Electro-magnetic engine	June 2, 1868.
78,630	Same.....Railway rail chair	June 2, 1868.
80,320	Same.....Railway chair	July 28, 1868.
77,150	Wickersham, W. F., and Elisha Roush, Springfield, Ill. Car coupling	Apr. 21, 1868.
81,235	Wickes, William B. (*See* Watson, Jeremiah M., assignor.)	
	Wickham, Horace J., assignor to self and Milton Keeney, Manchester, Conn. Jack for knitting needles	Aug. 18, 1868.
77,942	Wickham, Thomas B., Granville, Ohio. Portable fence	May 12, 1868.
82,668	Same.....Farm gate	Sept. 29, 1868.
79,284	Wicks, Frank, Upper Sandusky, Ohio. Horse rake	June 23, 1868.
83,013	Widgeon, John R., and Fred. E. Frey, Bucyrus, Ohio. Automatic boiler feeder. (Antedated September 26, 1868)	Oct. 13, 1868.
83,428	Widger, William S., and William M. Read, Fairfield, Iowa. Apparatus for tolling grain	Oct. 27, 1868.
73,217	Widman, Joseph, Panola, Ill. Cultivator	Jan. 7, 1868.
77,856	Widmer, Godfrey, New York, N. Y. Adjustable couch	May 12, 1868.
73,558	Wieand, Moses, and George Gorr, Emaus, Pa. Stone and stump extractor	Jan. 21, 1868.
81,049	Wiegand, S. Lloyd, Philadelphia, Pa. Screw-cutting machine. (Antedated July 29, 1868)	Aug. 11, 1868.
81,566	Wiegand, S. Lloyd, assignor to Walter J. Budd, Philadelphia, Pa. Steam generator. (Antedated August 18, 1868)	Aug. 25, 1868.
82,460	Same.....Steam generator. (Antedated September 4, 1868)	Sept. 22, 1868.
74,964	Wiegel, Lawrence, Joseph Lehnbeuter and Charles Fegers, Cincinnati, Ohio. Preparing school slates	Feb. 25, 1868.
84,400	Wieland, C. F., Darmstadt, Ill. Ice spur	Nov. 24, 1868.
81,718	Wiesler, Gerhart, Chicago, Ill. Tumbler-brush	Sept. 1, 1868.
84,038	Wiesmann, Wilhelm, Prussia. Preserving meat	Nov. 10, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,418	Wigal, James P., Henderson, Ky. Animal trap	Jan. 14,1868.
80,580	Wiggin, C. Albert, North Sandwich, N. H. Apple parer	Aug. 4, 1868.
83,575	Wiggin, Jay J., Syracuse, N. Y. Preparation of roofing fabrics	Oct. 27, 1868.
83,576	Same.....Roofing composition for houses, barns, &c	Oct. 27, 1868.
83,014	Wiggin, John E., Stoneham, Mass. Automatic punching machine. (Antedated Sept. 26, 1868)	Oct. 13, 1868.
77,693	Wiggins, George, assignor to self, Charles Herrington, and Hiram Maxfield, Ortonville, Mich. Sheep-shearing table	May 5, 1868.
	Wiggins, John H. (*See* Heyl, John A., assignor.)	
	Same.....same.	
76,572	Wight, David, New London, Conn. Top game board	Apr. 7, 1868.
76,020	Wight, D. R., Sturbridge, Mass. Awl handle	Mar. 24, 1868.
78,407	Wightman, Carmi, Batavia, Ill. Wool box	May 26, 1868.
	Wightman, Joseph C. (*See* Smith, Henry J., assignor.)	
74,651	Wilber, Daniel, Collins Center, N. Y. Combined seed sower and field roller	Feb. 18, 1868.
80,104	Wilber, James G., Kilburn City, Wis. Hop pole	July 21, 1868.
74,965	Wilbur, John R., Chicopee, Mass. Corn sheller	Feb. 25, 1868.
77,694	Wileke, Julius, Newark, N. J. Pump	May 5, 1868.
77,428	Wilcox, A. W., New Haven, Conn. Bellows for reed musical instruments	Apr. 28, 1868.
3,264	Wilcox, B. B., assignor to J. W. Nash, New Haven, Conn. Trade mark. (Design)	Nov. 24, 1868.
82,777	Wilcox, B. H., Petroleum Center, Pa. Horse-power	Oct. 6, 1868.
	Wilcox, D. (*See* Going, F. R., assignor.)	
83,747	Wilcox, D. C., assignor to the Meriden Britannia Company, Meriden, Conn. Manufacture of double-wall ice pitchers	Nov. 3, 1868.
78,037	Wilcox, David F., Greenville, N. Y. Hop pole	May 19, 1868.
	Wilcox, David F., and Edward C. Smith. (*See* Smith & Wilcox.)	
	Wilcox, Elijah W., and Albro S. Dow. (*See* Dow & Wilcox.)	
	Wilcox, George, and Henry P. Beardsley. (*See* Beardsley & Wilcox.)	
77,429	Wilcox, George D., Providence, R. I. Mucilage brush	Apr. 28, 1868.
2,946	Wilcox, Horace C., assignor to the Meriden Britannia Company, West Meriden, Conn. Pitcher.....(Design)	Mar. 3, 1868.
73,272	Wilcox, John, Springfield, Mass. Machine for filling paint cans	Jan. 14, 1868.
83,812	Wilcox, J. W., New York, N. Y. Box	Nov. 3, 1868.
	Wilcox, Linus. (*See* Platt, Edwin A. and George, assignors.)	
76,126	Wilcox, M. S., Union Mills, Ind. Mode of setting wheels on axles	Mar. 31, 1868.
83,115	Wilcox, Samuel W., Mendon, Mass. Paper cutter and ruler	Oct. 13, 1868.
3,196	Wilcox, William J., New York, N. Y. Machine for stirring lard.....(Reissue)	Nov. 17, 1868.
83,429	Wilcox, William S., Wellington, Ohio. Trap net	Oct. 27, 1868.
2,896	Wilcox, William W., Middletown, Conn. Trellis for strawberry and other plants.....(Reissue)	Mar. 10, 1868.
	Wild, Albert. (*See* Wirsching, Alois, assignor.)	
	Wild, Matthew, and G. W. Hawksley. (*See* Hawksley & Wild.)	
74,652	Wilde, John, Daniel, and John H., Washington, Iowa. Cornstalk cutter, preparatory to plowing	Feb. 18, 1868.
79,182	Wilde, Robert, Philadelphia, Pa. Steam generator	June 23, 1868.
2,940	Wilder, Amos, and Cyrus W. Strout, Boston, Mass. Clock front.....(Design)	Feb. 25, 1868.
	Wilder, A. W., *et al.* (*See* Thoma, Alois, assignor.)	
78,248	Wilder, Eli F., Lowell, Mass. Implement	May 26, 1868.
83,116	Wilder, Elihu, Chicopee Falls, Mass. Stop-motion and indicator for knitting machines	Oct. 13, 1868.
84,454	Wilder, Elihu, and John Crandell, Chicopee, Mass. Hemmer for sewing machines	Nov. 24, 1868.
73,149	Wilder, Ezra, South Hingham, Mass. Carriage harness	Jan. 7, 1868.
84,039	Wilder, George C., Lawrence, Kansas. Punch	Nov. 10, 1868.
81,447	Wilder, Henry C., Ashby, Mass. Bail-making machine. (Antedated Aug. 13, 1868)	Aug. 25, 1868.
79,928	Wilder, John B., assignor to self, H. W. Shepard, and George A. Huggins, Mannsville, N. Y. Clinching nippers	July 14, 1868.
76,573	Wilder, J. H., Farmington, Ohio. Horse hay fork	Apr. 7, 1868.
75,613	Wilder, Silvanus C., Sardinia, Ohio. Seed planter	Mar. 17, 1868.
79,424	Wilder, William S., New York, N. Y. Paper-ruling machine	June 30, 1868.
73,419	Wiley, Edwin, Brooklyn, N. Y. Manufacture of pens	Jan. 14, 1868.
77,151	Wiley, Hiram S., Madison, Ind. Machine for jointing staves	Apr. 21, 1868.
	Wiley, John A., *et al.* (*See* Stone, Joseph M., assignor.)	
	Same.....(*See* Ashworth, John, assignor.)	
	Same.....same.	
76,127	Wiley, M. H., Boston, Mass. Potato-digging machine	Mar. 31, 1868.
80,321	Wiley, William H., Fredonia, N. Y. Method of supporting chills in casting	July 28, 1868.
3,059	Same.....Horse-power.....(Reissue)	July 28, 1868.
	Wilford, John B., and L. H. Allen. (*See* Allen & Wilford.)	
84,600	Wilhelms, August, Russia. Chimney	Dec. 1, 1868.
76,681	Wilkin, Cornelius, Dundas, Ill. Plow	Apr. 14, 1868.
81,051	Wilkins, A. G., Cooperstown, Pa. Washing machine	Aug. 11, 1868.
	Wilkins, A. P., and J. S. Allen. (*See* Allen & Wilkins.)	
	Wilkins, Paterson V. (*See* Hawenstine, David J., assignor.)	
3,276	Wilkinson, George, Providence, R. I. Fork or spoon handle.....(Design)	Dec. 1, 1868.
2,993	Wilkinson, George, assignor to Gorham Manufacturing Company, Providence, R. I. Fork or spoon handle called "Tonic".....(Design)	Apr. 7, 1868.
2,994	Same.....Fork or spoon handle called "Doric".....(Design)	Apr. 7, 1868.
2,995	Same.....Fork or spoon handle called "Italic".....(Design)	Apr. 7, 1868.
2,996	Same.....Fork or spoon handle called "Rush".....(Design)	Apr. 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
2,997	Wilkinson, George, assignor to Gorham Manufacturing Company, Providence, R. I. Fork or spoon handle called "Mask"	Apr. 7, 1868.
2,998	Same.....Fork or spoon handle called "Pompeian" (Design)	Apr. 7, 1868.
2,999	Same.....Fork or spoon handle called "Rosette" (Design)	Apr. 7, 1868.
3,110	Same.....Fork or spoon handle called "Bridal" (Design)	July 14, 1868.
3,111	Same.....Knife or fork handle called "Ivy" (Design)	July 14, 1868.
3,112	Same.....Knife or fork handle called "Elizabethian" (Design)	July 14, 1868.
78,167	Wilkinson, James, Bowling Green, Mo. Lifting jack	May 19, 1868.
78,631	Wilkinson, Jesse, assignor to Horace Ballard Wilkinson, Urbana, Ill. Herding and securing cattle	June 2, 1868.
75,820	Wilkinson, John D., Plattsburg, N. Y. Bed bottom	Mar. 24, 1868.
83,577	Wilkinson, John D., and E. O. Boyle, Plattsburg, N. Y. Combined tool	Oct. 27, 1868.
78,850	Wilkinson, Lewis, Boston, Mass. Ball caster	June 9, 1868.
83,679	Wilks, Stephen, Chicago, Ill. Cooking range. (Antedated Oct. 17, 1868)	Nov. 3, 1868.
84,978	Same.....Water back for stoves and ranges. (Antedated Dec. 9, 1868)	Dec. 15, 1868.
80,690	Will, Hironimus, Columbus City, Iowa. Thill coupling	Aug. 4, 1868.
73,420	Will, John, Bryan, Ohio. Worm fence and pen	Jan. 14, 1868.
	Willard, Cyrenius M. (*See* Luce & Green, assignors.)	
	Willard, Gardner, *et al.* (*See* Shaw, W. Anthony, assignor) (Reissue.)	June 23, 1868.
79,173	Willard, Henderson, Grand Rapids, Mich. Horse hay fork	July 14, 1868.
79,884	Willard, Henry, Ripon, Wis. Portable fence	June 2, 1868.
78,502	Willard, Hosea, Vergennes, Vt. Butter worker	Sept. 1, 1868.
81,855	Willard, John, Norwich, Conn. Box opener	Dec. 29, 1868.
85,498	Willard, R. S., Franklin, Vt. Machine for making wire hooks	May 19, 1868.
78,168	Willard, Z. A., Boston, Mass., and William J. Adams, Franklin, Mass. Treating metals and minerals	Sept. 22, 1868.
82,461	Willbur, J. M., Cleveland, Ohio. Rotary embossing press	Sept. 22, 1868.
82,462	Same.....Ink pad for hand stamps	Sept. 22, 1868.
82,463	Same.....Machine for forming stereotype plates. (Antedated Sept. 16, 1868).	Sept. 22, 1868.
82,464	Same.....Stereotyper's putty. (Antedated Sept. 17, 1868)	June 16, 1868.
78,907	Willcox, George, Neenah, Wis. Grain chaffing mill	July 21, 1868.
80,262	Willcox, H. B., Philadelphia, Pa. Carriage-thill coupling	July 21, 1868.
80,105	Willcox, James M., Glen Mills, Pa. Manufacture of paper for collars	
	Willets, Charles H., and Spencer H. Brown. (*See* Brown & Willets.)	
	Same.....same (Design.)	
	Willets, Leonard and Isaac. (*See* Pease, J. W., assignor.)	
81,316	Willett, George, Richburg, N. Y. Turning logs in saw-mills	May 18, 1868.
76,283	Willey, George F., Laconia, N. H. Plow carriage	Mar. 31, 1868.
	Williams, A. R., *et al.* (*See* Spence, Gideon O., assignor.)	
	Same.....same.	
75,504	Williams, C., New York, N. Y. Pavement	Mar. 10, 1868.
76,021	Same.....same	Mar. 24, 1868.
80,260	Same.....same	July 21, 1868.
80,261	Same.....same	July 21, 1868.
80,526	Same.....Apparatus for cleaning sewers	July 28, 1868.
81,317	Same.....Crane	Aug. 18, 1868.
75,715	Williams, Charles, Manchester, N. H. Coal stove	Mar. 17, 1868.
82,574	Same.....Cooking stove	Sept. 29, 1868.
79,528	Williams, Charles, Jackson, Miss. Attaching handles to moldboards of plows	June 30, 1868.
75,098	Williams, Charles, assignor to self and Isaac B. Ward, Vineland, N. J. Construction of walls of buildings	Mar. 3, 1868.
74,467	Williams, C. B., Bourbon, Ind. Churn	Feb. 11, 1868.
	Williams, C. H., and S. A. Holt. (*See* Holt & Williams.)	
83,748	Williams, Cyrus M., assignor to Henri L. Stuart, New York, N. Y. Charging gases with vapors of hydrocarbon liquids	Nov. 3, 1868.
	Williams, David G., *et al.* (*See* Palmer, Harvey D., assignor.)	
76,022	Williams, Edwin, Rowlesburg, W. Va. Wood-turning lathe	Mar. 24, 1868.
78,249	Williams, E. P., assignor to self, W. L. Hopson, and A. R. Homesly, Yorkville, S. C. Ventilating portable churns	May 26, 1868.
81,856	Williams, E. R., Rochester, N. Y. Fruit jar	Sept. 1, 1868.
78,851	Williams, Francis H., Syracuse, N. Y. Construction of safes	June 9, 1868.
81,719	Same.....Steneh trap	Sept. 1, 1868.
80,322	Williams, George H. C., Chicago, Ill. Ottoman lounge	July 28, 1868.
3,183	Williams, Giles B., assignor to Elisha M. Allen, New York, N. Y. Apparatus for stirring, mixing, heating, cooling, and evaporating lard and other substances (Reissue)	Nov. 10, 1868.
84,241	Same.....Desiccated cocoanut	Nov. 17, 1868.
80,042	Williams, H. G., Providence, R. I. Die and plunger	July 14, 1868.
	Williams, Hugh T., and Robert T. Tompkins. (*See* Tompkins & Williams.)	
80,691	Williams, Isaac, Westfield, Ind. Weatherboard gauge and rest	Aug. 4, 1868.
80,692	Same.....Gauge for weatherboarding	Aug. 4, 1868.
81,720	Same.....Adjustable measuring rule	Sept. 1, 1868.
74,653	Williams, Isaiah M., assignor to self and Calvin M. Baldwin, Blanchester, Ohio. Ditching machine	Feb. 18, 1868.
83,748	Williams, Isaiah M., assignor to self and Harvey Smith, Blanchester, Ohio. Self-loading hay cart	Nov. 3, 1868.
	Williams, James, and Henry Bundel. (*See* Bundel & Williams.)	
75,099	Williams, J. A. Elizabeth, Ill. Axle for vehicles	Mar. 3, 1868.
74,468	Williams, J. A., and W. W., Mattoon, Ill. Self-acting wagon brake	Feb. 11, 1868.
76,023	Williams, Jesse, John Forgie, and James Edwards, New York, N. Y. Furnace grate bar	Mar. 24, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
73,857	Williams, John C., Newton, N. J. Coffin	Jan. 28, 1868.
	Williams, John D. (*See* Nolf, John H., assignor.)	
77,789	Williams, J. E., and M. Lemon, Binghamton, N. Y. Churn dasher	May 12, 1868.
79,712	Williams, John H., assignor to self, Thomas N. Dickinson, and William E. Beames, Essex, Conn. Manufacture of floor cloth	July 7, 1868.
77,790	Williams, John I., Etna, Pa. Boiling and puddling furnace	May 12, 1868.
81,967	Williams, John S., Chicago, Ill. Double-ratchet lever power	Sept. 1, 1868.
84,455	Williams, Joseph S., Cinnaminson, N. J. Manufacture of alcoholic spirits from tomatoes	Nov. 24, 1868.
81,448	Williams, Miles D., Lawton, Mich. Grain separator	Aug. 25, 1868.
80,581	Williams, M. T., assignor to self and John Lund, Milwaukee, Wis. Scaffolding	Aug. 4, 1868.
75,100	Williams, N. Bangs, Providence, R. I. Oil cup	Mar. 3, 1868.
81,051	Same.....same	Aug. 11, 1868.
73,683	Williams, Paul, Winona, Miss. Cotton press	Jan. 21, 1868.
	Williams, Samuel, *et al.* (*See* Carnell, Williams & Ellis.)	
	Williams, Stephen G., and Aaron Palmer. (*See* Palmer & Williams.)	
74,469	Williams, Thomas, and John J. Yates, New York, N. Y. Steam heater for brewers and others. (Antedated Jan. 31, 1868)	Feb. 11, 1868.
76,866	Williams, W. L., New York, N. Y. Foot scraper	Apr. 14, 1868.
81,123	Same.....Machine for splitting kindling wood	Aug. 18, 1868.
84,456	Williams, William M., St. Louis, Mo. Coffee pot	Nov. 24, 1868.
74,966	Williamson, David, assignor to James Williamson, New York, N. Y. Corkpull.	Feb. 25, 1868.
	Williamson, George, & Co. (*See* Vedder, Nicholas S., assignor.).....(Design.)	
78,346	Williamson, John R., Bethlehem, N. J. Fruit can	May 26, 1868.
74,470	Williamson, M. V. B., Jamesport, N. Y. Draft equalizer for doubletrees	Feb. 11, 1868.
74,471	Same.....Doubletree	Feb. 11, 1868.
	Williamson, Truman P., and Don Carlos Matteson. (*See* Matteson & Williamson).....(Reissue.)	
	Same.....same.....(Reissue.)	
	Same.....same.	
85,415	Williamson, William C., Philadelphia, Pa. Hoisting Machine	Dec. 29, 1868.
	Willie, Hermann, and Gottlieb Henning. (*See* Henning & Willie.)	
83,894	Willig, Frederick, Joliet, Ill. Tenter-bar for cloth	Nov. 10, 1868.
84,979	Willis, James, Mifflin, Wis. Sled brake	Dec. 15, 1868.
79,255	Willis, N. J., assignor to the Boston Spring Bed Company, Boston, Mass. Spring bed-bottom	June 23, 1868.
77,943	Willits, William J., Detroit, Mich. Platform car stake holder. (Antedated April 28, 1868	May 12, 1868.
80,889	Willmarth, William C., assignor to B. W. Lacy and S. C. Eaton. Philadelphia, Pa. Sewing machine	Aug. 11, 1868.
83,750	Willmarth, William C., and C. N. Farr, assignors to B. W. Lacy, Philadelphia, Pa. Sewing machine	Nov. 3, 1868.
79,290	Willoughby, Charles Benjamin, Uhricksville, Ohio. Carburetter	June 23, 1868.
79,795	Willoughby, H. B., Ottawa, Ill. Mop wringer	July 7, 1868.
72,373	Willoughby, J. D., Shippensburg, Pa. Weighing scale. (Antedated Dec. 28, 1867.)	Jan. 14, 1868.
75,101	Same.....Cider mill. (Antedated Feb. 20, 1868)	Mar. 3, 1868.
76,284	Wills, Daniel, Camden, N. J. Gill net	Mar. 31, 1868.
76,867	Willson, Albert C., Greenpoint, N. Y. Ferry bridge	Apr. 14, 1868.
76,868	Willson, Franklin M., assignor to self and Isaac G. Dundore, Whitney's Point, N. Y. Horse hay fork	Apr. 14, 1868.
79,042	Willson, F. R., Columbus, Ohio. Harrow	June 16, 1868.
75,505	Willson, Gile J. Reading, Pa. Watch case	Mar. 10, 1868.
81,721	Willson, H. F., assignor to Jacob J. Kamm, Fort Wayne, Ind. Paint compound.	Sept. 1, 1868.
	Willson, Thomas H. and Hiram, *et al.* (*See* Green, Jacob, assignor)..(Reissue.)	
	Same.....same.....(Reissue.)	
82,465	Willson, Wm. H., New York, N. Y. Hand brushing and polishing apparatus	Sept. 22, 1868.
	Willson, W. H. (*See* Sherwood, N. B., assignor.)	
78,788	Wilmans, Charles I., and W. J. Wolf, Olney, Ill. Dough kneader	June 9, 1868.
82,912	Wilmarth, John C., and Avery Fobes, St. Louis, Mo. Knife ring	Oct. 6, 1868.
80,323	Wilmington, William, Toledo, Ohio. Car wheel	July 28, 1868.
82,466	Same.....Car wheel	Sept. 22, 1868.
85,046	Same.....Chill for casting car wheels	Dec. 15, 1868.
84,040	Wilmot, S. R., Bridgeport, Conn. Apparatus for sizing glass cylinders	Nov. 10, 1868.
85,047	Same.....Lamp chimney	Dec. 15, 1868.
	Wilms, H., and E. E. Worden. (*See* Worden & Wilms.)	
	Wilson and Hood. (*See* Vogel, H. assignor.)	
81,968	Wilson, Arthur Gates, New York, N. Y. Oil tank	Sept. 8, 1868.
82,261	Wilson, Charles, Clinton, Pa. Cider mill. (Antedated Sept. 4, 1868)	Sept. 15, 1868.
82,669	Same.....Measuring heights and distances	Sept. 29, 1868.
80,436	Wilson, Charles A., Cincinnati, Ohio. Thermostat	July 28, 1868.
82,467	Same.....Oil globe for steam chests	Sept. 22, 1868.
82,670	Wilson, Charles A., and William R. Dunlap, Cincinnati, Ohio. Pump	Sept. 29, 1868.
82,189	Wilson, Charles E., Palmyra, Me. Attachment for plows	Sept. 15, 1868.
73,150	Wilson, Courtland B., and Abner S. Houghton, Trenton, N. J. Water wheel	Jan. 7, 1868.
	Wilson, C. P., *et al.* (*See* Boyd, Jesse C., assignor.)	
	Wilson, D. A., *et al.* (*See* Maranville, Galusha, assignor.)	
	Wilson, David H., and Edward S. Lowry. (*See* Glanding, James, assignor.)	
85,153	Wilson, Eskridge J., Fair Play, Cal. Machine for crushing rocks. (Antedated Dec. 12, 1868.)	Dec. 22, 1868.
84,925	Wilson, F. Greenleaf, Nashua, N. H. Belt fastener	Dec. 15, 1868.
73,151	Wilson, Frank H., Wethersfield, N. Y. Cheese box and butter tub	Jan. 7, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
82,190	Wilson, Furman R., Philadelphia, Pa. Valve gear for steam engines	Sept. 15, 1868.
82,575	Same.....same	Sept. 29, 1868.
76,869	Wilson, George, New Lexington, Ohio. Mode of treatment of foot-rot and other diseases in sheep	Apr. 14. 1868.
75,325	Wilson, George F., East Providence, R. I. Manufacture of phosphatic fertilizers	Mar. 10, 1868.
75,326	Same.....Preparation of bones for the manufacture of phosphoric acid and phosphates	Mar. 10, 1868.
75,327	Same.....Manufacture of phosphates for agricultural purposes	Mar. 10, 1868.
75,328	Same.....Manufacture of acid phosphates	Mar. 10, 1868.
75,329	Same.....Preparing bones for the manufacture of acid phosphates	Mar. 10, 1868.
75,330	Same.....Drying acid phosphates	Mar. 10, 1868.
75,331	Same.....Process and apparatus for the manufacture of acid phosphates	Mar. 10, 1868.
75,332	Same.....Burning bones for the manufacture of acid phosphates	Mar. 10, 1868.
75,333	Same.....Grinding and pulverizing acid phosphates	Mar. 10, 1868.
75,334	Same.....Granulating acid phosphates	Mar. 10 1868.
75,335	Same.....Apparatus for conveying acid phosphates and other acid liquids	Mar. 10 1868.
84,329	Same.....Method of inserting India-rubber in hubs of carriages	Nov. 24, 1868.
75,336	Wilson, George F., East Providence, R. I., and E. N. Horsford, Cambridge, Mass. Manufacture of phosphates, and extracting phosphoric acid from bones	Mar. 10, 1868.
75,337	Same.....Treating the mixture of acid phosphate of lime and farinaceous matters in order to granulate them	Mar. 10, 1868.
75,338	Same.....Process of treating acid phosphates in the manufacture of yeast powder, &c	Mar. 10, 1868.
75,339	Same.....Apparatus for concentrating acid phosphate of lime	Mar. 10, 1868.
80,324	Wilson, George W., assignor to John W. Little, Concord, N. H. Cane and telescope combined	July 28, 1868.
79,527	Wilson, James, assignor to A. H. Simon, Chester, Pa. Check valve	June 30, 1868.
	Wilson, James E. (*See* Burke, William H., assignor.)	
82,468	Wilson, James P., assignor to self and V. R. Davoe, Ellwood, Ill. Composition for destroying insects on potato plants	Sept. 22, 1868.
	Wilson, John A., and Frederick W. Schultz. (*See* Schultz & Wilson.)	
73,421	Wilson, John B., New York, N. Y. Veneer	Jan. 14, 1868.
84,926	Wilson, J. C., A. Walker, and J. Foster, New York, N. Y. Clipping shears	Dec. 15, 1868.
73,858	Wilson, J. L., and J. R. Haworth, Iowa Falls, Iowa. Ditching plow	Jan. 28, 1868.
74,871	Wilson, John M., Seguin, Texas. Cosmetic	Feb. 25, 1868.
3,166	Same.....same.....(Reissue)	Oct. 29, 1868.
79,091	Wilson, J. M., Lexington, Miss. Plow	June 23, 1868.
73,274	Wilson, John S., Indianapolis, Ind. Scaffolding bracket	Jan. 14, 1868.
85,048	Wilson, John S., Harveysburg, Ohio. Sluice gate	Dec. 15, 1868.
75,102	Wilson, J. Shields, and Horace See, assignors to selves and N. D. Thompson, Philadelphia, Pa. Surface condenser	Mar. 3, 1868.
84,152	Wilson, John T., assignor to self, Frank Rahm, and Thomas J. Louis, Pittsburg, Pa. Railway rail coupling	Nov. 3, 1868.
73,422	Wilson, Lewis, Ovid, N. Y. Pipe coupling	Jan. 14, 1868.
	Wilson Manufacturing Company. (*See* Daboll, Charles M., assignor.)	
79,286	Wilson, Putnam, assignor to R. M. Mansur, Newport, Maine. Cheese press	June 23, 1868.
	Wilson, R. C., *et al.* (*See* Baham, Wilson & French.)	
75,340	Wilson, Sylvanus C., assignor to self, Edward Mathews, and William N. Strong, Central Falls, R. I. Egg beater	Mar. 10, 1868.
80,043	Wilson, Thomas, England. Breech-loading fire-arm	July 14, 1868.
81,449	Same.....Lubricating hubs and axles	Aug. 25, 1868.
	Wilson, Thomas, and Joseph D. Stratton. (*See* Stratton & Wilson.)	
	Wilson, T. H. (*See* Carkhuff, R., assignor.)	
77,152	Wilson, William, Galesburg, Ill. Slide valve	Apr. 21,1868.
81,052	Same.....Steam piston packing	Aug. 11, 1868.
	Wilson, William C., *et al.* (*See* Palmer, Harvey D., assignor.)	
78,347	Wilson, William D., Watertown, N. Y. Horse hay fork	May 26, 1868.
2,904	Wilson, W. H., Providence, R. I. Good Templar badge.....(Design)	Jan. 28, 1868.
82,370	Same.....Game	Sept. 22, 1868.
	Wilson, William H., and George P. York. (*See* York & Wilson.)	
76,870	Wilson, William V., Philadelphia, Pa. Clothes sprinkler	Apr. 14, 1868.
74,967	Wilzinski, Ellis, Chicago, Ill. Clay-washing and stone-separating machine	Feb. 25, 1868.
83,430	Winans, William Louis, England, and Thomas, Baltimore, Md. Condenser. (Patented in England March 23, 1866)	Oct. 27, 1868.
82,263	Winants, J. E., Brooklyn, N. Y., and J. F. Griffen, New York, N. Y. Still for turpentine	Sept. 15, 1868.
77,696	Winchell, James F., assignor to self, L. A. Simons, and G. C. Steele, Springfield, Ohio. Corn harvester	May 5, 1868.
84,330	Winchell, James F., assignor to self, George C. Steele, and L. A. Simons, Springfield, Ohio. Road scraper	Nov. 24, 1868.
	Winchester Arms Company. (*See* Henry B. Tyler, assignor).....(Reissue)	
3,187	Winchester, Edward S., Boston, Mass. Tip for the feet of chair legs.....(Reissue)	Nov. 10, 1868.
	Winchester Repeating Arms Company. (*See* Wheelock, Luke, assignor.)	
84,666	Windeck, Albert, Peoria, Ill. Corn planter	Dec. 1, 1868.
	Windeck, Albert, and Andrew Runstetler. (*See* Runstetler & Windeck.)	
	Same.....same.	
	Same.....same.	
	Windle, George. (*See* Hickman, G. G., assignor.)	
76,128	Windle, Susan R., Chillicothe, Ohio. Measure for cutting dresses	Mar. 31, 1868.
80,693	Windoes, W., Fond-du-Lac, Wis. Tanning	Aug. 4, 1868.
83,578	Wine, M. J., Long Glade, Va. Harvester	Oct. 27, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
84, 331	Winecoff, Jesse, Berlin, Pa. Hand plow	Nov. 24, 1868.
79, 425	Winegar, Ashbel B., San Francisco, Cal. Machine for kiln drying	June 30, 1868.
80, 044	Winegard, Peter, Coldwater, Mich. Device for sharpening horseshoe calks	July 14, 1868.
	Winemiller, Joseph V. (*See* Althouse, Jacob, assignor.)	
3, 020	Wing, Samuel, assignor through mesne assignments to Charles S. and Charles F. Hall, Brooklyn, N. Y. Refitting stop valves (Reissue)	July 7, 1868.
78, 498	Wing, Simon, Boston, Mass. Photographic camera	May 26, 1868.
77, 695	Wing, Simon, assignor to self and Eli F. Southward, Boston, Mass. Mode of hanging signs or banners	May 5, 1868.
79, 713	Wingate, D. B., assignor to Needham C. Millett, Natick, Mass. Apparatus for printing upon glass	July 7, 1868.
73, 218	Wingate, Stansberry J., Decatur, Ill. Bed bottom	Jan. 7, 1868.
84, 242	Winkler, Johann, Hudson City, N. J. Froth arrester for beer glasses, &c	Nov. 17, 1868.
82, 506	Winkley, W. P., Des Moines, Iowa. Composition for fire kindling	Sept. 29, 1868.
78, 632	Winn, Charles A., Lock Haven, Pa. Brick machine	June 2, 1868.
	Winship, George. (*See* Russell, William, assignor.)	
74, 969	Winslow, A. P., Cleveland, Ohio. Railroad car stove	Feb. 25, 1868.
85, 348	Same Stove for railroad cars	Dec. 29, 1868.
84, 667	Winslow, J. L., Portland, Maine. Lubricating axles	Dec. 1, 1868.
	Winslow, J. N. (*See* Stackpole, G., assignor.)	
79, 092	Winslow, K. J., England. Apparatus for converting motion	June 23, 1868.
3, 184	Winslow, William Henry and Ewing, Boston, Mass. Trade mark (Design)	Aug. 25, 1868.
	Winsor, Joseph S., Providence, R. I. Machine for making weavers' harness (Extension)	Dec. 31, 1868.
	Winsor, William S., and J. E. Emerson. (*See* Emerson & Winsor.)	
	Same same.	
	Winston, J. B., and W. H. Trainham. (*See* Bragg, W. N., assignor.)	
83, 431	Winter, George, Buffalo, N. Y. Beer cooler	Oct. 27, 1868.
77, 697	Winter, Torwald, Boston, Mass. Chair and lounge	May 5, 1868.
79, 174	Same Recumbent chair	June 23, 1868.
76, 129	Winter, William W., and Theo. Mueller, Philadelphia, Pa. Umbrella	Mar. 31, 1868.
79, 175	Winterbottom, W. S., Philadelphia, Pa. Combined square and miter	June 23, 1868.
79, 929	Winterburn, C., and William Kent, Cincinnati, Ohio. Electrical bath	July 14, 1868.
82, 262	Wintergerst, Christoph, Mobile, Ala. Vapor burner	Sept. 15, 1868.
76, 963	Winterringer, George W., Fredericktown, Ohio. Gate	Apr. 21, 1868.
85, 154	Winters, A., Washington, Pa. Hand rake	Dec. 22, 1868.
81, 857	Winton, W. B., Marion, Iowa. Hand plow	Sept. 1, 1868.
81, 450	Wirsching, Alois, assignor to self and Albert Wild, Brooklyn, N. Y. Watchmaker's drill	Aug. 25, 1868.
77, 153	Wirt, J. H., Delphi, Ind. Concrete brick press	Apr. 21, 1868.
84, 522	Wirth, C. Joseph, Dansville, N. Y. Slate frame. (Antedated Nov. 25, 1868)	Dec. 1, 1868.
76, 024	Wisdom, Philip, New York, N. Y. Machine for opening hair rope	Mar. 24, 1868.
81, 567	Wiseheart, J. H. H., Shawneetown, Ill. Grain screen	Aug. 25, 1868.
73, 423	Wisell, E. K., Warren, Ohio. Wood turning lathe	Jan. 14, 1868.
	Wisenberger, Philip. (*See* Gabriel, George, assignor.)	
81, 318	Wissel, H. C., assignor to self and H. F. Shryock, Indiana, Pa. Buckle	Aug. 18, 1868.
78, 503	Wiswell, Lewis S., Utica, N. Y. Machine for fastening lacing hooks to gaiters	June 2, 1868.
	Witbeck, John P. (*See* Fryer, William L., assignor.)	
85, 155	Witherell, L. R. and E. A., Galesburg, Ill. Machine for washing dishes	Dec. 22, 1868.
83, 117	Witherell, Orin O., Lewiston, Maine. Chain pump valve	Oct. 13, 1868.
73, 941	Withey, Jerome B., Lexington, Mich. Running gear for carriages	Jan. 28, 1868.
78, 250	Same Penman's arm-rest	May 26, 1868.
	Witmer, Tobias. (*See* Mayer, John B., assignor.)	
3, 007	Witsil, George L., Philadelphia, Pa. Trade mark (Design)	Apr. 21, 1868.
84, 457	Same Umbrella	Nov. 24, 1868.
75, 231	Witsil, George L., assignor to Thomas E. Hauberger, Philadelphia, Pa. Clothes wringer	Mar. 3, 1868.
76, 025	Same Composition for sharpening edge tools	Mar. 24, 1868.
84, 850	Witsil, George L., assignor to self and T. L. Bates, St. Louis, Mo. Apparatus for cleaning rags	Dec. 8, 1868.
80, 694	Witt, C. W. and B. F., assignors to B. F. Witt, Indianapolis, Ind. Harvester	Aug. 4, 1868.
85, 499	Witt, Daniel, Hubbardston, Mass. Clothes dryer	Dec. 29, 1868.
73, 559	Witt, Daniel, assignor to Dexter Howe, Hubbardston, Mass. Spring holder	Jan. 21, 1868.
	Witt, John G., and E. B. Foster. (*See* Foster & Witt.)	
85, 500	Witte, Charles, Brooklyn, N. Y. Hand shears	Dec. 29, 1868.
78, 852	Wittram, Frederick, San Francisco, Cal. Anchor	June 9, 1868.
3, 137	Same same (Reissue)	Sept. 22, 1868.
82, 778	Same Button	Oct. 6, 1868.
	Witwer, J. E., *et al.* (*See* Flora, Orlando V., assignor.)	
83, 813	Wixted, James, Port Carbon, Pa. Railway rail splice	Nov. 3, 1868.
	Wodrich, Rudolph, and Charles C. Schmidt. (*See* Schmidt & Wodrich.)	
	Same same.	
	Wolcott, H. H. (*See* Carpenter, Calvin, jr., assignor.)	
	Same same.	
83, 579	Wolf, A. N., Sheridan, and Joel Haag, Bernville, Pa. Water wheel	Oct. 27, 1868.
77, 698	Wolf, Christian, Danville, Ill. Horse collar	May 5, 1868.
81, 236	Wolf, David, Easton, Kansas. Drum evaporator	Aug. 18, 1868.
83, 580	Same Registering scale	Oct. 27, 1868.
75, 232	Wolf, David C., South English, Iowa. Spinning machine	Mar. 3, 1868.
74, 654	Wolf, F., Philadelphia, Pa. Apparatus for vignetting photographic negatives. (Antedated Feb. 5, 1868)	Feb. 18, 1868.
3, 008	Wolf, Henry, Detroit, Mich. Ornamenting trunks, &c (Design)	Apr. 21, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76, 964	Wolf, Joseph, Young Ameriea, Ill. Corn plow	Apr. 21, 1868.
78, 779	Wolf, Moritz, Philadelphia, Pa. Jaequard for looms	June 9, 1868.
75, 596	Wolf, Robert, Burlington, Iowa. Dovetail maehine	Mar. 10, 1868.
	Wolf, W. J., and Charles I. Wilmans. (*See* Wilmans & Wolf.)	
76, 292	Wolfe, Gurdon G., Troy, N. Y. Cooking-stove tank	Mar. 31, 1868.
	Wolfe, Gurdon G., and Edward J. Hicks. (*See* Walker, Thomas, assignor. (Design.)	
	Same.....(*See* Colby & Scorer, assignors).....(Design.)	
	Same.....same.....(Design.)	
	Same.....same.....(Design.)	
	Same.....(*See* Vedder, Nicholas S., assignor).....(Design.)	
	Same.....same.....(Design.)	
74, 739	Wolfe, L. W., Jacksonville, Ill. Mortising maehine	Feb. 18, 1868.
77, 791	Same.....Seat for vehicles	May 12, 1868.
85, 156	Wolfer, John A., Rondout, N. Y. Automatie ice ehute	Dec. 22, 1868.
	Wolff, Jacob, and Charles B. Maedel. (*See* Maedel & Wolff.)	
83, 350	Wolfinger, Franeis R., and Joseph Barrett, Chieago, Ill. Extension table	Oct. 20, 1868.
78, 504	Wolfrom, Jonathan, York, Pa. Horse hay fork	June 2, 1868.
76, 871	Wolfsbruck, Zadig, New York, N. Y. Wristband for wearing apparel	Apr. 14, 1868.
80, 890	Woliston, Philip N., assignor to self and Ferrell, Ludlow & Rodgers, Springfield, Ohio. Briek maehine	Aug. 11, 1868.
84, 153	Wolters, Herman J., Chester, Mass. Burglar alarm	Nov. 17, 1868.
74, 024	Wonsey, Philander, Ogden, N. Y. Combined plow and harrow	Feb. 4, 1868.
76, 130	Wood, Aurin, Worcester, Mass. Engine-lathe for turning shafting	Mar. 31, 1868.
79, 714	Same.....Maehine for threading bolts	July 7, 1868.
76, 131	Wood, DeVolson, and Stillman W. Robinson, Ann Harbor, Mich. Steam-engine valve-gear	Mar. 31, 1868.
78, 853	Same.....Steam engine. (Antedated March 31, 1868)	June 9, 1868.
76, 965	Wood, Edwin A., Utiea, N. Y. Electro-magnetie valve-gear	Apr. 21, 1868.
76, 682	Wood, Enos D., Utiea, N. Y. Rotary valve	Apr. 14, 1868.
84, 523	Wood, Frederiek A., Jersey City, N. J. Bit braee. (Antedated Nov. 19, 1868)	Dec. 1, 1868.
76, 285	Wood, George K., Morristown, N. J. Refrigerating ear	Mar. 31, 1868.
76, 683	Wood, George W., Philadelphia, Pa. Hair erimper	Apr. 14, 1868.
74, 741	Wood, George W., assignor to self and James W. Slater, Richmond, Ind. Color printing press	Feb. 18, 1868.
79, 043	Same.....Inking apparatus for color printing	June 16, 1868.
78, 409	Wood, Henrietta T., San Franeisco, Cal. Ointment	May 26, 1868.
74, 472	Wood, Horaee, Leverett, Mass. Staging frame	Feb. 11, 1868.
81, 237	Wood, Ira, Woodstock, Vt. Composition for tanning	Aug. 18, 1868.
3, 157	Same.....same.....(Reissue)	Oct. 6, 1868.
78, 561	Wood, Isaae N., Fall River, Mass. Hoe	June 2, 1868.
82, 469	Wood, James, Utica, N. Y. Whiffletree hook	Sept. 22, 1868.
74, 473	Wood, James M., Lowville, N. Y. Roofing shoe	Feb. 11, 1868.
81, 451	Wood, John, Franklin, Pa. Pump piston	Aug. 25, 1868.
73, 066	Wood, John B., Cranston, R. I. Means of attaching handles to dippers	Jan. 7, 1868.
83, 895	Wood, John B., Jersey City, N. J., and John T. Chapman, Brooklyn, N. Y. Mode of filling marshes	Nov. 10, 1868.
	Wood, John G., and William Glasgow, jr. (*See* Glasgow & Wood.)	
73, 684	Wood, John Henry, Trenton, N. J. Wagon for unloading coal	Jan. 21, 1868.
84, 524	Wood, John K., Alleghany City, and David R. Speer, Pittsburg, Pa. Churn	Dec. 1, 1868.
80, 695	Wood, John S., Lansing, Mich. Car brake and starter	Aug. 4, 1868.
78, 348	Wood, John S., assignor to self and Elizabeth P. Seymour, Hartford, Conn. Briek maehine	May 26, 1868.
84, 332	Wood, Joseph S., Philadelphia, Pa. Apparatus for earburetting air	Nov. 24, 1868.
78, 706	Wood, Melvin, Babe's Corners, Mich. Churn	June 9, 1868.
	Wood, Sherwood & Company. (*See* Sherwood, Daniel, assignor.)	
76, 574	Wood, Solomon H., East Berlin, Conn. Die for making pliers	Apr. 7, 1868.
85, 501	Wood, Sylvester A., Manitowoc, Wis. Velocipede	Dec. 29, 1868.
79, 044	Wood, S. W., Cornwall, N. Y. Pneumatic grain elevator	June 16, 1868.
82, 507	Wood, Thomas E., Knoxville, Pa. Elastie roofing composition	Sept. 29, 1868.
78, 633	Wood, Valentine, Riehmond, Ind. Flood fence	June 2, 1868.
84, 458	Wood, William C., Washington, D. C. Construetion of ice-pitchers	Nov. 24, 1868.
	Wood, W. G., *et al.* (*See* Allen, Alexander, assignor.)	
76, 369	Wood, William S., Hatborough, Pa. Harness	Apr. 7, 1868.
2, 938	Woodard, A. B., assignor to self and Thomas Ellis, Alfred Center, N. Y. Vulcanizing flask.....(Reissue)	May 19, 1868.
79, 930	Woodard, A. B., Alfred Center, and Samuel A., Hornellsville, N. Y., assignors to selves and Orson Mosher. Hames fastener	July 14, 1868.
	Woodburn, Jacob. (*See* Salorgne, Theodore, assignor.)	
79, 093	Woodbury, C. A., Woodstock, Vt. Thread cutter	June 23, 1868.
	Woodbury, D. K., and E. F. Lacey. (*See* Lacey & Woodbury.)	
77, 792	Woodbury, G. T., and T. Burch, Newark, N. J. Finishing skins and leather	May 12, 1868.
2, 930	Woodbury, Henry E., Washington, D. C. Paper file.....Reissue)	May 12, 1868.
	Woodbury, James A. (*See* Whitney, Joel, assignor.).....(Reissue.)	
	Same.....(*See* Shaw, Henry F., assignor.)	
	Same.....same.	
	Woodbury, James A., and Solomon S. Gray. (*See* Shaw, Henry F., assignor.)	
	Same.....same.	
80, 325	Woodbury, Nelson, assignor to William Woodbury, Chelsea, Mass. Pendant for sheets of fore-and-aft sails	July 28, 1868.
77, 229	Woodbury, Urban A., Morrisville, Vt. Looking-glass	Apr. 28, 1868.
77, 699	Same.....Vegetable washer	May 5, 1868.
77, 230	Woodbury, Walter B., England. Mode of producing designs on paper	Apr. 28, 1868.

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
77,231	Woodbury, Walter R., England. Production of ornamental surfaces for jewelry, &c.	Apr, 28, 1868.
77,232	Same.....Mode of producing surfaces for printing from photographs.....	Apr. 28, 1868.
81,053	Woodcock, George O., Claremont, N. H. Coal stove	Aug. 11, 1868.
	Woodcock, William, and Franklin P. McCullon. (*See* McCullon & Woodcock.)	
	Woodfill, J. G., and L. D. Pennington. (*See* Pennington & Woodfill.)	
79,426	Woodford, Henry M., Kensington, Conn. Match safe	June 30, 1868.
74,185	Woodham, Alfred, New York, N. Y. Skate fastening.....	Feb. 4, 1868.
80,848	Woodhull, Samuel, Linden, Mich. Apparatus for setting axles of wheels	Aug. 11, 1868.
	Woodman, Charles E. (*See* Hillbright, F. L., assignor.)	
73,219	Woodman, Horace, Saco, Maine. Shingle machine	Jan. 7, 1868.
	Same.....Biddeford, Maine. Cleaning top cards of carding machines. (Extension)	July 29, 1868.
75,614	Woodmansee, L. D., Dayton, Ohio. Driving lines	Mar. 17, 1868.
	Woodrow, D. T. (*See* Frailey, Wm. C., assignor.)	
74,186	Woodruff, Charles F., Newbern, Tenn. Water elevator.....	Feb. 4, 1868.
77,700	Same.....Spur wheel	May 5, 1868.
80,696	Same.....Excavator	Aug. 4, 1868.
82,054	Same.....Spur wheel	Sept. 8, 1868.
82,264	Same.....Water elevator	Sept. 15, 1868.
	Woodruff, Chauncey D., Toledo, Ohio. Suspending eave troughs. (Extension)..	Feb. 18, 1868.
76,287	Woodruff, E. W., and George C. Green, Washington, D. C. Paper file.....	Mar. 31, 1868.
76,872	Same .....same.....	Apr. 14, 1868.
76,026	Woodruff, James E., Buffalo, N. Y. Letter box.....	Mar. 24, 1868.
76,290	Same.....Fare-box for passenger cars.....	Mar. 31, 1868.
82,371	Woodruff, Samuel, and H B. Beach, Hartford, Conn. Pump	Sept. 22, 1868.
77,154	Woodruff, William W., Morrisville, Vt. Fermentation bung	Apr. 21, 1868.
	Woods, David C., and Seth Gill. (*See* Gill & Woods.)	
	Woods, George E., and Hazen J. Batchelder. (*See* Batchelder & Woods.)	
79,885	Woods, George L., Newburyport, Mass. Windlass	July 14, 1868.
	Woods, S. A. (*See* Harrington, David, assignor.)	
81,568	Woods, Thomas C., Marion County, Ky. Car brake	Aug. 25, 1868.
82,779	Woods, Walter D., assignor to self and Ebenezer F. Woods, Bennington, N. H. Cutlery	Oct. 6, 1868.
80,793	Woods, William H., Philadelphia, Pa. Curtain fixture	Aug. 4, 1868.
73,275	Woodside, Benjamin F., McDonald, Tenn. Friction match	Jan. 14, 1868.
77,341	Woodside, William J., Zanesville, Ohio. Animal trap	Apr. 28, 1868.
84,601	Woodward, Alonzo S., Pepperell, Mass. Wagon hub	Dec. 1, 1868.
2,993	Woodward, Davis B., assignor to Horace R. Hawkins, Akron, Ohio. Horse rake. (Reissue)	June 16, 1868.
79,796	Woodward, Elias, Brooklyn, N. Y. Fastening for neck-ties	July 7, 1868.
82,671	Woodward, Erastus, and J. S. Millett, Charlestown, Mass. Starting apparatus for railroad cars.....	Sept. 29, 1868.
83,351	Woodward, George M., New York, N. Y. Steam heater	Oct. 20, 1868.
81,238	Woodward, H., England. Apparatus for carburetting.....	Aug. 18, 1868.
84,041	Woodward, Henry M., St. Louis, Mo. Treating cast iron for the manufacture of car wheels	Nov. 10, 1868.
82,191	Woodward, J. A. and S. S., and T. Mason, Sandwich, Ill. Cultivator.....	Sept. 15, 1868.
76,684	Woodworth, D. B., assignor to the Cincinnati Britannia Company, Cincinnati, Ohio. Construction of tea and coffee pots.....	Apr. 14, 1868.
83,232	Woodworth, George D., Chicago, Ill. Stove grate.....	Oct. 20, 1868.
73,482	Woodworth, James R., Nunda, N. Y. Device for pulling hop poles.	Jan. 21, 1868.
84,243	Woodworth, Justin P., Brooklyn, N. Y. Electro-plating.....	Nov. 17, 1868.
78,169	Woodworth, Linus, Troy, Pa. Horse hay fork.....	May 19, 1868.
78,170	Woodworth, O. H., Columbia City, Ind. Winding stop for weight clocks. (Antedated May 7, 1868)	May 19, 1868.
81,239	Woody, John, Mt. Vernon, Ind. Rotary steam-engine.....	Aug. 18, 1868.
77,155	Wool, James, assignor to self and F. Hunnewell, Boston, Mass. Drop hammer.	Apr. 21, 1868.
	Woolever, Adam, and Alexander Lisk. (*See* Lisk & Woolever.)	
78,038	Woolley, Lucius Leander, Medford, Mass. Door lock.....	May 19, 1868.
79,619	Woolley, Milton, Brooklyn, N. Y. Cooking stove.....	July 7, 1868.
	Woolson, Augustus N. (*See* Davis, Anthony G., assignor.)	
	Same.....(*See* Minn & Frost, assignors.)	
3,080	Woolson, Charles J., Cleveland, Ohio. Door of a cook stove.....(Design)..	June 23, 1868.
75,716	Woolverton, Samuel, assignor to self, George L. Taylor, and Lewis Parker, jr., Trenton, N. J. Dental forceps.....	Mar. 17, 1868.
76,370	Woolworth, Robert, New Haven, Conn. Clock	Apr. 7, 1868.
	Wooster, E., & Company, *et al.* (*See* Lattin, John R., assignor) .....Reissue.)	
85,502	Wooster, Emma C., New York, N. Y. Ruffled trimming.....	Dec. 29, 1868.
82,780	Wooster, Horace B., assignor to Waterbury Brass Company, Waterbury, Conn. Machine for scouring steel metal. (Antedated April 6, 1868).....	Oct. 6, 1868.
83,896	Wooton, W. S., Richmond, Ind. School desk.....	Nov. 10, 1868.
76,286	Wootten, John E., Reading, Pa. Packing for joints	Mar. 31, 1868.
82,672	Same.....Draught valve in railroad-car stoves	Sept. 29, 1868.
77,559	Worcester, Leonard, and Joseph S. Brown, Lowell, Mass. Fruit jar.....	May 5, 1868.
77,233	Worden, Alva, Ypsilanti, Mich. Whip holder	Apr. 28, 1868.
74,872	Worden, E. E., and H. Wilms, Brandon, Vt. Spring-bed bottom.....	Feb. 25, 1868.
81,858	Worden, John, Normal, Ill. Lubricator for axles	Sept. 1, 1868.
75,717	Worden, Wilbur R., New Haven, Conn. Sprinkler	Mar. 17, 1868.
79,886	Workman, Morgan, Washington Township, Ohio. Feed rack.....	July 14, 1868.
	Workman, Thomas C., and Flavius J. Van Vorhis. (*See* Van Vorhis & Workman.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
76,873	Worstenholm, George, Newark, N. J. Bolt and rivet machine	Apr. 14, 1868.
74,873	Worster, George W., Bangor, Maine. Culinary steamer	Feb. 25, 1868.
73,560	Worth, E., and C. A. Davis, Oswego, Ill. Ditching machine	Jan. 21, 1868,
74,655	Worth, H. B., assignor to self, William H. Chapin, and A. L. Creamer, Chicago, Ill. Ventilator	Feb. 18, 1868.
	Wren, George A., and Ralph R. Lee. (*See* Lee & Wren.)	
75,103	Wrenn, R. C., Waverly, Mo. Hemp harvester	Mar. 3, 1868.
77,560	Wright, Abram and George F., Clinton, Mass. Toy safe with puzzle lock	May 5, 1868.
76,575	Wright, Abram Wallace, Bunker Hill, Ill. Spring bed-bottom	Apr. 7, 1868.
73,685	Wright, Alexander, Alleghany City, Pa. Plow	Jan. 21, 1868.
76,371	Wright, Benjamin P., San Francisco, Cal. Potato digger	Apr. 7, 1868.
80,045	Wright, Charles, Newark, N. J. Friction clutch pulley. (Antedated July 10, 1868)	July 14, 1868.
78,780	Wright, David, Boston, Mass. Composition for gilding moldings, &c.	June 9, 1868.
3,185	Wright, David W., New York, N. Y. Pocket sun dial (Design)	Aug. 25, 1868.
81,859	Wright, Edward S., assignor to Samuel Leggett, New York, N. Y. Cutter head.	Sept. 1, 1868.
	Wright, E. W., and Norman Rose. (*See* Rose & Wright.)	
	Wright, George F., and William Orr, jr. (*See* Stewart, Hugh, assignor.)	
79,287	Same....Clinton, Mass. Tag. (Antedated June 5, 1868)	June 23, 1868.
73,483	Wright, Henry, assignor to James R. Clark, Saco, Maine. Boot crimp	Jan. 21, 1868.
2,921	Wright, Homer, assignor to self, Henry H. and Benjamin F. Collins, Pittsburg, Pa. Construction of jug tops (Reissue)	Apr. 21, 1868.
	Wright, Homer, *et al.* (*See* Davis, Edward M., assignor.)	
75,615	Wright, Horace H. W., assignor to self, James Morse, Richard S. Jenness, and Albert Pickernell, South Boston, Mass. Hammer	Mar. 17, 1868.
79,427	Wright, Howell W., Taunton, Mass. Electroplating and plated ware	June 30, 1868.
77,793	Wright, Howell W., assignor to Reed & Barton, Taunton, Mass. Alloy for the manufacture of spoons and forks	May 12, 1868.
78,562	Same....Manufacture of table ware	June 2, 1868.
78,171	Wright, Jacob J., and John H. Penny, Harrison, Ohio. Corn planter	May 19, 1868.
	Wright, John, and Charles R. Tompkins. (*See* Tompkins & Wright.)	
79,428	Wright, John A., Keene, N. H. Combined mop and wringer	June 30, 1868.
82,055	Same....Mop	Sept. 8, 1868.
83,581	Wright, Joseph, Philadelphia, Pa. Stop for umbrella runners	Oct. 27, 1868.
81,054	Wright, Lewis R., Troy, N. Y. Cultivator and plow combined	Aug. 11, 1868.
	Wright, Luna, and Samuel J. Miller. (*See* Miller & Wright.)	
	Wright, Lysander, Newark, N. J. Sawing machine (Extension)	Dec. 31, 1868.
	Wright, N. A., and W. A. Terry. (*See* Clark, S. W., assignor.)	
	Wright, Nathaniel F., and Augustus R. Hobbs. (*See* Hobbs & Wright.)	
74,187	Wright, Rufus, Brooklyn, N. Y. Cherry stoner	Feb. 4, 1868.
77,561	Same....same	May 5, 1868.
80,378	Wright, Rufus, assignor to self and J. B. Chadwick, New York, N. Y. Crayon holder	July 28, 1868.
75,616	Wright, R. B., Vermillion, Ill. Seed planter	Mar. 17, 1868.
84,723	Wright, Warren, St. Louis, Mo. Hominy and smut mill	Dec. 8, 1868.
78,505	Wright, Wendell, Bloomfield, N. J. Clasp for fastening garments	June 2, 1868.
84,042	Same....Suspender fastening	Nov. 10, 1868.
76,027	Wright, William, New York, N. Y. Cut-off valve gear	Mar. 24, 1868.
76,685	Wright, William P., assignor to self and Collins W. Walton, Philadelphia, Pa. Process for treating muslin for sweat linings, &c., for hats	Apr. 14, 1868.
78,634	Wrightington, C. D., and B. P. Rider, Chelsea, Mass. Brick machine	June 2, 1868.
73,561	Wrighston, Hugh S., assignor to M. M. Welby, and C. H. Slicer, Baltimore, Md. Wrench	Jan. 21, 1868.
85,157	Wrinkle, James, Lee, Mass. Machine for mixing coloring matter with paper pulp	Dec. 22, 1868.
82,056	Wroe, John A., Hagerstown, Md. Exercising chair	Sept. 8, 1868.
79,045	Wulsten, Charles, Lafayette, Ind. Printers' ink	June 16, 1868.
74,783	Wunderlich, J. N., Philadelphia, Pa. Traveler's trunk	Feb. 25, 1868.
73,859	Wurtz, Henry, New York, N. Y. Manufacture of refined grahamite	Jan. 28, 1868.
73,860	Same....Preparation of grahamite	Jan. 28, 1868.
73,861	Same....Preparation from grahamite called "Irisine"	Jan. 28, 1868.
73,862	Same....Material prepared from grahamite called "Viscosine"	Jan. 28, 1868.
74,188	Same....Mode of compounding printers' ink from grahamite	Feb. 4, 1868.
78,978	Wyatt, Henry M., Somerville, Mass. Lamp burner	June 16, 1868.
84,075	Wyatt, Lorenzo D., assignor to self, Samuel Farley, and Edward McManama, Castleton, Ind. Corn planter	Nov. 17, 1868.
79,670	Wyche, W. E., and Young P. Dickson, Brookville, N. C. Hopper shoe for grist mills	July 7, 1868.
78,635	Wyckoff, Arcalous, Elmira, N. Y. Pavement	June 2, 1868.
	Wyckoff, A. (*See* Stevens, Lafayette, assignor) (Reissue)	
81,055	Wyckoff, J. H. and W. K., Ripon, Wis. Photographic camera	Aug. 11, 1868.
82,781	Wykoff, John, Grant City, Mo. Compound doubletree	Oct. 6, 1868.
84,459	Wyley, Andrew, Birmingham, England. Breech-loading fire-arm. (Patented in England March 25, 1867)	Nov. 24, 1868.
	Wylie, George, and George W. Welsh. (*See* Welsh & Wiley.)	
	Wylie, John, and W. J. Benedict. (*See* Benedict & Wylie.)	
	Wyman, Dana. (*See* Beardsley, Theodore, assignor.)	
80,326	Wyman, F. S., Chicago, Ill. Can opener	July 28, 1868.
81,240	Wynn, James M., Scipio, Ind. Wagon coupling	Aug. 18, 1868.
	Wyon, Joseph Shepherd, and Alfred Benjamin Wyon. (*See* Hill, Charles J., assignor.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Yager, George W. (*See* Haag, Harrison, assignor.)	
76,686	Yaggy, Jacob and Tobias R., assignors to Tobias R. Yaggy, Plainfield, Ill. Bag holder	Apr. 14, 1868.
78,908	Yale, Charles O., assignor to self and Theodore W. Mahler, Rome, N. Y. Corn husker	June 16, 1868.
73,152	Yale, Linus, jr., Cooperstown, N. Y. Vise. (Antedated Dec. 21, 1867)	Jan. 7, 1868.
74,025	Same.....Shelburne Falls, Mass. Vise	Feb. 4, 1868.
82,192	Same.....Permutation lock	Sept. 15, 1868.
75,617	Yale, L. B., Bainbridge, N. Y. Rocker for chairs	Mar. 17, 1868.
82,470	Yale, Oliver W., Hartford, Conn. Making nuts	Sept. 22, 1868.
84,980	Yancy, E. L., Batavia, N. Y. Cheese table	Dec. 15, 1868.
84,602	Yardell, A. F., San Francisco, Cal. Propulsion of vessels	Dec. 1, 1868.
82,265	Yarion, Samuel, deceased, by Oscar C. Moore, administrator, Corunna, Mich. Sawing machine	Sept. 15, 1868.
	Yates, James, and Philip Dunn. (*See* Dunn, A. C., and Isaac L., assignors.)	
84,244	Yates, John, and Edgar Dcuell, Brooklyn, N. Y. Beer cooler	Nov. 17, 1868.
	Yates, Joseph J., and Thomas Williams. (*See* Williams & Yates.)	
83,015	Yates, Samuel, Marshall, Mo. Churn dasher	Oct. 13, 1868.
79,797	Yates, William, assignor to C. Aultman, A. C. Tonner, P. H. Sowers, and George H. Buckius, Canton, Ohio. Harness ring	July 7, 1868.
80,582	Yawger, A. C., Newark, N. J. Adjustable barrel head	Aug. 4, 1868.
79,715	Yeakel, Daniel S., assignor to Henry and Solomon Deer, Dillingersville, Pa. Grain separator	July 7, 1868.
83,118	Yeaton, William H., Philadelphia, Pa. Pipe coupling	Oct. 13, 1868.
83,119	Yielding, Richard, Detroit, Mich. Manufacture of iron and steel	Oct. 13, 1868.
81,452	Yeiser, Edmund, Sheridon, Pa. Fifth wheel for carriages	Aug. 25, 1868.
73,153	Yeiser, Frederick, Danville, Ky. Pump	Jan. 7, 1868.
73,067	Yentzer, Enoch S., and Alfred K. McCain, Ottawa, Ill. Feller for sewing machines	Jan. 7, 1868.
2,846	Yeoman, Richard, Cincinnati, Ohio. Printer's chase (Reissue)	Jan. 14, 1868.
78,707	Yeoman, William, P., Waukegan, Ill. Machine for edging wall paper	June 9, 1868.
84,154	Yeomans, T. G., Walworth, N. Y. Grape and vine trellis	Nov. 17, 1868.
83,352	Yerington, Henry W., Jersey City, N. J. Hydrocarbon burner	Oct. 20, 1868.
	Yetter, Andrew B. (*See* Bancroft, L. F., assignor.)	
85,416	Yinger, John S., Manchester Township, Pa. Horse hay fork	Dec. 29, 1868.
73,767	Yocum, John H., Ashland, Pa. Grate	Jan. 28, 1868.
79,716	Same.....Stove grate	July 7, 1868.
76,132	Yocum, Samuel H., assignor to self and Marion E. Clark, Tipton, Ind. Post-hole hollow auger	Mar. 31, 1868.
78,909	York, George P., and William H. Wilson, Westfield, N. Y. Machine for grinding the cutters of mowing machines	June 16, 1868.
76,576	York, Richard A., Reading, Mich. Crimping machine	Apr. 7, 1868.
77,234	York, S. V. R., Antwerp, N. Y. Surcingle	Apr. 28, 1868.
77,235	Same.....Bitting attachment	Apr. 28, 1868.
85,158	Same.....Safety bridle	Dec. 22, 1868.
76,028	Yorns, Adolph, and E. J. Smith, New York, N. Y. Kite	Mar. 24, 1868.
	Yost, Beynard. (*See* Russell. E., assignor,)	
78,708	Yost, G. W. N., assignor to Corry Machine Company, Corry, Pa. Harvester	June 9, 1868.
78,709	Same.....same	June 9, 1868.
78,710	Same.....same	June 9, 1868.
78,711	Same.....Harvester reel	June 9, 1868.
78,712	Same.....Mowing machine	June 9, 1868.
81,241	Same.....Harvester	Aug. 18, 1868.
81,569	Same.....same	Aug. 25, 1868.
82,782	Same.....same	Oct. 6, 1868.
84,786	Same.....Track clearer for harvesters	Dec. 8, 1868.
84,927	Same.....Harvester	Dec. 15, 1868.
85,159	Same.....same	Dec. 22, 1868.
85,349	Same.....same	Dec. 29, 1868.
78,713	Yost, Nicholas E., Corry, Pa. Road scraper	June 9, 1868.
77,562	Yost, Peter C., Hamilton, Ill. Corn harvester	May 5, 1868.
74,026	Young, Albert A., assignor to self and George T. Dalton, Boston, Mass. Brush stock and handle. (Antedated Jan. 16, 1868)	Feb. 4, 1868.
74,027	Same.....same.....same	Feb. 4, 1868.
79,621	Young, Albert A., assignor to self and Francis McLaughlin, Boston, Mass. Brush and comb combined	July 7, 1868.
81,124	Same.....Street-car lantern	Aug. 18, 1868.
83,432	Young, Albert A., assignor to self, Helen J. Dalton, and George W. Armstrong, Boston, Mass. Wardrobe bedstead	Oct. 27, 1868.
81,319	Young, Alexander K., Boston, Mass. Hoop skirt and bustle combined	Aug. 18, 1868.
75,821	Young, Alfred, Philadelphia, Pa. Curtain fixture	Mar. 24, 1868.
	Young, C. F. (*See* McLea, Wm. J., assignor.)	
81,453	Young, Charles H., River Point, R. I. Let-off mechanism for looms	Aug. 25, 1868.
77,342	Young, David, East Topsham, Vt. Sugar-pan derrick	Apr. 28, 1868.
	Young, D. H., and A. S. Vorse. (*See* Harger, David, assignor.)	
	Young, D. U., and M. C. Merrill. (*See* Merrill, S. I., assignor.)	
	Young, John, jr., administrator of Dellavan D. Marsh, deceased. (*See* Marsh, Dellavan D.)	
	Young, John J. (*See* Beals, David S., assignor.)	
80,527	Young, Martin V. B., New York, N. Y. Cigar holder	July 28, 1868.
	Young, Robert W. (*See* Dean, Otis, assignor.)	
	Young, S. W., and George J. Sturdy. (*See* Sturdy & Young.)	

Alphabetical list of patentees for the year 1868—Continued.

No.	Name, residence, and invention or discovery.	Date.
85,195	Young, Wesley, Bloomington, Ill. Hedge planter	Dec. 22, 1868.
77,857	Young, William, Easton, Pa. Device for clearing pipes	May 12, 1868.
	Young, William, and Jacob Van Norman. (*See* Van Norman & Young.)	
80,379	Young, William, jr., assignor to self and Charles Lowell, Franklin, Mass. Door mat	July 28, 1868.
74,474	Young, William B., Chicago, Ill. Plow	Feb. 11, 1868.
79,622	Young, W. H. and L., Boston, Mass. Cabinet bedstead	July 7, 1868.
79,798	Same.....Caster for trunks	July 7, 1868.
83,680	Same.....Curtain fixture	Nov. 3, 1868.
	Young, William K. (*See* Shaffer, B. F., assignor.)	
77,701	Youngblood, William, New York, N. Y. Horse collar	May 5, 1868.
80,794	Youngs, Elijah, Tuscarora, N. Y. Mop and clothes wringer	Aug. 4, 1868.
	Youngs, William F. (*See* Metzler, Henry F., assignor.)	
77,430	Zacharias, J. F., Leesburg, Va, Machine for attaching labels to newspapers, &c. (Antedated April 11, 1868)	Apr. 28, 1868.
78,349	Same.....Railroad station indicator	May 26, 1868.
84,401	Zahn, Henry, Toledo, Ohio. Railway rail	Nov. 24, 1868.
74,264	Zaiser, Charles, Newark, N. J. Animal trap	Feb. 11, 1868.
75,233	Zamboni, Isidoro, assignor to self, Peter Zoppi, and John Ruedy, St. Louis, Mo. Bottle stopper	Mar. 3, 1868.
	Zane, Joseph. (*See* Roach, Francis, assignor.)	
73,686	Zeigenfuss, George S., Doylestown, Pa. Wagon clip. (Antedated Jan. 16, 1868)	Jan. 21, 1868.
76,687	Zeigler, George W., Maumee, Ohio. Land tiller	Apr. 14, 1868.
	Zeigler, George W., and William D. Burgess. (*See* Burgess & Zeigler.)	
79,046	Zell, Francis, Louisville, Ky. Sash fastener	June 16, 1868.
79,047	Same.....Shutter fastening	June 16, 1868.
76,874	Zell, George M., Waynesville, Ohio. Harness	Apr. 14, 1868.
84,043	Zepf, Jacob, assignor to James T. Walker, Troy, N. Y. Machine for making horseshoes	Nov. 10, 1868.
3,226	Zeuner, Charles, assignor to M. Greenwood & Company, Cincinnati, Ohio. Shovel and tongs stand (Design)	Nov. 3, 1868.
75,822	Zibell, Frederick, St. Louis, Mo. Turning lathe	Mar. 24, 1868.
77,794	Zider, Reuben, El Paso, Ill. Railway chair	May 12, 1868.
83,751	Ziegler, John, Dayton, Ohio. Casting hollow ware	Nov. 3, 1868.
83,752	Zilar, Reuben S., Cincinnati, Ohio. Ice elevator	Nov. 3, 1868.
	Zimmer, George, & Company. (*See* Green, F. D., assignor.)	
78,172	Zimmer, John, Pittsburg, Pa. Furnace for boiling and puddling iron and other metals	May 19, 1868.
81,056	Zimmerman, Charles E., Cincinnati, Ohio. Churn	Aug. 11, 1868.
	Zimmerman, F. (*See* Beurer, Gottlieb, assignor.)	
	Zimmerman, H., *et al.* (*See* Uitting, Leonhardt, assignor.)	
78,714	Zimmerman, J. C., Eberly's Mills, Pa. Corn sheller	June 9, 1868.
79,717	Zimmerman, Peter, Delaware Water Gap, Pa. Device for hanging mill stones	July 7, 1868.
82,372	Zimmerman, Valentine, Morris, Ill. Beehive	Sept. 22, 1868.
76,029	Zimmerman, William, Colfax, Iowa. Horse hay fork	Mar. 24, 1868.
83,897	Zimmerman, William, Quiney, Ill. Hammer	Nov. 10, 1868.
	Zink, C. H., *et al.* (*See* Wagenhorst, James J., assignor.)	
84,155	Zinn, Benjamin F., Mt. Rock, Pa. Open or middle ring	Nov. 17, 1868.
76,577	Zinn, Bernhard, H., New York, N. Y. Extension chair	Apr. 7, 1868.
79,288	Zinn, John Hartzell, assignor to self and T. B. Weakley, Harrisburg, Pa. Line holder	June 23, 1868.
76,030	Zinsser, August, New York, N. Y. Tapping piece for barrels	Mar. 24, 1868.
76,031	Zinssmann, Emil, assignor to self and Charles Rumpff, New York, N. Y. Compound of aniline colors	Mar. 24, 1868.
83,433	Zippe, G., assignor to self and Werner Werner, New York, N. Y. Process and composition for tanning leather	Oct. 27, 1868.
	Zisemann, John F., *et al.* (*See* Sebold, George, assignor.)	
	Zoiner, P. W., and C. Harris. (*See* Harris & Zoiner) (Design.)	
77,702	Zopff, Heinrich, Milwaukie, Wis. Culinary apparatus	May 5, 1868.
	Zoppi, Peter, *et al.* (*See* Zamboni, Isidoro, assignor.)	
79,718	Zumsten, F. S., Evansville, Ind. Heating stove	July 7, 1868.

ALPHABETICAL LIST OF INVENTIONS.

Invention or Discovery.	Name of Patentee.	No.
A.		
Abdominal and back supporter	J. Ford	76,070
Abdominal and uterine supporter	E. J. Harding	75,902
Abdominal, Corset, and skirt supporter	J. McNeven	80,988
Abdominal supporter	M. Faloon	78,946
Abdominal supporter	S. L. Hockert	82,001
Abdominal supporter	J. Funkhouser	82,702
Abdominal supporter	J. A. Morrell	75,695
Abdominal supporter and truss	J. Lecocq	73,614
Abdominal supporter and uterine electrode	A. J. Steele	73,207
Acid phosphate of lime, Preparation of	E. N. Horsford	75,271
Acid phosphate to be used in food	N. N. Horsford	75,272
Acid, Pyroligneous	M. E. Converse and A. T. Atherton	78,264
Acid, sulphuric, and soda, Manufacture of	H. M. Baker	73,689
Acids, Manufacture of solid fatty	L. A. De Milly	81,884
Acids, sulphuric, Concentrating	D. Ashworth and R. B. Eaton	78,352
Acupuncturation, Instrument for	A. R. Brown	84,854
Adding and registering numbers, Instrument for	N. Spofford and C. Corliss	79,272
Adding figures, Instrument for	C. Corliss	79,209
Adding machine	C. H. Webb	75,322
Advertiser and clock combined	G. M. Levette	74,704
Advertising device	H. H. Browne	78,923
Advertising device	C. Peabody and P. H. Delaney	84,707
Advertising frame	J. Sonnedecker	77,545
Advertising show frame	W. P. Brown	81,592
Aerial navigator	Z. Stone	77,850
Afghan	D. Bickford	80,122
Agricultural machine	H. Cowing	80,795
Air and liquids, Cooling, and making ice	D. E. Somes	77,669
Air, Carburetting	J. F. and R. H. Plass	82,244
Air, Carburetting	T. F. Frank	83,147
Air, Carburetting	J. Richard	83,730
Air, Carburetting	J. S. Wood	84,332
Air, Carburetting	J. Sangster	74,769
Air, Carburetting	J. Sangster	74,768
Air, Carburetting	J. Stratton	76,114
Air, Carburetting	J. F. Barker	76,880
Air, Carburetting, and applying the same	A. Brin	81,590
Air condensing apparatus	H. J. Bailey	73,283
Air condensing apparatus	H. Moore	75,042
Alarm and indicator, Leakage measure	T. P. Akers	75,235
Alarm and indicator, Water	T. Flinn	77,809
Alarm and lock, Till	J. J. Wagenhorst	74,639
Alarm and signal, Railway	A. C. Twining	76,559
Alarm, Automatic, for grist mill	M. W. Helton and J. H. Redfield	73,247
Alarm, boiler, Low-water	F. S. Davenport	73,168
Alarm, Burglar	A. Kazenmayer and L. Valois	74,375
Alarm, Burglar	J. M. Wells	74,779
Alarm, Burglar	C. Knisely	75,771
Alarm, Burglar	N. P. Larsen	81,913
Alarm, Burglar	H. P. Beardsley and G. Wilcox	82,275
Alarm, Burglar	H. J. Walters	84,153
Alarm, Burglar	I. N. Buck	85,066
Alarm, burglar and fire, Electro-magnetic	E. Blunt, jr	79,440
Alarm, burglar and fire, Electro-magnetic	J. H. Guest	79,973
Alarm, burglar, Electro-magnetic	W. J. Biggar, J. C. Blood, and D. M. Griswold.	78,895
Alarm, burglar, and table bell	A. Iske	84,696
Alarm, Clock	C. H. Warner	76,567
Alarm, Door, and weather strip combined	G. W. Carpenter	75,857
Alarm, Electro-magnetic	M. G. Crane	80,922
Alarm, Electro-magnectic temperature	J. H. Guest	79,972
Alarm, Fire	J. F. Gauweiler and J. Stengel	74,339
Alarm, Fire	J. Coulson	84,997
Alarm, Fire and burglar	O. E. Picket and R. S. Luce	74,418
Alarm, Fog	J. R. Anderson	79,538
Alarm for carding machine	J. Haythorn and C. E. Price	81,084
Alarm for steam generators, High and low-water	J. H. Springer	74,442
Alarm, grist mill	J. D. Irvin and B. I. Seward	73,896
Alarm, High and low-water, for steam generators	T. P. Akers	74,477
Alarm, Low-water, for boilers	J. Atkins	79,431
Alarm, Low-water, for boilers	E. W. Mandeville	84,201
Alarm, Low-water, for steam generators	S. B. Palmer	82,025
Alarm, Railroad telegraph	G. Natcher	79,915
Alarm, Railway switch	J. F. Morsell	73,113
Alarm rug	R. B. Carsley	85,068
Alarm, Steam pressure, and low-water indicator	D. McFarland	79,672
Alarm, Steam pressure, and low-water indicator	D. McFarland	79,673

Alphabetical list of inventions—Continued.

Invention or Discovery.	Name of Patentee.	No.
Alarm, Till	A. D. Hoffman	83,498
Alarm, Time	L. Baum	73,154
Alcoholic spirits from tomatoes	J. S. Williams	84,455
Ale, beer, &c., Preserving	R. Eickemeyer	82,394
Ale, porter, &c., Brewing	F. M. Ruschhaupt	81,214
Ale, porter, &c., Composition for the manufacture of	T. Hawks	78,874
Alkali, Metal cans and cases for putting up	J. McCoy	77,899
Alkalies, Putting up	J. Reakirt	79,509
Alloy for metallic roofing	L. S. Enos	77,874
Alloy for the manufacture of spoons and forks	H. W. Wright	77,793
Alumina, Sulphate of	H. Pemberton	78,005
Alum, Porous	H. Pemberton	82,747
Amalgamating gold and silver	W. M. Fuller	81,767
Amalgamator	A. L. Fleury	73,241
Amalgamator	R. and W. F. Smith	76,538
Amalgamator	W. Robbins	77,097
Amalgamator	S. Fountain	77,183
Amalgamator	A. Horn	80,739
Amalgamator	G. A. Mariner and J. Kune	82,730
Amalgamator, Electrical	J. H. Rae	83,091
Amalgamator, Shoe for	J. H. Bullock	77,868
Anchor	D. C. Pieree	73,035
Anchor	D. C. Pieree	73,036
Anchor	J. M. Russell and D. Joline	73,758
Anchor	F. Wittram	78,852
Anchor	J. A. Habberley	82,940
Anchor	C. W. Roeden	84,304
Anchor	E. P. McCarthy and J. Johnston	44,565
Anchor	F. Howes	85,228
Andiron and fire-place	F. Passy	79,253
Aniline colors, Compound of	E. Zinssmann	76,031
Animals, Catching and holding domestic	H. V. Van Etten	85,413
Animals, Cleaning the intestines of slaughtered	J. A. Thompson	79,031
Animals in slaughtering, Handling	A. Graves	74,681
Animals, Relieving choked	G. Clump	76,998
Animal substanees, Preserving	O. Lugo	81,185
Animals, Suspending slaughtered	W. Leland and V. E. Rusco	85,109
Animal tether	M. and S. C. Leonard	74,553
Animal tether, Portable	A. Ralston	74,475
Ankle braee	S. B. Shearer	76,353
Ankle or knee guard	H. A. Hall	77,728
Annealing pot and saucer	J. Hibell	79,759
Annuneiator	J. S. Birch	84,474
Anvil for forming horse-shoe calks	R. Saylor and E. T. Rhodes	84,583
Apiary	W. Faulkner	74,065
Apple corer	M. M. Hatch	80,172
Apple corer and cutter	A. Frost	80,938
Apple corer and quarterer	J. M. Hassam	83,494
Apple corer and sliecr	D. R. Reed	80,010
Apple corer and slicer	I. Rogers	80,014
Apple grinder and eorn sheller combined	M. H. Ripley and W. N. Temple	82,250
Apple parer	J. F. and E. P. Monroe	75,951
Apple parer	C. A. Wiggin	80,580
Apple parer, eorer, and slicer	A. Clark	78,721
Apple quarterer	C. E. Billings	84,791
Apple slicer	H. and J. S. B. Norton	73,373
Arches, tunnels, &e., Construction of	G. T. Lape	81,797
Arm, Breech-loading	C. E. Sneider	85,252
Armor plating for vessels	G. J. Gunther	84,418
Arm rest and paper cutter, Combined	C. B. Dickinson	78,192
Arm rest, Penman's	J. B. Withey	78,259
Arms of violin players, Regulating the position and movements of.	E. Mollenhauer	75,950
Articulator	E. T. Starr	78,151
Ash bin	W. W. Chase	80,451
Atomizing apparatus for surgical use	A. M. Shurtleff	75,991
Auger	I. T. Payne	75,454
Auger	A. C. Vaughan	76,278
Auger	N. C. Sanford	79,012
Auger	L. Colt	80,915
Auger and bit	J. Swan	78,769
Auger, Earth-boring	J. W. Heath	76,108
Auger handle	J. Swan	76,956
Auger handle	H. D. Pennoyer	30,365
Auger handle	T. C. Hendry	83,156
Auger, Hollow	A. Brush	73,162
Auger, Hollow	F. Kraus	76,205
Auger, Hollow	J. L. Parker	76,804
Auger, Hollow	W. A. Ives	82,957
Auger, Hollow	J. H. Beauregard	85,423
Auger, Post	C. Adams	83,233

Alphabetical list of inventions—Continued.

Invention or Discovery.	Name of Patentee.	No.
Auger, Post	J. B. Drapar	83, 611
Auger, Post-hole	A. Burton	76, 598
Auger, Post-hole hollow	S. H. Yocum	76, 132
Auger, Slotting	P. Cunningham	81, 607
Augers, Grinding and cutting down	E. O. and E. Carrington	76, 301
Awl haft	L. H. Farnsworth	78, 947
Awl handle	D. R. Sturbridge	76, 020
Awning	N. Poulson	82, 032
Awning	T. G. Tyler	82, 569
Awning	R. P. Pratt	83, 090
Awning and window and door blind	G M. McMahan	74, 399
Awning for horse cars	M. C. Battey	84, 160
Axe	J. W. Hilton and R. W. Green	81, 635
Axe-bit blank, Bar for	J. Lippincott	85, 110
Axe, Hand	E. H. Meigs	80, 868
Axe handle	B. D. Stevens	78, 550
Axe polls, Punching	R. Blake	80, 900
Axes, hammers, &c., Manufacture of	F. C. Curie	82, 607
Axis, Multiplying revolutions around an	L. S. Fithian	76, 901
Axle	J. Elmire	81, 079
Axle	E. Finn	84, 940
Axle and wheel, Car	J. Montgomery	78, 467
Axle and wheel for railroad car	T. C. Hargrave	81, 083
Axle box	I. S. Lister	79, 238
Axle box	B. M. Pearne and L. Coville	79, 916
Axle box, Car	G. H. Henfield	73, 183
Axle box, Car	A. H. Nathans and M. Thornton	77, 831
Axle box for railroad cars	D. Jewett	78, 210
Axle cap, Car	W. Werts	78, 776
Axle, Car	R. Cromelien	79, 555
Axle, Car	W. B. Fahnestock	77, 968
Axle, car, Divided	J. K. Nelson	83, 991
Axle, Carriage	B. W. Foster	75, 893
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Bath, Steam	L. Heine	78, 971
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Battery, Galvanic	A. C. Garratt	79, 567
Battery, Voltaic	H. Palmer	82, 981
Beam and Girder	J. Montgomery	83, 196
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Bed and sofa	J. B. Reith	80, 767
Bed and sofa	W. H. Schwalbe	81, 691
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Bed bottom	S. J. Wingate	73, 218
Bed bottom	N. Maxey	73, 622
Bed bottom	F. C. Gridley	73, 799
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Beehouse	A. Carter	84, 994
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Beer and other malt liquors, Brewing	W. H. Elliot	76, 177
Beer, Hopping	W. S. Haight	79, 342
Beer, Mashing and boiling wort for	J. and M. Stark	73, 056
Beer, Pine-apple	G. Rivera	74, 429
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Bell, Call	E. G. Cone	83, 468
Bell, Door	A. F. Brooks	78, 308
Bell, Door	T. Lyons	80, 983
Bell, Door	O. B. Oakley and H. Rosekrans	81, 672
Bell, Door	W. H. Nichols	82, 434
Bell, Door	W. Allport	85, 352
Bell-pull	S. Bonsall and L. Hillebrand	75, 118
Bell-pull	J. Garvey and M. H. Kimball	83, 622
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Bell-pull, Noiseless	J. F. Cory	83, 606
Bell, Sleigh	G. M. Strong	75, 071
Bell, Sleigh	E. G. Cone	76, 163
Bells, Moulding	W. H. Davis	82, 094
Bells to their yokes, Attaching	G. R. Meneely	80, 422
Bell, Table and burglar alarm	A. Iske	84, 696
Bellows	J. and W. Bowden	74, 884
Bellows for dry gas meter, Diaphragm	A. Tufts	83, 113
Bellows for musical instrument	O. Follett	73, 592
Bellows for reed musical instrument	A. W. Wileox	77, 428
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Bellows, Reed organ	J. Schatz	77, 661
Belt-clasp	T. W. Porter	75, 970
Belt-clasp	J., S. A., G. E. and F. F. Reading	75, 076
Belt, Coupling	T. McMullin	81, 391
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Belt fastener	F. G. Wilson	84,925
Belt fastening	E. Schmeltz	75,704
Belt fastening	T. Kennedy	82,227
Belting	H. Lemaistre	75,554
Belting	T. Standring	81,623
Belting, Artificial leather	S. M. Allen	80,048
Belting, Paper	J. B. Crane	84,263
Belting, Splicing	J. W. Lyder and H. Shreve	79,136
Belting, Vulcanized India-rubber	D. C. Gately	83,374
Belt lacer	J. K. Priest and W. Earl, jr	81,537
Belt, Machine	T. F. Snover	77,847
Belt shipper	E. Buck	79,443
Belt, Shipper for shifting	T. W. Frost	76,739
Belts, Tightening	J. M. King	85,012
Belts, Tool for mending	G. W. Miller	80,756
Belt, Stud	D. M. Weston	76,861
Belt tightener	S. Patton	81,285
Belt, Waist	A. R. Boylson	84,082
Belt, Waist, or girdle	M. I. Findley	78,367
Bench-dog, Carpenter	E. B. McCoy	77,998
Bench or table	L. D. Hubbard	76,459
Bench, Shoemaker's	J. A. Hahn and C. Vogler	77,607
Bench, Shoemaker's	D. Fisk and J. M. Blodgett	84,871
Bending circles	W. Boyd	78,418
Bending machine	W. Richardson and L. Müller	73,837
Beveling machine, Bookbinder's	W. P. Chase	77,958
Bilge and keel block	J. T. Parlour	73,576
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Bill file	C. W. Bond	83,908
Bill holder	J. A. M. Collins	85,367
Billiard ball, Vulcanite	W. H. Lippincott	77,823
Billiard balls, &c., Composition for	J. W. Hyatt, jr	76,765
Billiard cue	H. C. Griffin	75,751
Billiard cue	J. N. McIntire	83,397
Billiard cue, Chalk holder for	A. M. Leonard and B. Perkins	81,515
Billiard cue, Composition tip for	A. Wetherbee	84,036
Billiard cue trimmer	H. Pernot	75,049
Billiard table, Chalk and sand-paper holder for	C. F. Ritchel	81,947
Billiard-table cloth	D. Skidmore	73,660
Binder, Temporary	N. M. Shafer	73,261
Binder, Temporary	G. W. Emerson	79,560
Bin for sugars, &c	M. L. Rich	82,035
Bird, Decoy	N. Wales	74,458
Bird-house, Metallic	H. Miller	76,648
Biscuit, meal and other, Manufacture of	J. Carr and C. Lucop	76,889
Bit and auger	J. Swan	78,769
Bit, Auger	J. Swan	76,955
Bit, Auger	J. Swan	80,027
Bit brace	F. A. Wood	84,523
Bit, Bridle	G. Webb	73,853
Bit, Bridle	J. K. Norton	74,122
Bit, Bridle	W. S. Ford	77,810
Bit, Bridle	P. J. McGuiness	78,466
Bit, Bridle	P. Schoonmaker	80,510
Bit, Bridle	C. H. Miller	81,395
Bit, Bridle	A. P. Baldwin	84,469
Bit, Bridle	W. S. Robbins	84,843
Bit, bridle, Flexible	B. L. Rowley	76,821
Bit for boring wood	R. Cook	81,069
Bit for boring wood, Expansive	W. A. Ives	82,956
Bit holder	C. H. Stockbridge	84,015
Bit stock	C. A. Amidon	73,279
Bit stock	A. D. Goodell	79,825
Bit stock	O. G. Stratton	81,031
Bit stock	S. W. Davis	81,260
Bit stock	R. D. O. Smith	82,041
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Bit stock	J. W. and F. M. Thompson	82,179
Bit stock	C. B. Rose	82,251
Bit stock	B. Darling	83,261
Bit stock	G. Richards	83,410
Bitters	J. Bender	77,245
Bitters	A. T. Hyde	81,508
Bitters, or medical compound	G. V. Rambaut	74,940
Bitters or tonic	J. Heisler	75,161
Bitters, Tonic	F. Fullerton	83,273
Bitting attachment	S. V. York	77,235
Blackboard	H. L. Andrews	82,062
Blacking case and closet	J. Macferran	74,705

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Invention or Discovery.	Name of Patentee.	No.
Blacking for leather, &c	J. B. Merrill	77, 069
Blacking for leather, Oil	S. S. Allen	83, 817
Blacking, Japan paste	H. Lake	73, 730
Blacking, Metal founder's	J. C. Sellers	79, 504
Blank book	H. Fischer	84, 869
Blanket, Horse	S. W. Baker	74, 742
Blanks for bodies of sheet metal tea and coffee pots	W. A. Munn	77, 643
Bleachers and dyers, Implement for	H. W. Holly	73, 331
Bleaching apparatus	E. A. Combs	79, 955
Bleaching cloth, yarn, &c	W. Luther	73, 733
Bleaching with sulphur fumes	A. J. Crosby and O. W. Crow	74, 898
Blind and shutter fastener	W. B. Farrar	84, 811
Blind and shutter opener	W. E. Brooks	83, 248
Blind fastener	W. Phelps, jr	83, 789
Blind fastener	F. Veazie	84, 661
Blind shutter fastening	O. Paddock	82, 980
Blind slat fastening	T. T. Rockwell	77, 218
Blind slat fastening	J. M. Peiree	78, 004
Blind slat operator	L. W. Swafford, E. Butler, and J. R. Hess.	83, 421
Blind slats, Tenoning	T. J. Bowdle, S. R. Lawder, and T. E. Johnston.	82, 792
Blind slat tenoning machine	M. W. Clark	80, 392
Blind slats, wiring, Machine for	G. Pancake	77, 908
Blind, Venetian	H. H. Andresen and H. Asbahr	78, 040
Blind, Window	W. Johnston	83, 286
Blind, Window	C. H. Warner	76, 855
Blind, Window	W. Bellairs and H. Demott	78, 359
Blind, window, Boring	L. S. Colburn	82, 803
Blind, window, Fastener for	D. B. and C. C. Mosher	76, 799
Blind, window, Fastening for	G. B. Mcleher	73, 987
Blind, window, Movable	N. Poulson	80, 215
Blind, window, Wiring	G. V. Orton and W. H. Doane	81, 103
Block and pulley	S. and J. Roebuck	73, 653
Blotter	D. Walker	77, 783
Blower holder	J. B. F. Davidge	74, 514
Blower, Pressure	W. C. Grimes	83, 846
Blower, Rotary	P. H. and F. M. Roots	73, 654
Blower, Rotary	C. W. Isbell	75, 635
Blower, Rotary	P. H. and F. M. Roots	81, 009
Blower, Rotary	J. Mitchell	82, 736
Blower, Steam	J. Hainsworth	75, 011
Bluing, Article of	E. L. Molineux	78, 313
Boards, Slitting	J. Langham, jr	81, 652
Boat	E. and G. A. Waters	79, 421
Boat, Ballast keel for	H. A. Dirkes	76, 896
Boat, Canal, and other vessel for the transportation of grain.	D. E. Somes	82, 887
Boat-detaching apparatus	N. M. Ray	82, 550
Boat-detaching apparatus	T. L. Cuthbert	83, 136
Boat-detaching block	N. B. Adams	75, 234
Boat, ferry, Operating	E. W. Quincy and W. Fisher	76, 943
Boat, Ice	T. B. Kelley	81, 909
Boat, Life	L. F. Frazee	79, 111
Boat, Life	J. R. Grace	81, 623
Boat, Paper	P. S. Tyler	83, 804
Boat, Propelling pleasure	J. O. Belknap	78 043
Boat, Steering apparatus for sectional	W. Frick	82, 614
Bobbin	A. P. Holmes	73, 185
Bobbin	W. H. Ramsdell	79, 687
Bobbin	H. J. Hubbard	83, 636
Bobbin for spinning	C. B. Morse	74, 402
Bobbin, Reverse motion for winding on	G. Richardson	84, 764
Bodies, Moving heavy	C. W. Whitaker	79, 883
Bog cutter and drag	J. W. Newton	83, 784
Boiler	J. Marshall	75, 942
Boiler	C. O. Green and R. Ham	76, 910
Boiler, Agricultural	D. R. Prindle	79, 685
Boiler and hot air register, Combined	B. B. Perkins	74, 936
Boiler and toaster	W. F. Collier and J. H. Bigelow	76, 032
Boiler, Bottom for	G. T. Palmer	78, 993
Boiler, Clothes	D. Kellogg	84, 832
Boiler, Culinary	O. Poole	74, 419
Boiler, Culinary	J. H. West and T. L. Camp	74, 647
Boiler feeder	E. Broekway	74, 659
Boiler feeder	W. C. Pickersgill	81, 679
Boiler feeder, Automatic	S. Driver	80, 536
Boiler feeder, Automatic	E. Sheppard	82, 357
Boiler feeder, Automatic	J. A. Davis	82, 498
Boiler feeder, Automatic	J. R. Widgeon and F. E. Frey	83, 013
Boiler feeder, Automatic	H. McGann	84, 642

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Invention or Discovery.	Name of Patentee.	No.
Boiler, Feeding	H. McGann	78, 224
Boiler feed low-water detecter	J. N. B. Bond	74, 883
Boiler, Feed-water heater for	C. Webster	76, 961
Boiler, Feed-water heater for	H. O. Perry	79, 385
Boiler, Feed-water heater for	E. R. Stillwell	81, 117
Boiler, Feed-water regulator	J. K. P. Nourse	83, 993
Boiler-flue cleaner	J. R. Dobbins	81, 351
Boiler-flue cleaner	G. V. Sloat	84, 587
Boiler-flue cleaner	W. C. Baker	84, 079
Boiler-flue plug	W. M. Sinclair	80, 313
Boiler flues, Steam-jet head for cleaning	J. M. Wheeler	76, 125
Boiler for heating apparatus	C. R. Ellis	73, 084
Boiler for heating purposes	J. Bradley	77, 576
Boiler for heating water	J. Ellis	74, 061
Boiler for making maple sugar	G. L. Parker	78, 391
Boiler, Float for	H. McGann	84, 502
Boiler furnaces, Consuming smoke and gas and increasing draught in.	D. E. Somes	77, 226
Boilers, Hand-hole joints for	G. W. Harlem	73, 557
Boiler, Heater and filter for	J. J. Doughty	82, 609
Boiler, incrustation in, Preventing	S. G. Cabell	73, 872
Boiler, Low-water detector for	J. Ashcroft	80, 700
Boiler, Low-water detector for	C. F. Cosfeldt, jr	73, 301
Boiler, Safety plug for	T. G. Eiswald	73, 311
Boiler, steam, Agricultural	L. S. Robbins	78, 235
Boiler, steam, Feed-water heater for	B. A. Hopkins	83, 161
Boiler, steam, Preventing incrustation in	H. McQuaid	82, 859
Boilers, steam, Preventing incrustation in	W. Hewitt	80, 544
Boilers, steam, Water-heater for	A. H. Walker	79, 523
Boiler, Tea kettle	A. Berney	83, 449
Boiler tubes, Device for leaky	R. A. Copeland	73, 439
Boiler tubes in sea-going vessels, Preventing corrosion of.	G. Hawxhurst	84, 489
Boiler upon stove-pipe	M. A. Shepard	77, 327
Boiler, Wash	J. C. Merrell	77, 511
Boiler, Wash	I. D. Seeley	77, 663
Boiler, Wash	C. E. Miller	79, 142
Boiler, Wash	E. L. Buynitzky	79, 310
Boiler, Wash	D. A. Danforth	80, 397
Boiler, Wash	C. E. Miller	80, 651
Boiler, Wash	P. M. Burns	81, 134
Boiler, Wash	F. Judson	81, 174
Boiler, Wash	A. W. Hall	80, 727
Boiler, Wash	J. Adams	80, 797
Boiler, Wash	A. O'Neill	80, 995
Boiler, Wash	A. R. Ball and A. M. Phelps	81, 460
Boiler, Wash	J. B. Sweetland and S. T. Fenn	81, 556
Boiler, Wash	J. Varley	81, 847
Boiler, Wash	J. Okey	81, 934
Boiler, Wash	O. F. Stedman	82, 656
Boiler, Wash	J. A. Hammer and T. Chadwick	82, 713
Boiler, Wash	G. Fenn	82, 817
Boiler, Wash	P. L. Shepler and S. L. Irwin	83, 218
Boiler, Wash	J. H. Burtis	83, 251
Boiler, Wash	S. A. Goodwin	83, 277
Boiler, Wash	S. A. Goodwin	83, 278
Boiler, Wash	W. N. Peirce	83, 307
Boiler, Wash	A. Sherwood	83, 329
Boiler, Wash	C. E. Miller	83, 399
Boiler, Wash	J. B. Sweetland	83, 566
Boiler, Wash	A. Michel	84, 204
Boiler, Wash	C. A. Totten	84, 395
Boiler, Wash	L. Granger	84, 487
Boiler, Wash	W. F. Jenkins	84, 493
Boiler, Wash	M. W. Staples	84, 715
Boiler, Wash	D. A. Porterfield	84, 759
Boiler, Wash	C. N. Tyler	84, 918
Boiler, Wash	E. Seeley	85, 031
Boiler, Wash	H. P. Bemiss	85, 358
Boiler, Wash	I. D. Seeley	85, 483
Boiler, Wash, (suspended)	L. T. Conant	84, 732
Boiler, wash, Hydraulic	J. B. Waring	84, 923
Boiler, Water indicator for	W. V. Dubois	85, 435
Boiler, Water level detecter for	J. Maslin and D. Birdsall	82, 967
Bolster plate	W. J. Lewis and H. W. Oliver, jr	79, 237
Bolt	B. F. Lotridge	80, 295
Bolt and latch combined	P. P. Child	73, 078
Bolt and rivet machine	G. Worstenholm	76, 873
Bolt and spike	J. S. Hall	80, 478
Bolt, Carriage	J. Strawn	76, 546
Bolt, Door, and lock	C. Sulzman	76, 671

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Invention or Discovery.	Name of Patentee.	No.
Bolt, door, Prison	B. F. Haugh	81,165
Bolt fastening	E. E. Stubbs	75,488
Bolt feeder and cooler	W. Pickens	74,125
Bolt for meter safe, Self-locking	A. W. Adams	79,801
Bolt for railway cars, Seat	P. A. Mann and G. P. Terry	84,891
Bolt head	F. S. Miles	82,973
Bolt, Heading	H. Thompson	75,221
Bolt, Heading	W. Melvell	80,198
Bolts, Heading	A. B. Glover	75,675
Bolt-heading machine	J. Root	75,198
Bolt-heading machine	R. Gracey	83,376
Bolt holder	G. W. Phelps	80,998
Bolt, Lock	G. Washburn	79,879
Bolt-making machine	F. Watkins	84,782
Bolt-making machine	W. Klemm and R. Dittrich	74,834
Bolt, Safe-door	J. Sargent	85,246
Bolts, Combined tool for cutting and shaving	T. Smith	81,697
Bolt, Screw	F. Tudor	83,226
Bolt, Self-acting	T. Pattenbury	74,846
Bolt, Shearing	A. Alexander	76,035
Bolt, Strap	W. J. Lewis and H. W. Oliver, jr	82,725
Bolts, Threading	B. D. Beecher	77,710
Bolt, Threading	A. Wood	79,714
Bolt, Threading	J. Schnessler and J. Kennedy	82,252
Bolt, Threading machine	W. B. Bement	75,239
Bolt trimmer	A. B. White	76,863
Bolt trimmer	G. W. Lewis	84,701
Bonds, &c., Preventing the alteration of numbers on	G. W. Casilear	84,341
Bone and ore crusher	A. Newell	81,932
Bone black, Cooling and purifying	D. H. Turner	77,935
Bones for the manufacture of acid phosphates, Burning.	G. F. Wilson	75,332
Bones for the manufacture of acid phosphates, Preparing.	G. F. Wilson	75,329
Bones for the manufacture of phosphoric acid and phosphates, Preparation of.	G. F. Wilson	75,326
Bookbinders' roll	J. Feely	76,065
Bookbinding	H. M. Shute	74,014
Bookbinding	A. Holbrook, jr	79,123
Bookbinding	W. Smith	79,269
Bookbinding	J. S. Lever	83,980
Bookbinding	L. G. Matthews	84,564
Books, Binding	A. H. Jocelyn	85,450
Books, Binding mathematical	F. B. Wells	83,345
Books, Binding mercantile	J. H. Gleim	83,276
Book-case bedstead	E. Putnam	81,687
Book cover and stand, Combined	W. Milliken	75,040
Book cover protector	A. Van Patten	84,397
Book, Music	I. Ickes	85,448
Book, Needle	J. F. Umpleby	77,551
Book, Pocket, Safety attachment for	A. McNeil	76,068
Books, Music, Turning the leaves of	A. K. Noyes	84,962
Book, Sewing	D. M. Smyth	74,948
Boom, Gudgeon for	C. Sayward	79,864
Booms, Out-haul for	G. W. Leighton	82,133
Booms, Shearing	L. W. Pond	80,663
Boot	J. Holland	73,010
Boot	J. P. Jamison	82,417
Boots, &c., Heel for	R. Herr	78,667
Boots, &c., Sole for	J. M. Hunter	78,970
Boot and shoe	R. Andrews	81,457
Boot and shoe	M. R. Ethridge	73,589
Boot and shoe	E. T. Rogers	74,599
Boot and shoe	G. and G. Smith	74,858
Boot and shoe	H. Eldridge	75,398
Boot and shoe	H. B. Marshall	77,063
Boot and shoe	E. Chesterman	77,717
Boot and shoe	N. Lumsden	78,385
Boot and shoe	W. Smith	80,360
Boot and shoe and clog for the feet	G. W. Martin	80,555
Boot and shoe, Attaching sole to	F. H. Hawks	81,366
Boot and shoe buttoning	C. Hay	82,946
Boot and shoe, Composition for the sole of	J. L. Newton	73,919
Boot and shoe, Composition for the sole of	N. Jenkins	83,637
Boot and shoe, Compound rubber enamel cloth for	E. M. Stevens	76,265
Boot and shoe conformateur	L. Brooks	77,166
Boot and shoe, Counter and shank for	M. E. Savoy	81,690
Boot and shoe, Cutting channel in	L. R. Blake	73,570
Boot and shoe, Elastic goring for	J. Harkin	82,944
Boot and shoe fastening	B. F. Allen and J. R. Ryerson	80,109
Boot and shoe, Fastening the lining to the sole of	D. H. Priest and H. S. Walcott	79,774
Boot and shoe heel	G. Beaty	72,963

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Invention or Discovery.	Name of Patentee.	No.
Boot and shoe heel	T. S. Engledow	75,137
Boot and shoe heel	A. O. Crane	84,861
Boot and shoe, Heel plate for	W. E. Hamlin, jr	81,777
Boot and shoe heel polishing machine	B. Q. Budding	82,798
Boot and shoe, Heel seat for	G. I. Mason	75,779
Boot and shoe, Holding	H. T. Dillon	73,304
Boot and shoe, Inner sole for	R. A. Webster	79,090
Boot and shoe, Insole for	A. N. Hadley	74,912
Boot and shoe, Insole for	R. Heneage	80,071
Boot and shoe lacing	W. Banister and A. H. Rowell	76,038
Boot and shoe, Lasting	I. R. Rogers	73,048
Boot and shoe, Lasting	J. G. Rust	75,580
Boot and shoe, Lasting	F. O. Claflin	82,599
Boot and shoe, Lining	T. Lucey and J. E. Murphy	76,216
Boot and shoe, Machine made, channeled and pierced sole for.	J. H. Brown	85,207
Boot and shoe. Manufacture of	W. and J. Keats	74,229
Boot and shoe, Manufacture of	A. Destouy	84,245
Boot and shoe, Moulding, rounding, and channeling sole of.	A. Jeffers	83,172
Boot and shoe, Polishing heel of	V. V. Spear	76,543
Boot and shoe, Screw peg for	J. M. Estabrook	85,374
Boot and shoe, Sewing the uppers to the soles of	M. J. Stein	81,956
Boot and shoe shank	A. Bertram	79,941
Boot and shoe shave	L. H. Farnsworth	85,077
Boot and shoe, Siding	H. T. Doggett	79,733
Boot and shoe sole	A. J. Basset	81,061
Boot and shoe sole	H. Riggs	74,851
Boot and shoe sole, Channeling	M. J. Stein	85,486
Boot and shoe sole, Finishing the edge of	C. W. Palmer	73,638
Boot and shoe, Spring bottom for	C. S. Hale and O. C. Hubbell	75,900
Boot and shoe, Steel shank for	H. and E. Briner	79,631
Boot and shoe stretcher	W. Frederick	76,431
Boot and shoe, Stretching	J. Monroe	79,850
Boot and shoe stud	H. S. Wolcott	77,421
Boot and shoe toe and heel irons, Coating	H. O. Lathrop	73,451
Boot and shoe, Trimming	R. C. Lambert	80,828
Boot and shoe, Ventilating	E. Thomas	80,518
Boot and shoe, Wear plate for	S. Minges	79,492
Boot and shoe, Work trimmer for	A. V. Hill	74,757
Boot blacking apparatus	J. Vandercar	74,637
Boot, Button	E. P. Taylor	80,430
Boot, Button	J. L. Joyce	81,378
Boot crimp	H. Wright	73,483
Boot crimp	J. Tipton and J. Carl	73,554
Boot crimp	F. L. Kathan and E. D. Rummer	79,357
Boot crimp	E. Mann and A. J. F. Howard	81,096
Boot-crimper	A. J. F. Howard	76,079
Boot-crimper	P. and A. Richmond and A. McFarland	78,131
Boot-crimper	J. M. Reed	79,777
Boot-crimper	A. J. F. Howard	81,087
Boot-crimper	O. M. Adams	84,402
Boot-crimper	E. C. Jackson	84,629
Boot-crimper	W. B. Gleason	84,743
Boot crimping machine	C. H. Rice	74,848
Boot crimping machine	J. A. Nesbit	75,186
Boot crimping machine	R. H. Dorn	78,438
Boots, Cutting	A. J. Moore, S. Bleistein and S. J. Shirk	79,676
Boot fastening	A. A. Abbot	79,800
Boot, Fastening strap to	P. H. Baker	84,157
Boot form	J. Howe	77,489
Boot, Foxing and soling	A. G. Smith	77,927
Boot, Gaiter	W. H. H. Babbitt	83,017
Boot heel	G. Lane	77,055
Boot heel	F. Robinson	77,529
Boot heel	G. Henning and H. P. Willie	73,328
Boot heel	J. Fearn	74,525
Boot leg, Closing up	P. W. Newton and C. R. Tilton	73,062
Boot leg, Turning	J. Sherman	81,310
Boot, Manufacturing sewed	J. Galli	81,620
Boot protector	J. U. Johnson	80,549
Boot shank machine	L. Schye	85,138
Boot sole	B. Van Ansdall	80,037
Boot soling machine	T. Cobourg	80,273
Boot tree and stretcher	J. Bechtel	81,463
Borax from solutions used in treating wood, Recovering and reworking.	S. Beer	84,471
Boring and cleaning device	J. B. Jordan	79,356
Boring and ditching machine	I. B. Jones	82,846
Boring and drilling machine	J. Goodwin	80,475
Boring and mortising machine	J. Jacob	82,096

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Invention or Discovery.	Name of Patentee.	No.
Boring and sawing machine	T. Smith	82, 649
Boring and spacing machine	J. M. Seymour	74, 724
Boring machine	H. Dool and P. B. White	76, 171
Boring machine	A. M. Connet	80, 059
Boring machine	C. R. Long	81, 655
Boring machine, Earth	J. E. Race	80, 217
Boring machine, Post-hole	W. I. Hale	76, 752
Boring tool	A. Steinbök	80, 515
Bosom and collar combined	E. Hatch	74, 355
Bottle	G. G. Hickman	75, 014
Bottle, Clay	E. H. and H. E. Merrill	78, 676
Bottle, Fastening metallic collar to	E. Wattis, jr	73, 680
Bottle-filling apparatus	G. B. Bachman	83, 904
Bottle-filling apparatus	P. M. Sherwood	84, 384
Bottle-filling apparatus	J. Matthews, jr	84, 836
Bottle, Filtering and pouring	V. M. Griswold	85, 088
Bottle for holding hydrofluoric acid	D. P. Webster	76, 678
Bottle, Medicine	W. H. Flinn	75 744
Bottle, Medicine	W. H. Flinn	75, 745
Bottle, Mucilage	H. H. Ebaugh	75, 672
Bottle, Mucilage	H. O. Baker	76, 379
Bottle, Mucilage	D. W. De Forrest	77, 008
Bottle, Nursing	H. W. Libbey	78, 881
Bottle, Nursing	P. J. McElroy	78, 987
Bottle, Pepper caster	E. Wattis, sr	74, 869
Bottle, Securing stopper to	W. H. Richards	73, 043
Bottle, Siphon, Filling	W. Gee	73, 594
Bottle, Soda-water	W. W. Timmons	74, 453
Bottle stopper	I. Zamboni	75, 233
Bottle stopper	S. and S. C. Cary	76, 994
Bottle stopper	J. Bell	79, 536
Bottle stopper	J. Klee	82, 230
Bottle stopper	W. Graff	83, 485
Bottle stopper	C. J. Converse	85, 214
Bottling machine	H. Carse	84, 795
Bowls, &c., Detachable nose for	G. Raymond	77, 914
Bowl, Wooden	H. Mellish	73, 740
Box	W. B. Guernsey	79, 113
Box	J. W. Wilcox	83, 812
Box	J. J. Leighton	84, 200
Box and cutter, Cheese	S. S. Brown	82, 795
Boxes, &c., Removable head for	S. Macferran	84, 366
Box, Axle	E. P. Haskell	84, 185
Box, Ballot	J. P. Outcalt	74, 932
Box, Berry	T. Mabbett, jr	73, 352
Box, Blacking	T. H. Spencer	77, 778
Box, Blacking	W. L. Gilroy	85, 084
Box, Chalk line	S. Beyl	85, 202
Box, Cheese	D. M. Cole	74, 797
Box, Cheese and butter tub	F. H. Wilson	73, 151
Box, Coal	S. A. Simison	73, 394
Box for arbor, &c., Adjustable	B. D. and H. E. Kay	83, 859
Box for carriage wheel	C. H. Holdredge	84, 548
Box for lard, butter, &c	C. L. Tucker	84, 657
Box for packing, &c., Cementing and strengthening	C. L. Tucker	81, 229
Box for pills, &c	B. F. Stephens	84, 972
Box for shafting, Self-lubricating	W. W. Crane	77, 261
Box for street stopcock	H. A. Moore, E. Otis and S. C. Frink	74, 573
Box, Fruit	J. Copeland	73, 300
Box, Fruit	J. M. Perkins	82, 438
Box, Fruit	T. B. Jones	83, 504
Box, Fruit	J. S. Shields	84, 139
Box, Fruit preserving	O. E. Doolittle	78, 437
Box, Garbage	J. L. Mason	81, 919
Box, Letter	J. W. and J. D. Smith	74, 015
Box, Letter	J. E. Woodruff	76, 026
Box, Letter	C. P. Gorely	79, 222
Box, Letter	D. P. Jordan	79, 355
Box, letter, Street	D. and G. H. White	76, 864
Box, Lubricating	T. J. Rowley and W. Poland	75, 465
Box, Lunch	P. H. Niles	75, 451
Box making	E. James	84, 422
Box, metal, Making	C. L. Rehn	83, 209
Box, Oil	J. W. Rhoades	84, 215
Box opener	P. Stone	74, 167
Box opener	H. H. Hall	81, 497
Box opener	J. Millard	81, 855
Box opener	A. Barbarin	83, 022
Box opener	L. Holtzscheiter	83, 499
Box, Paper	H. D. Scudder	76, 830
Box, Paper	F. Leclère	84, 835

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Invention or Discovery.	Name of Patentee.	No.
Box, pasteboard, Forming	C. A. Maxfield	77, 502
Box, picture frame, button, &c., Material for the manufacture of.	J. M. Merrick, jr	85, 018
Box, Propagating	A. D. Manchester	84, 955
Box, sheet metal, Soldering	C. L. Rehn	83, 208
Box, Spice	C. T. Palmer	82, 024
Box stuffing for valve stems, &c	C. Kline	73, 450
Box, Tin	J. D. Lane	66, 474
Box, Tobacco	G. M. Bull	80, 130
Box to contain money, cigars, &c	N. Thompson	84, 655
Box, Tree	S. Scotton	77, 662
Box, Twine	H. Smith and J. Emery	82, 167
Box, Wooden	M. Fitzgibbons	83, 770
Box, wooden, Making	R. Ramsdell	79, 858
Box, Wool	C. Wightman	78, 407
Brace and skirt supporter combined	R. A. N. A. Ward	82, 901
Brace, Bit	E. P. Pfleghar	75, 699
Brace, Bit	C. M. Daboll	75, 880
Brace, Bit	S. B. Hill	76, 632
Brace, Bit	S. C. Rundlett	77, 219
Brace, Bit	J. C. Tate	78, 157
Brace, Bit	J. Howe	82, 839
Brace, Carriage	J. Howe	82, 839
Bracelet	C. M. Kinsel	76, 470
Bracelet fastening	G. H. Soule	80, 676
Brace, Spring, for carriages, &c	L. C. Miller	77, 306
Brace to keep the mouth closed during sleep, Sanitary	F. Pinckard	84, 965
Bracket and rack	W. A. Middleton	83, 195
Bracket, Cast metal	P. Bradford	78, 784
Bracket for lightning rod, Pointed	M. Wells	79, 618
Bracket for shingle roof	P. B. Turner	79, 415
Bracket, Lamp	W. Ascough	81, 324
Bracket, Scaffolding	J. S. Wilson	73, 274
Bracket, Shelf	E. S. Morse	76, 232
Bracket, Shelf and drawer	L. Gibbs	76, 434
Braid	J. H. Smith, and W. and A. Shedlock	81, 834
Braiding machine	W. Tunstill	81, 038
Braiding machine, Carrier for	D. Avery	78, 411
Braid, Making	J. Fletcher	80, 818
Braid making machine	G. Rehfuss	73, 930
Braid, Sizing and polishing	J. S. Fenner	81, 886
Brake	B. F. Wheeler	74, 462
Brake and coupling	T. A. Weston	75, 227
Brake and starter, Car	J. S. Wood	80, 695
Brake and starter, Car	W. J. Johnson	80, 964
Brake, Car	F. Dengler	72, 984
Brake, Car	D. Dick and O. W. Preston	72, 985
Brake, Car	W. G. Creamer	73, 509
Brake, Car	J. A. Campbell	73, 950
Brake, Car	S. Marden	74, 235
Brake, Car	J. H. Moore and J. E. Gary	74, 240
Brake, Car	W. H. Smith and J. Steger	74, 860
Brake, Car	J. White and T. Lingle	75, 501
Brake, Car	W. H. Burke	75, 518
Brake, Car	G. W. Combs	76, 715
Brake, Car	E. Stiles	76, 843
Brake, Car	W. T. Batty	77, 159
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Brake, Car	W. T. Parsons	78, 759
Brake, Car	A. H. Sassaman	79, 149
Brake, Car	L. Clark	79, 206
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Brake, Car	W. P. Blades	79, 805
Brake, Car	S. M. Lee	80, 290
Brake, Car	S. McCambridge	80, 419
Brake, Car	S. McCambridge and E. G. Martin	80, 420
Brake, Car	G. L. Miller	81, 192
Brake, Car	F. Root	81, 411
Brake, Car	S. W. Y. Schimonsky	81, 414
Brake, Car	T. C. Woods	81, 568
Brake, Car	G. N. Jones	82, 324
Brake, Car	J. Cockshoot, jr., and H. Weatherill	83, 042
Brake, Car	J Steger	83, 418
Brake, Car	B. Tatham and J. Steger	83, 422
Brake, Car	W. W. Babcock	83, 442
Brake, Car	P. Keffer	83, 508
Brake, Car	J. Hirst	84, 490
Brake, Car	L. S. Sisson	85, 034
Brake, Car	D. H. Dotterer	85, 074
Brake, Car	J. H. Moore and J. E. Gary	85, 326
Brake, Car, and starter	M. Henderson	78, 371

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Brake, Car, and starter	C. D. Moody	77,903
Brake, Car, and starter	L. J. Smith and D. S. Knight	77,223
Brake, car, Attachment for	J. Kirkley	82,329
Brake, car, Railroad	B. O. Thompson	83,674
Brake, car, Railway	M. H. Rumpf	83,321
Brake, car, Railway	W. Portlock and J. R. Dodds	83,661
Brake, car, Railway	S. Randall	83,723
Brake, car, Railway	D. J. Parmele	84,963
Brake, car, Railway	J. T. Guthrie	85,302
Brake, car, Railway	C. D. Culver	85,369
Brake, car, Shoe for	J. Brahn	74,792
Brake, car, Shoe for	G. Drake	75,001
Brake, Carriage	W. Ballard	79,186
Brake, Carriage	S. D. Kimball	83,174
Brake for cotton lappers	R. Kitson	75,169
Brake for machinery	D. S. Baker	81,729
Brake for vehicles	H. B. Marshall	74,559
Brake for vehicles	E. M. Chumard	83,929
Brake, Hemp	D. F. Wallace	77,553
Brake, Hemp	J. Kaye	82,123
Brake, Locomotive	A. DeBergue	75,873
Brake, Sled	J. Cassidy	74,989
Brake, Sled	J. Latta and L. Snyder	83,977
Brake, Sled	J. M. Ackerson	84,526
Brake, Sled	J. Willis	84,979
Brake, Sleigh	W. D. Rowlstone	74,602
Brake, Sleigh	A. Ingalls	77,045
Brake, Sleigh	G. B. Stevens	79,785
Brake, Sleigh	B. F. Wheeler	80,256
Brake, Sleigh	M. Satterlee	84,379
Brake, Traction railway	R. D'Heureuse	78,723
Brake, Wagon	J. H. Smiley	73,265
Brake, Wagon	E. M. Chumard	74,198
Brake, Wagon	J. Walton	74,642
Brake, Wagon	S. S. Henderson	77,190
Brake, Wagon	D. M. Bailey	77,345
Brake, Wagon	J. B. Cook	77,360
Brake, Wagon	C. Ducreux	77,467
Brake, Wagon	J. H. Smiley	78,841
Brake, Wagon	D. Philips	79,855
Brake, Wagon	W. B. Morgan and I. H. Terrell	80,201
Brake, Wagon	W. H. Tucker	80,684
Brake, Wagon	F. D. Ladenberger	81,382
Brake, Wagon	H. Davidson	81,882
Brake, Wagon	D. Philips	82,344
Brake, Wagon	J. S. Pfrimmer	82,439
Brake, Wagon	C. M. Flint	82,611
Brake, Wagon	S. R. Bolton	83,032
Brake, Wagon	J. McKenzie	83,781
Brake, Wagon	J. J. Pierce	83,879
Brake, Wagon	H. Anderson	84,463
Brake, Wagon	W. T Ward	84,662
Brake, Wagon	D. J. Owen	85,025
Brake, Wagon	T. Urie	85,148
Brake, Wagon	G. W. Welsh and G. Wylie	85,151
Brake, Wagon and carriage	R. Rice	78,762
Brake, wagon, Operating	D. W. Carkhuff	81,750
Brake, wagon, Self-acting	T. Smith	81,696
Brake, wagon, Self-acting	J. A. Williams	74,468
Branding instrument	N. J. and J. P. Wemmer	74,263
Bran duster	P. F. Elting	77,965
Brazer, Portable upright flue	W. Grunert and G. E. Bingham	75,899
Bread, Apportioning, expanding, and shaping dough for the manufacture of.	J. Perry	78,232
Bread board	W. H. Lewis	73,104
Bread-making machine	M. A. Jones	75,932
Breast pad	D. K. Wertman	76,124
Breast pin fastening	T. W. F. Smitten	81,835
Breast strap	A. L. Hill	79,977
Breast strap slide	C. H. Stevens	81,553
Brewing	W. H. Elliot	72,989
Brewing ale, porter, &c	F. M. Ruschhaupt	81,214
Brewing, malting, &c., Apparatus for	A. B. Walker	76,853
Brewing malt liquor	P. Conday	82,208
Brick, Dressing	J. McNamara	78,388
Brick drier	J. M. Moyer	79,247
Brick, Drying	W. O. Leslie	81,094
Brick-drying apparatus	J. K. Caldwell	73,433
Brick-drying apparatus	I. C. Hatch	78,802
Brick for buildings	W. Smith	76,540
Brick, Handling or piling	J. Sangster	73,123

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Brick machine	J. Sangster, J. S. Richards, and D. P. Dobbins.	73,201
Brick machine	S. J. Parker	73,258
Brick machine	R. M. Gano	73,522
Brick machine	G. Metcalf	73,741
Brick machine	J. Simpson	73,843
Brick machine	E. F. Andrews	73,863
Brick machine	L. E. Ransom	74,000
Brick machine	J. Armstrong	74,030
Brick machine	E. R. Green and H. D. Phillips, jr	74,079
Brick machine	D. P. Dobbins and J. S. Richards	74,207
Brick machine	M. Nye and A. J. Knisceley	74,765
Brick machine	B. Van Vranken	74,956
Brick machine	J. C. McKenzie	75,287
Brick machine	A. Graham	75,542
Brick machine	J. Taggart	75,596
Brick machine	R. Cutler and G. C. Swallow	75,668
Brick machine	I. Martin	76,337
Brick machine	J. W. Osgood	76,341
Brick machine	W. Crighton and H. Roesler	76,405
Brick machine	L. Dieterich	76,415
Brick machine	C. Nolan	76,504
Brick machine	G. B. Fisher	76,617
Brick machine	E. P. H. Capron	76,888
Brick machine	J. H. Smith and C. H. Florence	77,118
Brick machine	P. J. Smith	77,224
Brick machine	W. O. Leslie	77,894
Brick machine	B. J. McAfee	78,221
Brick machine	F. Durand	78,268
Brick machine	L. M. Van Sickle	78,343
Brick machine	J. S. Wood	78,348
Brick machine	C. A. Winn	78,632
Brick machine	C. D. Wrightington and B. P. Rider	78,634
Brick machine	D. Smith	78,765
Brick machine	W. O. Leslie	79,362
Brick machine	R. and A. P. Campbell	79,633
Brick machine	F. H. Smith	80,231
Brick machine	R. M. Gano and R. S. Miller	80,470
Brick machine	J. A. Falconer and R. Graham	80,817
Brick machine	T. Barker	80,850
Brick machine	F. E. Frey	80,862
Brick machine	P. N. Woliston	80,890
Brick machine	J. A. Lafler	80,976
Brick machine	A. Nulsen, E. Haueisen, and A. Wagner	81,284
Brick machine	D. Wellington	81,313
Brick machine	W. H. Hovey	81,506
Brick machine	P. H. Kells	81,511
Brick machine	P. Hayden	81,901
Brick machine	J. C. Miller	81,928
Brick machine	D. Hess	82,116
Brick machine	J. A. Falconer and R. Graham	82,396
Brick machine	P. Clark	82,492
Brick machine	P. and J. Walrath	83,010
Brick machine	J. Martin	83,191
Brick machine	G. C. Bovey	83,244
Brick machine	H. Martin	83,297
Brick machine	E. Faron	83,769
Brick machine	E. Sprague	85,142
Brick machine	J. Klinkhardt and W. Kiburz	84,284
Brick machine	H. H. Gray	84,624
Brick machine	J. H. Ballard and E. P. Bond	84,724
Brick machine	E. S. Bitner	84,727
Brick machine	J. C. Dean	84,863
Brick machine	J. W. Pease	84,901
Brick machine	J. Bretz, W. Sangster, and J. F. Bretz	85,061
Brick machine	H. Aiken	85,197
Brick machine	E. Geary	84,816
Brick machine, Concrete	I. Pardee	74,769
Brick machine, Concrete	W. Emmons	76,727
Brick machine, Concrete	F. Hawkins	78,284
Brick, Manufacture of	S. H. Bowman	77,163
Brick mould safety guard	B. Porter	81,405
Brick, Pressing	W. H. Coombs	73,079
Brick, Pressing	C. Berrian	81,738
Brick wall	J. M. Deitz	81,350
Brick wall, Composition for cleaning, &c	W. B. Walters	81,233
Bridge	F. H. Smith	75,477
Bridge	T. B. White	75,502
Bridge	L. Liscom	75,212
Bridge	L. E. Truesdale	76,558
Bridge	J. B. Valliquette	76,560
Bridge	J. Sanderson	77,103

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Bridge	G. T. Lape	77,741
Bridge	R. Spaulding	78,000
Bridge	E. Denmead and W. Bollman	78,073
Bridge	E. Hamilton	78,202
Bridge	A. J. Post	81,406
Bridge	R. and M. J. Montgomery	81,666
Bridge	A. J. Post	81,817
Bridge	H. A. Rust and L. Hermann	81,950
Bridge	J. K. Thompson	81,960
Bridge	J. B. Eads	83,942
Bridge	I. H. Linville	84,288
Bridge	R. W. Rogers	85,332
Bridge, Arched	J. Davenport	82,388
Bridge block	J. R. Smith	79,869
Bridge, Cable shackle for	T. G. Hulett	84,827
Bridge, Car platform	B. G. Fitzhugh	79,646
Bridge, Draw	T. S. Speakman	76,542
Bridge, Draw	C. K. Marshall	79,768
Bridge, Ferry	A. C. Willson	76,867
Bridge, Ferry	J. A. Clarke	80,391
Bridge, Ferry	J. S. Bradford	80,902
Bridge for railroad car, Safety	E. Sturgeon	81,958
Bridge for railroad car, Safety	A. J. Elder	84,808
Bridge guard, Ferry	J. A. Clarke	75,526
Bridge guard or barrier	J. Lehmann	81,383
Bridge, Lock bar for	L. E. Truesdell	78,403
Bridge pier, Wrought iron	E. M. Grant	85,171
Bridge, Platform, for railroad cars	A. Rank	77,321
Bridge, Suspension	E. M. Carpenter	77,800
Bridge, Truss framed	J. Foreman	78,797
Bridge, Wire truss	C. Bender	76,041
Bridge, wooden, buildings, &c., Composition for covering.	J. Heckel and M. Eichinger	76,443
Bridle	E. R. Ferry	79,334
Bridle	A. Bauerschmitt	79,628
Bridle	W. F. Clark	84,170
Bridle	J. McKibben	84,838
Bridle blind, Operating	A. Simis	85,406
Bridle, Driving	A. Rice and L. Leach	73,042
Bridle, Safety	J. McKillop	78,533
Bridle, Safety	E. R. Ferry	83,055
Bridle, Safety	G. W. Barnes	80,897
Bridle, Safety	S. V. R. York	85,158
Bristle washing and combing machine, Combined	L. F. Lannay and W. F. Parks	84,561
Bristles, &c., Washing	L. F. Lannay	78,102
Bristles, felt, fur, &c., Cutting and trimming	C. F. Harlow	79,468
Broiler	A. J. Gibson	75,673
Broiler	S. Bowers	80,125
Broiler	J. Mallory	83,649
Broiler and toaster	W. F. Collier and J. H. Bigelow	76,032
Broiling apparatus	M. E. A. W. Evard	76,314
Bromine from bitterns, Manufacture of	G. A. Hagemann	82,309
Broom	H. Lumbard	73,107
Broom	N. E. Badgley	73,769
Broom	J. Buereky	76,710
Broom	R. F. Dobson	80,613
Broom corn, Cutting and assorting	M. D. Bradley	80,443
Broom gear	C. R. Webb	76,857
Broom handles, Turning	G. M. Morrow	83,082
Broom head	A. Alden	76,688
Broom holder	F. B. Batchelder	78,252
Broom or brush holder	A. G. Davis	73,169
Brush	W. W. Clark	74,048
Brush	J. F W. Dorman	78,727
Brush	W. M. Newton	81,101
Brush	J. L. Whiting	81,966
Brush	A. W. Brown	85,166
Brush and card, Combined	W. H. Prouty	79,596
Brush and comb, Combined	A. A. Young	79,621
Brush and fan, automatic fly	E. J. Clark	76,996
Brush and mop-wringer	W. S. Simpson	77,543
Brush, Automatic fly	B. F. Day	81,349
Brush, Blacking	H. E. Newton	73,746
Brush, Blacking	J. H. Doughty	74,674
Brush, Blacking	W. C. McGill	77,506
Brush, Blacking	C. D. Day	81,481
Brush, Blacking, and boot jack	H. J. Miller	75,181
Brush, Boiler-flue	P. H. Coyle	33,607
Brush bridle	G. Hergesheimer	74,224
Brush, hair, Revolving	J. Bayston	74,743
Brush handles, Screw socket for	W. H. Johnson	83,173

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Brush holder	C. B. Clark	80, 453
Brush holder and mop head	H. P. Gregg	81, 626
Brush, horse, Rotary	W. W. McKay	84, 837
Brush-making machine	A. M. White	85, 193
Brush, Mucilage	G. D. Wilcox	77, 429
Brush or broom holder	A. G. Davis	73, 169
Brush, Paint	A. Cutter	74, 752
Brush, Paint	J. W. Moore	76, 230
Brush, Paint	W. H. Forker	77, 475
Brush, Paint	D. White	84, 327
Brush, Paint and varnish	J. McKittrick	74, 566
Brush, Scrub	D. E. Hayward	75, 421
Brush, Scrubbing	R. M. Brooks	80, 128
Brush, Scrubbing	S. Gibson	82, 705
Brush, Scrubbing	A. E. Colman	83, 932
Brush, Scrubbing and mop	J. F. Mason	84, 129
Brush, Scrubbing and mop head combined	W. S. Van Hoesen	83, 806
Brush, Scrubbing and mop holder for	P. O'Brian	78, 121
Brush, Shoe	J. E. Nolin	78, 683
Brush, Sleeve for	J. S. Tilton	74, 258
Brush stock and handle	A. A. Young	74, 026
Brush stock and handle	A. A. Young	74, 027
Brush, Tooth	T. F. Maury	74, 560
Brush, Tooth	T. Maitland	78, 599
Brush, Tumbler	H. Lumbard	75, 940
Brush, Tumbler	G. Wiesler	81, 718
Bucket elevator	O. W. Clark	80, 602
Bucket for dredging machine	T. and A. Walsh	73, 678
Bucket, Sap	J. W. Currier	76, 168
Buckle	L. Elsberg	73, 176
Buckle	G. L. Gerard	73, 243
Buckle	C. W. Smith	73, 620
Buckle	H. Neumann	73, 633
Buckle	F. W. Maes	74, 734
Buckle	A. Hurd	74, 367
Buckle	W. Babin	75, 722
Buckle	H. C. Griggs	77, 033
Buckle	J. A. Mashmeyer	77, 064
Buckle	J. H. James	77, 885
Buckle	S. P. Burdick	77, 955
Buckle	I. Banister	79, 626
Buckle	J. G. Clifton	80, 454
Buckle	L. D. Cowles	80, 605
Buckle	H. C. Wissel	81, 318
Buckle	J. Cory	82, 091
Buckle	S. A. Tenney	82, 768
Buckle	M. Fowler	82, 821
Buckle	P. W. Smith	83, 102
Buckle	H. Herbert	83, 381
Buckle, Belt	W. Cummings	80, 924
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Buckle, Double	E. W. Clark	80, 139
Buckle, Hamestring	L. Wetzell	73, 148
Buckle, Harness	C. B. Payne	78, 124
Buckle, Harness	P. S. Crawford	78, 364
Buckle, Harness	A. Bedford	78, 568
Buckle, Harness	S. P. Taylor	79, 519
Buckle, Harness	I. Rorabach	79, 770
Buckle, Harness	W. H. Taylor	79, 874
Buckle, Harness, wedge	K. Frazer	81, 993
Buckle, Halter	F. Ditton	78, 516
Buckle, Hat	J. N. Burton	75, 359
Buckle, Hitching strap	P. J. Stoll	85, 186
Buckle, Self-fastening	W. W. Spencer	78, 491
Buckle, Suspender	A. Pototsky	79, 918
Buckle tongues, Tool for cutting holes in cloth, &c., for	A. Bedford	81, 464
Buckle, Trace	M. Gayhart	79, 064
Buckle, Trace	H. Hise	79, 979
Buckle, Trace	C. H. Miller	81, 394
Buckle, Trace	W. G. Bunker	82, 489
Buckle, Trace	W. W. Gordon and D. Pettengill	82, 709
Buckle, Tug	G. P. Cole	76, 162
Buckle, Wedge	M. W. Pond, jr., and A. T. Ballantine	74, 243
Buckwheat hulling machine	J. Baysore	73, 156
Buggy top	W. S. Johnson	73, 530
Buggy-top fastening	D. S. Early	83, 269
Buggy-top roller	J. Palmer	74, 414
Buggy top, Shifting	T. Lodge	83, 183
Building block and artificial stone	J. Leffler	85, 231
Building, Portable	D. S. Whittenhall	76, 019
Buildings, Compound for coating the outside walls of	J. S. Houghton	84, 550

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Buildings, Heating	T. Boyd	78, 859
Buildings, Heating, Steam generating apparatus for	B. Irving	73, 608
Buildings, Moving	J. H. Mooro	77, 074
Bundling machine	E. J. Reddy	80, 665
Bung	E. White and W. Shilvock	73, 856
Bung	J. B. Lefferson	74, 702
Bung	N. L. Chappell and C. H. Pettit	75, 367
Bung	C. C. Stremmo	76, 670
Bung borer	J. G. Baker and H. Asbury	82, 274
Bung, Fermentation	W. W. Woodruff	77, 154
Bung for cask	A. A. Stimson	79, 407
Bung for cask, Making	W. Donaldson	76, 936
Buoy, Channel	W. W. Goff	79, 750
Burial case	J. R. Hathaway	74, 531
Burial case	F. Vester	81, 437
Burial case, Composition for tho manufacturo of	J. R. Hathaway	83, 495
Burial case, Self-sealing	P. F. Lawsho	77, 627
Burner	S. C. Pruden	73, 834
Burner, Gas	C. S. Ford	76, 069
Burner, Gas	R. B. Locke	76, 333
Burner, Gas	H. Monier	77, 749
Burner, Gas	W. H. Rodgers	77, 917
Burner, Gas	S. L. Cole	78, 578
Burner, Gas	S. Gardiner, jr	78, 871
Burner, Gas	A. C. Rand	79, 081
Burner, Gas	J. S. Bridgman and E. G. Wellman	79, 545
Burner, Gas	W. J. Brassington	81, 063
Burner, Gas	G. Mooney	81, 524
Burner, Gas	A. Barbarin	81, 733
Burner, Gas	H. B. Myer	83, 876
Burner, Gas	J. Brönner	84, 675
Burner, Gas	E. P. Russell	84, 768
Burner, Gas, Argand	G. Mooney	73, 367
Burner, Gas, Attachment for	J. Scholl	80, 568
Burner, Gas, Attachment for	J. Kopp	82, 231
Burner, Gas, Attachment for	F. Shaller	83, 886
Burner, Gas, Automatic cut-off for	J. B. Smith	74, 440
Burner, Gas, Automatic stop-cock for	G. E. Smith	74, 914
Burner, Gas, Reflecting	T. Grist	78, 451
Burner, Gas, Regulating	H. B. Meyer	83, 990
Burner, Gas, Self-lighting	A. Barbarin	81, 734
Burner, Hydrocarbon	W. L. Imlay	73, 335
Burner, Hydrocarbon	J. H. White	73, 682
Burner, Hydrocarbon	F. Cook	73, 506
Burner, Hydrocarbon	C. Carpenter, jr	74, 196
Burner, Hydrocarbon	J. S. Hull	75, 765
Burner, Hydrocarbon	J. Stratton	76, 115
Burner, Hydrocarbon	F. W. Thayer	76, 552
Burner, Hydrocarbon	A. W. Cook and R. Dempster	78, 788
Burner, Hydrocarbon	H. Everett	79, 563
Burner, Hydrocarbon	S. P. Legg	80, 413
Burner, Hydrocarbon	D. H. Lowe	80, 980
Burner, Hydrocarbon	S. E. Crow	82, 925
Burner, Hydrocarbon	H. W. Yerington	83, 352
Burner, Hydrocarbon	J. Gray	84, 110
Burner, Hydrocarbon	E. W. Taylor	84, 148
Burner, Hydrocarbon	L. Verstraet	84, 234
Burner, Lamp	A. W. Browne	74, 793
Burner, Lamp	G. J. Capowell	75, 363
Burner, Lamp	C. St. John	75, 483
Burner, Lamp	G. Neilson	75, 565
Burner, Lamp	G. Neilson	75, 566
Burnor, Lamp	R. W. Park	75, 697
Burner, Lamp	E. B. Requa	75, 978
Burner, Lamp	H. R. Needham	75, 959
Burner, Lamp	G. Neilson	75, 566
Burner, Lamp	G. Neilson	75, 960
Burner, Lamp	J. Magee	76, 089
Burner, Lamp	L. Eroing	76, 426
Burner, Lamp	R. Hoadley and H. S. Shipman	76, 450
Burner, Lamp	J. J. Marcy	76, 482
Burner, Lamp	W. C. McGill	76, 645
Burner, Lamp	J. W. Brimblecom	76, 592
Burner, Lamp	G. K. Osborn	76, 653
Burner, Lamp	H. Coulter	76, 716
Burner, Lamp	F. S. Robinson	76, 945
Burner, Lamp	G. A. Beidler	76, 979
Burner, Lamp	G. Chinnock	77, 254
Burner, Lamp	J. R. Ackerman, E. B. Campbell, and N. O. Golden.	76, 966

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Burner, Lamp	J. Gracie and R. H. Boyd	77, 481
Burner, Lamp	C. M. Miles and G. W. Remsen	77, 514
Burner, Lamp	W. H. Horton	77, 614
Burner, Lamp	M. Jincks	77, 620
Burner, Lamp	G. Lavere	77, 821
Burner, Lamp	W. J. Ross	77, 844
Burner, Lamp	W. Robinson	78, 539
Burner, Lamp	A. H. Platt	78, 607
Burner, Lamp	L. J. Atwood	78, 637
Burner, Lamp	H. M. Wyatt	78, 978
Burner, Lamp	J. W. Schreiber	79, 014
Burner, Lamp	E. A. Galbraith	79, 221
Burner, Lamp	G. A. Mason	79, 369
Burner, Lamp	R. S. Merrill	79, 488
Burner, Lamp	F. H. Fuller	79, 969
Burner, Lamp	R. Gorsline	80, 281
Burner, Lamp	J. Minifie	80, 494
Burner, Lamp	E. J. Toof	80, 843
Burner, Lamp	W. Carleton	80, 909
Burner, Lamp	L. J. Marcy	80, 984
Burner, Lamp	P. Baker	81, 128
Burner, Lamp	J. Allen	81, 321
Burner, Lamp	T. Adams	82, 059
Burner, Lamp	J. P. McGee	82, 334
Burner, Lamp	E. C. Blakeslee	82, 480
Burner, Lamp	W. R. Cranna	82, 495
Burner, Lamp	A. Bliss	84, 406
Burner, Lamp	G. Neilson	84, 752
Burner, Lamp	A. G. Smith	84, 775
Burner, Lamp	C. W. Cahoon	84, 993
Burner, Vapor	T. Ward	75, 496
Burner, Vapor	S. B. Hopkins and E. H. Anderson	77, 612
Burner, Vapor	W. H. Smith	79, 404
Burner, Vapor	C. B. Loveless	79, 485
Burner, Vapor	W. E. Darrah	80, 926
Burner, Vapor	C. Wintergerst	82, 260
Burner, Vapor	W. W. Jacobs	83, 171
Burner, Vapor	S. Holmes	83, 854
Burner, Vapor	D. H. Lowe	83, 865
Burnisher for enameled paper	S. Shepherd and A. M. George	82, 883
Burnishing and polishing apparatus, Hand	W. H. Willson	82, 465
Bustle	J. B. Loomis	81, 281
Bustle and hoop skirt combined	A. K. Young	81, 319
Butter, &c., Box and bag for packing	J. D. Smedley	76, 110
Butter, churning, Mode of	I. Herrick	76, 913
Butter from whey, Manufacturing	I. Page	79, 078
Butter pail	H. P. Westcott	82, 048
Butter, Purifying	L. S. Robbins	80, 506
Butter worker	W. Cunningham	73, 582
Butter worker	H. Garrett	74, 076
Butter worker	S. Keen	74, 546
Butter worker	J. L. Colburn	76, 304
Butter worker	E. P. Walker	77, 135
Butter worker	H. Willard	78, 502
Button	F. J. Peabody	80, 563
Button	F. M. Bugbee	73, 871
Button	E. S. Wheeler	76, 016
Button	F. J. Perkins	77, 313
Button	E. Bredt	77, 443
Button	M. D. Moore	78, 116
Button	C. Mudler	78, 535
Button	H. Ansley	80, 699
Button	F. Wittram	82, 778
Button	C. N. Nickerson	83, 403
Button	J. Koberle	84, 555
Button, box, picture frames, &c., Material for the manufacture of.	J. M. Merrick	85, 018
Button, Carriage curtain	S. Campbell	73, 778
Button, Detachable covering for a	F. H. Gould	76, 746
Button fastener	E. Ripley	80, 224
Button fastening	H. S. Magrane	73, 735
Button fastening	M. Rosenthal	75, 650
Button fastening	G. D. Clark	80, 710
Button fastening	A. Rice	82, 440
Button fastening	R. Weaver	78, 903
Button hole for paper articles	R. M. Smith	75, 212
Button holes for paper articles of wearing apparel	W. E. Reeves,	76, 347
Button-hole lining for carriage curtains	J. Barclay	76, 695
Button-hole stitching machine	R. H. Peabody	78, 821
Button-hole twist, Winding	J. Lovatt	75, 938
Button hook, Setting	O. P. Esser and F. A. Steere	78, 077

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Button, Forming	S. G. Pitts	82,243
Button, Manufacture of	L. Moses	74,764
Button, Sash and door	M. Judd	75,923
Button, stud, &c., Fastener for	T. S. Sedgwick	81,300
Button to fabric, Attaching	G. J. Capewell	76,600
Button to fabric, Attaching	D. M. Somers and W. S. Atwood	83,669
Button to fabric, Instrument for attaching	H. Mauch	83,193
C.		
Cabbage can or vessel	W. Shires	73,130
Cable, Electric	J. L. Arman	73,487
Cage, Bird	C. L. Osborn	80,561
Cake burner	J. Lafetre	83,069
Cake or confection	W. Manning	73,018
Calculating and registering machine	T. T. Strode	74,170
Calculating apparatus	A. Johnson	85,229
Calculating machine	L. Keifer	73,449
Calculating machine	J. A. Loomis and A. Johnson	73,732
Calculating machine	A. C. Pierson	73,995
Calendar	A. S. Vose	75,659
Calendar	C. T. Pooler	77,837
Calendar, Perpetual	S. L. Barinds	78,356
Calendar tolls, Starting and stopping	W. T. Porter	79,080
Calipers	J. Atkins	75,827
Calipers	S. Sawyer	79,603
Calipers	T. Goodrum	82,514
Calipers and beam compass, Combined	W. Barrows	85,430
Calipers and divider	E. S. Scripture	73,126
Calipers and square combined	C. W. Guerrant	78,591
Calk for boots and shoes, Elastic	G. H. Clemens	83,930
Calk sharpener	H. Kime	84,553
Camera, Photographic	S. Wing	78,408
Camera, Photographic	J. H. and W. K. Wyckoff	81,055
Camera, Photographic	J. A. Scott	83,247
Cam for operating shuttle box	C. H. Knowlton	81,792
Can, Air-tight	C. Barry	81,243
Can, Alkali	C. Barry	82,914
Can and case for putting up alkali, Metal	J. McCoy	77,899
Can and jar, Sealing	J. Bellerjeau	76,149
Can for putting up alkali	P. Hickey	75,547
Can, Fruit	P. Numsen	75,189
Can, Fruit	J. R. Williamson	78,346
Can, Fruit	C. Becker, J. A. Ross, and J. Steuernagel	79,889
Can, Fruit	L. E. Holden	76,917
Can, Fruit	C. Becker, J. A. Ross, and J. Steuernagel	79,890
Can, fruit, Body for	J. Pfau	78,605
Can, fruit, Sealing	T. M. Furguson	80,401
Can, Glue	W. F. Muchmore	76,233
Can, Marking	F. W. Marvin	79,666
Can, Metal	J. Pollock and T. J. Diedrich	83,660
Can, metal, sheet, Vent for	R. Porter	74,244
Can, Milk	E. Abbott	73,687
Can, Milk	C. A. Reight	77,092
Can, Milk	J. E. Dean	78,072
Can, Milk	D. W. Shaw	79,693
Can, Milk	G. A. Huggins	79,907
Can, Milk	J. A. Bennett	80,800
Can, Milk	I. Vanderslice	81,119
Can, Milk	A. P. Cook	81,345
Can, Milk	O. J. Nutting	83,724
Can, Milk	L. A. Sunderland	84,973
Can, Milk	H. M. Viets	84,921
Can, Milk	T. W. Akin	83,898
Can, milk, Cover for	J. Fandel	77,020
Can, milk, Refrigerating	W. W. White and M. King	78,777
Can, Oil	C. J. Hauck	75,904
Can, Oil	J. J. Marcy	76,483
Can, Oil	J. Ogden	77,755
Can, Oil	H. B. Wellman	78,906
Can, Oil	B. F. Barnes	84,405
Can, oil, Cap for	W. Rigg	74,850
Can, oil, Cap for	J. H. Noyes	76,802
Can opener	N. F. Stone	76,669
Can opener	C. F. Ritchel	77,916
Can opener	F. S. Wyman	80,326
Can opener	G. C. Humphries	84,122
Can or vessel, Cabbage	W. Shires	73,130
Can, Packing	N. P. Lindergreen	83,070
Can, Paint	D. Miller	76,229
Can, Paint	E. B. Hamlin	83,849
Can, paint, Filling	J. Wilcox	73,272

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Cans, &c., Steam joint for	E. A. Thomas	83, 107
Can, Sheet metal	J. Cartwright	76, 890
Can, Sheet metal	P. Cook	81, 143
Can, Sheet metal	C. Seimel	81, 692
Can, Sheet metal	J. H. Stone	82, 766
Can, Soldering	M. M. Shur	81, 420
Can, Soldering the lid of	F. W. Brown	77, 447
Can, Spice	C. T. Palmer	79, 144
Can, Tin	G. E. Hegerman	80, 951
Can, tin, Bending the top and bottom of the body of	E. W. Bliss	82, 481
Can, tin, Soldering	J. G. Borden	74, 290
Can, tin, Soldering	W. Scrviss	75, 985
Can, tin, Soldering	W. Serviss	80, 673
Can, tin, soldering, Supporting while being soldered	A. Brooks	73, 573
Can, Tool for opening	M. T. McCormick	76, 490
Can top	L. F. Betts	81, 585
Can, while being soldered, Holding	T. Kerr and J. C. Kelly	71, 330
Canal lock gate step	H. Rexford	77, 405
Candle, Cap	J. H. Foote	84, 104
Candlestick	W. H. H. Hinds	82, 000
Candlestick or holder	S. J. Rockwood	73, 652
Candy, Making	E. K. Powers	82, 347
Candy, toys, &c., Making	T. and G. Mills	81, 665
Cane and telescope combined	G. W. Wilson	80, 324
Cane and umbrella combined	G. Bockstaller	73, 074
Cane and willow stripper	A. F. Ward and J. H. Bean	84, 324
Cane cleaner	S. Bean	74, 976
Cane, Compartment	L. C. Heylin	82, 949
Cane juice and other liquids with sulphurous acid gas, Impregnating.	E. Skelly	82, 164
Cane juice, Defecating	A. B. Sharp,	73, 054
Cane juice, Defecating	H. B. Bond	82, 682
Cane juice, Evaporating	T. Boutte	76, 392
Cane juice, Evaporating	S. A. Pochè	84, 134
Cane juice with sulphurous acid, Treating	J. E. Pattison	73, 640
Cane, Toy head for	A. Cooke	79, 208
Cannon	J. A. Terrell	85, 491
Cannon, Revolving	A. Schausten	74, 152
Canopy for tent and bed netting	J. B. Holmes	74, 535
Canopy, Mosquito	I. E. Palmer	74, 933
Canvas, Painters'	C. Volkmar	73, 060
Caoutchouc and other gums, Material produced by heating.	J. B. Newbrough and E. Fagan	73, 917
Caoutchouc and others gums, Treating	J. B. Newbrough and E. Fagan	73, 545
Caps, &c., percussion, Water-proof	B. Burton	81, 057
Capstan for hoisting machine	C. S. Houck	77, 191
Capstan, Operating	W. W. Vanderbilt	84, 660
Car	G. W. Hunt	77, 883
Car and track for elevating on inclined planes	J. W. Pearce	81, 677
Car and wagon unloader	N. Swickard	83, 005
Car, Aerial	O. Abbreuzzo	80, 107
Car berth, Sleeping	W. B. Snow	74, 773
Car brake and starter	C. D. Moody	77, 903
Car brake and starter	J. S. Wood	80, 695
Car brake and starter	W. J. Johnson	80, 964
Car, Brick carrying	J. K. Caldwell	75, 243
Car, Cattle	E. Fontaine	76, 067
Car dumper, Railway	J. Taney and J. H. Brown	83, 006
Car, Dumping	W. Chisholm	79, 445
Car, Dumping	P. Daniels	80, 339
Car, Dumping	G. B. Goodwin and S. McCord	85, 086
Car for transporting and drying peat	D. E. Teal	74, 255
Car, Freight	S. W. Downey	73, 308
Car, freight, Railroad	L. Savage	75, 581
Car, Grain	W. A. Long and J. E. Lavey	78, 383
Car, House, Pole for	T. Pendergast	85, 473
Car, Mail, and mail bag receiver	W. G. Sanford	78, 331
Car, mining, Automatic	J. Tamblyn	84, 778
Car mover	H. B. Morrison	75, 447
Car mover, Railroad	E. Springer	84, 012
Car mover, Railroad	F. L. Bailey	84, 789
Cars, Moving	J. Douglass	76, 421
Car, Oil tank	G. W. Ilgenfritz and M. Schall	79, 573
Car, Peat, Constructing	J. Bundy	78, 051
Car, Passenger railway	E. Y. Robbins	83, 731
Car, Pneumatic street railway	C. W. Wailey	84, 447
Car, Railroad	M. M. Crooker	78, 188
Car, Railroad	C. T. Harvey	79, 756
Car, Railroad, Address case	S. W. Downey	73, 881
Car, Railroad, Bow springs for	T. F. Allyn	81, 969
Car, Railroad, Centre plate	G. W. Bennett	75, 115

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Car, Railroad, Heating	R. A. Chesebrough	73, 781
Car, Railroad, Heating	A. C. Crary	77, 871
Car, Railroad, Heating	C. Carpenter	81, 137
Car, Railroad, Heating	F. M. Meddock	83, 076
Car, Railroad, Heating and ventilating	S. W. Francis	77, 270
Car, Railroad, Heating and ventilating	D. H. Dotterer	74, 899
Car, Railroad, Heating and ventilating	S. Lloyd	74, 386
Car, Railroad, Heating and ventilating	E. L. Roberts	81, 211
Car, Railroad, heating and ventilating, Apparatus for	S. Darling	79, 449
Car, Railroad, Safety attachment to	G. W. Brady	74, 980
Car, Railroad, Starting apparatus for	E. Woodward and J. S. Millett	82, 671
Car, Railroad, Slat roof for	W. Brown	73, 949
Car, Railroad, Sleeping berth in	A. Judson	80, 184
Car, Railroad, steamer, &c., illuminating	W. Foster, jr., and G. P. Ganster	84, 814
Car, Railroad, Unloading	J. Dable	80, 276
Car, Railway	G. E. Eddy	74, 325
Car, Railway	E. T. Ligon	83, 717
Car, Railway, Constructing the heating and lighting apparatus on.	A. J. Gibson	84, 740
Car, Railway, Warming	G. W. Eddy	76, 175
Car, Railway truck	G. R. Blanchard	81, 468
Car, Refrigerating	G. K. Wood	76, 285
Car replacer	D. Fisher and W. Cumming	73, 789
Car replacer	A. N. Towne	73, 940
Car replacer	C. Hurst	75, 020
Car replacer	D. Edwards	76, 424
Car replacer	N. Pullman	76, 520
Car replacer	S. S. Jamison, jr	76, 768
Car replacer	R. Davis	79, 325
Car replacer	H. Schreiner	85, 137
Car replacer or guide rail	J. P. Lipps	80, 191
Car, Scraper attachment to	E. B. Wells	73, 212
Car seat	C. Rowland	75, 982
Car seat	S. B. Holden	76, 325
Car seat and chair	W. N. Bragg	78, 570
Car-seat back, Support for	G. Higginson	80, 736
Car seat, Link joint for	R. Hitchcock	74, 359
Car seat, Metallic band for trimming	D. F. Randall	73, 927
Car shaft, Lubricating journal of	I. P. Wendell	78, 704
Car stake holder	G. A. Brown	76, 596
Car stake holder	W. P. Wentworth	78, 405
Car stake holder, Platform	W. J. Willits	77, 943
Car standard	R. Clark	79, 315
Car starter	L. Rodenhausen	75, 981
Car starter	I. N. Bevans	79, 529
Car starter	J. Steger	85, 407
Car starter and brake	M. Henderson	78, 371
Car, Starting	J. McMurtry	74, 927
Car starting and stopping apparatus	J. B. Waring	75, 818
Car starting apparatus	J. Steger	73, 764
Car step, Adjustable	W. Neumann	81, 194
Car, Stopping and starting	C. S. Hunt	75, 426
Car, Street	J. I. Herrick	77, 485
Car, Street, Steam	T. C. Robinson and G. P. Clark	85, 381
Car, Support for passenger in	H. S. Vrooman	77, 338
Car, Wagon, and other vehicle	T. Stone	79, 410
Carbonated and caustic alkalies, &c., Preparing	K. Lisber	85, 015
Carbon from gas retorts, Removing	J. A. Bassett and O. C. Smith	80, 438
Carbonic oxide for treating metals, Generating and applying.	T. Shaw	84, 220
Carburetter	U. C. Appleby	79, 048
Carburetter	C. B Willoughby	79, 290
Carburetter	M. P. Coons	80, 918
Carburetter	H. Slatter	82, 359
Carburetter, Air	W. M. Marshall	79, 667
Carburetting air and applying the same	A. Brin	81, 590
Carburetting apparatus	H. Woodward	81, 238
Carburetting apparatus	W. W. Bierce	73, 073
Carburetting gas and air	A. T. Boon and A. D. Perry	80, 268
Card and brush, Combined	W. H. Prouty	79, 596
Card and cribbage board	R. S. Jennings	73, 837
Card board for printing	A. R. Davis	75, 130
Card, Clothing	E. S. Lawrence	83, 179
Cards, Cutting	E. J. Hunt	74, 095
Card for artificial teeth	A. M. Asay	74, 971
Card grinder	B. S. Ray	81, 213
Card, Hand	R. H. Waite	74, 260
Card, Hand and other	E. L. Sprague	76, 111
Card handle, Finishing	I. S. Waite	75, 082
Card holder	W. I. Adams	75, 507
Carding cylinders, Stripper for	T. M. Abbott and E. F. Fields	74, 874

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Carding machine	J. Haythorn and J. Martin	75,905
Carding machine, Condensing	J. C. Shaw	73,760
Card or ticket case	C. C. Blakemore	79,194
Card, Playing	J. J. Levy	82,134
Cards, Removing wire teeth from	J. A. Baham, R. C. Wilson, and S. French.	80,586
Card safe	C. S. Crane	74,509
Card setting machine	J. Russell	75,853
Card setting machinery	T. A. Dickinson	75,388
Cards, Shuffling and dealing	H. E. Piquet	83,510
Cards, Strapping and grinding	W. H. Chandler	75,624
Card stripping machine, Cam for	S. L. Crockett and B. T. Mills	76,895
Carpenters' bench dog	E. B. McCoy	77,998
Carpet and other articles from jute, flax, &c., Manufacture of.	T. Crossley	73,512
Carpet bag	A. J. Robrecht	82,352
Carpet bag frame, Bending	H. Havell	83,852
Carpet cleaning machine	G. W. Bishop	78,178
Carpet fastener	I. H. Hart and O. Norton	75,352
Carpet holder	T. Smith	74,160
Carpet lining	G. W. Chipman	80,913
Carpet lining	M. Mayall	82,236
Carpet lining, Sewing	J. Fales	74,328
Carpet stretcher	A. L. Dunbar	73,310
Carpet stretcher	C. S. McRobert	73,986
Carpet stretcher	L. B. Southworth	76,355
Carpet stretcher	S. G. Dare	80,925
Carpet stretcher	W. Minster	80,495
Carpet stretcher	S. Stevenson	83,741
Carpet stretcher and tack holder	J. E. Sturdy	84,717
Carpet stretcher and tack holder	R. M. Mansur	79,242
Carpet sweeping machine guard	G. F. Taylor	82,566
Carriage	J. Bein and W. Ulrick	74,284
Carriage	E. Kitt	74,689
Carriage	H. Moon	75,183
Carriage	T. W. and H. K. Porter	75,973
Carriage	J. D. Van Hoevenbergh	78,340
Carriage	J. Whitehead	80,377
Carriage	S. Titcomb	81,227
Carriage	C. Brown	83,917
Carriage	N. L. Hatch	85,093
Carriage, Adjustable seat for	J. Fleming	76,428
Carriage, Advertising	W. C. Harris, A. R. Roseman and H. B. Hutchins.	74,530
Carriage and sleigh top	D. K. Hickok	75,908
Carriage, Attaching and detaching shafts and poles of.	L. Marmaduke and S. T. Bruce	82,857
Carriage, Attaching animals to	H. B. Hale and T. Flagler	75,262
Carriage, Baby, and sleigh	L. Shmetzer	84,310
Carriage body, Hanging	G. A. Blair and A. L. Gladding	73,492
Carriage body, Suspending	H. W. Libbey	73,821
Carriage, Bearing for fifth wheel of	S. B. Smith	76,667
Carriage, Boot attachment to	M. M. Follett	74,071
Carriage bow iron	A. W. Clark and G. W. Marble	83,693
Carriage bow setter	H. C. Hoover	75,916
Carriage brace	M. Powe	74,130
Carriage, Check brace for	I. D. Johnson	77,196
Carriage, Children's	F. Boylston	82,683
Carriage circles, Bending	S. S. Daniels	76,059
Carriage clip	T. McCreary	30,360
Carriage, Cross strap for	H. Killam	74,380
Carriage curtain fastener	E. P. Whitney	74,649
Carriage curtain fastener	H. E. Pond	80,662
Carriage curtain fastening	J. Huston, jr., and O. W. Stanford	76,080
Carriage curtain fastening	J. C. Fish	83,056
Carriage curtain fastening	E. Shepard	83,555
Carriage, Dashboard for	W. Franklin and T. M. Smith	75,746
Carriage, Detaching horses from	G. Gabriel	82,217
Carriage, Elastic bearing body supporting irons for	J. D. Sarven	74,011
Carriage, Elastic bearing for body supporting irons for.	J. D. Sarven	74,012
Carriage, Extension pole and holdback for	W. W. Rexford	84,376
Carriage, Fastening apron hook to the dasher falls of a	L. J. Parsons	83,205
Carriage, Fifth wheel for	H. W. Ransom	74,422
Carriage, Fifth wheel for	E. H. Adams	79,429
Carriage, Fifth wheel for	F. Yeiser	81,452
Carriage, Forward gear for	J. J. D. Meincke	77,395
Carriage, Head block for	T. M. Cluxton	83,256
Carriage, Holdback for	J. A. Mackinnon	83,294
Carriage hub	J. W. Minor and D. P. Ward	75,948
Carriage hub, Box metal in, Securing	A. H. Ahlborn	74,029
Carriage, Ice	H. C. Moore	75,953
Carriage, King bolt for	J. Reiber and J. Schrader	77,528

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Carriage lock	J. A. Bower	77,162
Carriage-loop and billet cover	N. Jenny, jr	84,829
Carriage, Main bolt or goose neck stay on	A. B. Sheaffer	78,240
Carriage, Metallic scroll end for spring bar for	A. N. Warburton and H. Bonder	74,178
Carriage perch	W. H. Cooper and G. Grogory	73,438
Carriage perch connection	D. A. Mathews	75,688
Carriage pole	V. N. Mitchell	76,496
Carriage pole, Adjustable	M. A. Koon	82,127
Carriage pole, Convertible	F. Fowler	76,906
Carriage pole support	H. B. Hurd	77,382
Carriage pole tip	A. Benedict	77,796
Carriage prop joint	E. W. Waite	80,845
Carriage, Runner attachment for	C. F. Brigham	85,204
Carriage, Running gear for	J. B. Withey	73,941
Carriage, &c., Spring brace for	L. C. Miller	77,306
Carriage, Sand cap for	A. O. Coleburn and H. T. Stanard	76,605
Carriage seat	H. H. Forbes and H. C. Sears	77,023
Carriage seat, Lock for	W. Conway	83,258
Carriage seat, Shifting rail for	S. Toomey	76,959
Carriage shackle	F. B. Morse	79,494
Carriage shackle	W. F. Gilbert	81,768
Carriage shackle	G. G. Larkin	82,420
Carriage shaft and pole coupling	E. A. Harvey	74,189
Carriage shaft, Coupling for	A. Searls	77,769
Carriage, Sliding seat for	L. N. Beecher	75,841
Carriage spring brace	J. H. Chadwick	74,499
Carriage, Steam	Z. P. Dederick and I. Grass	75,874
Carriage step	G. M. Plympton	74,589
Carriage step	G. Panchot	83,305
Carriage, Step cover and wheel fender for	J. Curtis	84,802
Carriage, Stump joint for	F. B. Morse	81,193
Carriage, Subjoint for	F. B. Morse	80,202
Carriage, Sustaining device for draught pole for	S. B. Whitney	74,184
Carriage thill	S. B. Harmon	74,820
Carriage thill	J. P. Tyson	75,711
Carriage, Thill and pole for	J. W. Bicknell	78,416
Carriage top	W. Smith and E. M. Piko	73,763
Carriage top	E. S. Scripture	78,836
Carriage top	J. F. Sargent	80,670
Carriage top	N. G. Burr	81,135
Carriage top, Attaching	W. Horrocks	80,180
Carriage top frame	J. H. Flagg	74,809
Carriage, Top prop for	W. B. Pardee	84,573
Carriage, Top prop for	J. F. Mullen	73,632
Carriage, Top prop for	F. A. Bradley	82,203
Carriage top prop, Joint for	E. W. Waite	82,456
Carriage, Window holder for	J. H. Moore and W. Johnston	77,397
Carriage, Wooden washer for	T. M. Hart	84,488
Carrier, Chain, and tug	J. N. Guger	75,157
Cart and wagon, Dumping	A. W. Rogers	80,669
Cart body	W. Bradley	78,419
Cart, Dumping	A. A. Jennings	73,725
Cart, Dumping	G. E. Newell	73,918
Cart, Dumping	R. Ham and J. Durgin	80,823
Cart, Dumping	J. H. C. Applegate	85,353
Cart, hay, Self-loading	I. M. Williams	83,749
Cart, Log	S. Stitt	84,145
Cart, Self-loading	G. W. Whitson	80,257
Cart, Self-loading	L. A. Beardsley	85,200
Cartridge	J. Abraham and T. R. Bayliss	83,434
Cartridge box	P. F. Schneider	73,549
Cartridge box	J. Elbertson	77,016
Cartridge box	S. Crispin	84,616
Cartridge box	H. E. Paine	85,241
Cartridge box, Fixed ammunition holder for	J. W. Cochrano	75,625
Cartridge box, Fixed ammunition holder for	J. W. Cochrane	75,626
Cartridge charger	P. Powell	85,180
Cartridge, Explosive	W. Schmitz	85,482
Cartridge extractor	H. Lord	73,351
Cartridge for small-arms	T. Cullen	72,982
Cartridge holder	J. S. Smith	84,651
Cartridge, Metallic	H. Berdan	82,587
Cartridge, Metallic priming	J. F. Cranston	73,877
Cartridge, Metallic priming	H. Meigs, jr	73,739
Cartridge, Metallic priming	W. Tibbals	78,337
Cartridge, Metallic priming	R. J. Gatling	78,953
Cartridge, Metallic priming	B. Burton	81,058
Cartridge shells, Construction of	J. F. Cranston	81,478
Cartridge, shot	W. O. Howard	75,019
Carving machine	G. Merrill	82,145
Carving machine	G. Merrill	82,430

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Carving machine	A. McCreight	76, 093
Carving machine, Wood	I. Hall	78, 279
Case, Card or ticket	C. C. Blakemore	79, 194
Case for preserving flowers, &c	E. M. Stigale	84, 445
Case for tooth paste	G. F. J. Colburn	73, 953
Case, Lead and slate pencil	T. B. McCaughan	76, 488
Cask and barrel for containing oil	A. Pelletier	73, 643
Casket for preserving corpses	C. H. Kimball	73, 729
Cask or barrel, Raising	R. Smith	73, 398
Caster	A. C. Twining	74, 019
Caster	J. W. Pugh	78, 690
Caster	C. Lewander	84, 126
Caster, Ball	L. Wilkinson	78, 850
Caster, Ball	S. S. Hickok and D. B. Clement	76, 630
Caster, Furniture	J. Brown	76, 885
Caster, Furniture	H. Munroe	75, 564
Caster, Furniture	S. N. Long	77, 743
Caster, Furniture	E. E. Furney	78, 798
Caster, Furniture	J. W. Hewitt and G. R. Lynch	79, 571
Caster, Furniture	H. Munroe	80, 990
Caster, Furniture	S. C. Pratt	81, 001
Caster, Furniture	A. T. Adams	82, 783
Caster stand and table fan	N. H. Tilman and D. G. Good	77, 415
Caster, Trunk	W. H. and L. Young	79, 798
Casting bearings for machinery	H. F. and G. S. Snyder, and W. N. Jones	85, 341
Casting hollow ware	J. Ziegler	83, 751
Casting, Supporting chills in	W. H. Wiley	80, 321
Catamenial sack	C. Manheim	75, 036
Catamenial sack	H. W. Libbey	75, 434
Catamenial sack	A. F. Baum	78, 414
Catamenial sack	G. E. Brinckerhoff	84, 083
Catch, Cubbard	P. D. F. Goewey	82, 108
Catch for money drawer	S. Hubbell, jr	77, 981
Catheter and syringe, Combined	N. B. Sornborger	73, 402
Cattle guard for railroad	H. Tagart	77, 677
Cattle guard, Railway	P. Mongey	77, 642
Cattle guard, Railway	D. B. Shirk	83, 556
Cattle, Herding and securing	J. Wilkinson	78, 631
Cattle, Leading, and preventing cows and calves from sucking the teats.	A. S. Haven	74, 086
Cattle pricker	R. A. Carson and W. F. Peter	74, 795
Cattle, Supplying, with food and water on railroad cars	W. Reid	75, 701
Caustic and carbonic alkalies, &c., Preparing	K. Lieber	85, 015
Cement	E. V. Machette, jr., and E. M. Crary	84, 638
Cement	C. Saffray	77, 537
Cement	G. W. Upham	82, 454
Cement and mortar	E. A. Ellsworth	73, 882
Cement for coating wood, &c	A. Pelletier	76, 806
Cement for fastening door knobs and for other purposes	N. B. Hall and H. Jones	78, 592
Cement for pavements, &c	A. M. Shaw	74, 773
Cement for roofing	H. S. Snow	80, 368
Cement for roofing, artificial stone, coating iron, wood, &c.	A. Pelletier	77, 705
Cement, Roofing	J. A. Moore	80, 084
Cement, Roofing	N. Trowbridge and E. Richardson	77, 418
Cement, Roofing	J. L. Kidwell	82, 419
Cement, stucco, artificial stone, &c	G. A. Frear	73, 965
Cement, Water-proof leather	W. S. Loughborough	79, 240
Center-board winch	E. C. Hammond	84, 275
Centrifugal hydro-ejector	H. W. and R. Lafferty	77, 053
Centrifugal machine	S. S. Hepworth	82, 314
Centrifugal machine for filtering, draining, and drying	R. J. Barr	80, 702
Centrifugal machine, Self-balancing	D. M. Weston	82, 049
Centring device	E. E. Lazell	82, 131
Cereals, Decorticating and cleaning	W. W. Gibson	79, 970
Cereals for the manufacture of flour, meal, &c. Treating.	E. Weiss	85, 261
Chafe-iron	E. Hackett	80, 166
Chains, Blocking	P. Kendrick	82, 124
Chains, Casting	C. C. E. Van Alstine	81, 565
Chains, Constructing	J. G. Jung	84, 359
Chain inclinometer	H. Schüssler	73, 391
Chain links, Flattening and bending	P. Kendrick	80, 354
Chain machine	C. Fitzpatrick and J. Schinneller	73, 518
Chain power, Endless	W. McCreery	73, 191
Chain, Spring	H. Turner	75, 814
Chain, watch, Swaging the swivel eye of	V. Draper	80, 535
Chair	D. E. Colby	82, 602
Chair	D. B. Hedden	84, 118
Chair, &c., Heating device for	C. S. Hunt	78, 742
Chair and car seat	W. N. Bragg	78, 570

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Invention or Discovery.	Name of Patentee.	No.
Chair and fastener, Railway	D. N. Clark	75,370
Chair and lounge	G. Knell	76,202
Chair and lounge	T. Winter	77,697
Chair and support, Railway	A. Van Guysling	84,023
Chair and writing table	P. Geiser	82,616
Chair, Barber and dental	M. Leidecker and P. Crou	83,644
Chair, Barbers'	J. and J. Stock	77,548
Chair, Barbers'	C. Kaestner	78,525
Chair, Barbers'	A. Gerdes and J. Reiche	82,704
Chair, bedstead, secretary, and wardrobe	W. Reckards	77,841
Chair, Cottage	C. O. Collignon	75,373
Chair, Dentists'	O. C. White and A. T. Ashmead	82,776
Chair, Dentists' and barbers'	A. T. Boon and J. B. Finehure	80,589
Chair, Easy	D. Marcau	81,282
Chair, Exercising	J. A. Wroe	82,056
Chair, Extension	B. H. Zinn	76,577
Chair, Fanning	A. K. Hobbs and N. F. Wright	76,452
Chair, Fanning and rocking	T. Kerr	80,970
Chair, Folding	H. S. Golightly and C. S. Twitchell	74,910
Chair, Folding	J. Nicolai	80,656
Chair, Folding	A. Collignon	82,493
Chair, Folding	C. O. and N. Collignon	82,494
Chair, Folding	C. C. Schmitt and R. Wodrich	82,755
Chair, Folding	P. Born	82,791
Chair, Folding	A. C. Boyd	83,034
Chair, Folding	G. McAleer	83,720
Chair, Folding	E. W. Vail	83,744
Chair, Folding	A. Collignon	84,344
Chair, Folding easy	C. C. Schmitt and R. Wodrich	82,754
Chair for children	J. H. Apel	85,050
Chair for children, High	J. Nichols	76,801
Chair, Invalid	L. M. Whitman	83,746
Chair leg-tip	E. Coogan and H. Miller	83,933
Chair, Night	J. Macferran	75,778
Chair, Operating	J. B. Morrison	82,542
Chair or railroad rail clamp	J. E. Watkins	73,679
Chair, Railroad	L. B. Bidwell	74,882
Chair, Railroad	W. S. Shotwell	75,475
Chair, Railroad seat arm for	W. G. Creamer	74,510
Chair, Railway	I. Tillson	73,058
Chair, Railway	A. Elms	76,062
Chair, Railway	R. Zider	77,794
Chair, Railway	W. Wickersham	80,320
Chair, Railway	S. T. Alexander	81,573
Chair, Railway	G. W. R. Bayley	85,357
Chair, Railway rail	W. Wickersham	78,630
Chair, railway, Reversible	W. H. Joeckel	82,527
Chair, Reclining	B. L. Southack	73,845
Chair, Reclining	H. B. Braman	75,727
Chair, Reclining	C. Brada	80,802
Chair, Reclining	J. W. Wetherbee	83,012
Chair, Recumbent	T. Winter	79,174
Chair, Rocking	J. Lamb	74,920
Chair, Rocking	C. W. Conant	75,246
Chair, Rocking	E. Hartwell	79,656
Chair, Rocking and reclining	D. Cox	80,919
Chair, rocking, Fanning attachment for	A. R. Hobbs	78,965
Chair, rocking, Spring	C. C. Schmitt	85,481
Chair seat	G. A. Watson	76,569
Chair seat	G. A. Watkins	77,228
Chair seat	E. L. Buckingham	82,081
Chair seat	H. Buchter	83,250
Chair seat	C. Platt	83,541
Chair seat	H. C. Knowlton	83,713
Chair seat	G. Buckel	85,363
Chair seat, Dressing	H. Meyer	76,226
Chair seat supporter	G. Butterfield and A. G. Treadwell	73,499
Chair seat, Tilting	M. V. Howe	73,721
Chair seat, Weaving	G. A. Watkins	75,500
Chair, Sheep shearing	H. D. Brown	77,866
Chair, Sick, and washstand	V. Schreck	82,441
Chair, Tilting	C. D. Smith	72,116
Chair, Tilting	C. D. Smith	77,117
Chalk and sand paper holder for billiard table	C. F. Ritchel	81,947
Chamber closet, Portable	W. J. Lyman	79,994
Chamber commode	E. S. Farson	82,099
Chamber, Refrigerating	J. H. Raecy, jr	80,766
Chamber vessel	C. Robinson	76,817
Chandelier	R. J. Skinner	75,064
Chandelier	J. F. Travis	84,975
Chandelier	J. A. Evarts	78,365

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Chandelier, Drop-light for	W. C. Vosburgh	76,360
Chandelier, Extension fixture for	J. A. Evarts	77,019
Channeling tool	G. W. Pruyn	77,653
Charcoal, Screening	J. S. Evans	84,866
Charger for powder flask	H. C. Bascom	75,839
Check, Baggage	V. W. Blanchard	72,965
Check, Baggage	E. Flather	73,315
Check, Baggage	H. S. Ross	78,391
Check, Baggage	E. H. Paine	84,379
Checks, drafts, &c., from fraud, Securing	J. Hester	75,758
Check hook and terret, Fastening	A. L. Hill	79,227
Cheese	B. Armstrong	73,281
Cheese, Boxing, bandaging, and preparing	A. M. Utley, H. N. Kimball, and W. Reynolds.	82,895
Cheese, Compound for pressing	F. Raymond and A. Miller	83,408
Cheese, Manufacture of	W. S. Cornell	76,167
Cheese safe, gauge, and cutter	E. G. Bulgin	79,546
Cheese turning cover	Q. C. Culley	77,004
Cheese vat	H. H. Bent	75,515
Chemistry, Teaching the rudiments of	S. M. Gaines	85,299
Chenille, Manufacturing	W. Canter	80,134
Cherry stoner	R. Wright	74,187
Cherry stoner	R. Wright	77,561
Cherry stoner	A. Rakestraw	79,257
Cherry stoner	G. Geer	79,748
Chest, Flour and meal	T. J. Corr	74,200
Chicken coop	S. S. Bent	78,044
Chicken coop	J. H. Mabbett	78,109
Chills in casting, Supporting	W. H. Wiley	80,321
Chimney	S. Hoke	83,282
Chimney	A. Wilhelms	84,600
Chimney cap	H. J. Weed	76,859
Chimney cap	W. Chappell	82,693
Chimney, Cast-iron	A. W. McMillen	76,094
Chimney clasp	C. F. Espick	78,584
Chimney cleaner	T. H. Donohue	77,466
Chimney cowl	D. F. Jauss	77,047
Chimney cowl	A. E. Clement	79,457
Chimney cowl	J. W. Foard	79,820
Chimney cowl	W. C. Frailey	80,618
Chimney cowl	H. S. Decker	81,609
Chimney cowl	J. J. Currier	82,497
Chimney cowl	E. T. Noualhier	82,632
Chimney cowl	B. Irrgang	83,166
Chimney, Creating draught in, by means of steam	W. H. Martin	76,219
Chimney, Lamp	W. Onions and H. Roberts	76,239
Chimney, Lamp	J. Robinson	77,100
Chimney, Lamp	M. Sweeney	79,277
Chimney, Lamp	R. R. Crosby	79,958
Chimney, Lamp	J. Gracie and R. H. Boyd	80,282
Chimney, lamp, Attachment for	P. M. Shea	80,093
Chimney, lamp, Cleaner for	J. R. Hamilton	73,324
Chimney, lamp, Cleaner for	J. S. Black	75,351
Chimney, lamp, Cleaner for	L. J. Baker	77,567
Chimney, lamp, Cleaner for	J. J. Wait	78,160
Chimney, lamp, Cleaner for	J. Lee	78,528
Chimney, lamp, Fastening for	J. Allen and C. E. F. Lewis	73,068
Chimney, lamp, Metal top	F. J. Seymour	75,302
Chimney scraper	S. K. Luce	82,136
Chimney top	H. English	82,098
Chisel handle	R. V. Hilton, J. G. Webster, and H. E. Wheeler.	77,881
Chisel, Mortising	J. M. Smith	80,428
Chisel, Mortising	O. Adams and J. Hatch	82,058
Chisel, Tenoning	A. J. Cochran	77,357
Chlorine and oxygen, Producing	J. T. A. Mallet	73,540
Chlorine, Manufacture of	H. Deacon	85,370
Chock for whale boats	M. Adams	73,484
Chronometer	P. Bantel	80,051
Chronometer escapement	A. H. Potter	73,646
Chronometer escapement	G. P. Read	76,346
Chuck	S. G. Dare	85,073
Chuck	B. Haviland	81,500
Chuck	C. F. Hadley	84,057
Chuck, Planers'	W. H. Warren	75,498
Churn	G. McWilliams	73,023
Churn	C. Schifferly	73,125
Churn	A. J. Heavner	73,327
Churn	D. T. Ward	73,479
Churn	G. Clayton and C. B. Allen	73,503
Churn	S. J. Whipple	73,556

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Churn	I. J. Siler	73, 659
Churn	B. Illingsworth	73, 895
Churn	J. B. Rumsey	73, 932
Churn	H. W. Adams	72, 959
Churn	P. Hill	74, 088
Churn	C. B. Williams	74, 467
Churn	D. H. Carpenter and H. L. Slaght	74, 498
Churn	J. T. Coe	74, 505
Churn	S. Besser	79, 542
Churn	C. H. Carver	74, 796
Churn	J. B. Raynor	74, 941
Churn	W. C. Robinson	74, 943
Churn	J. Tingley	74, 954
Cuurn	J. Toll	74, 955
Churn	B. W. Shaw and G. A. Simmons	75, 205
Churn	G. Fitch	75, 539
Churn	E. T. Brownfield	75, 621
Churn	W. Lamb	75, 772
Churn	H. C. Bell	75, 842
Churn	E. T. Harlan	76, 185
Churn	P. C. Laub	76, 206
Churn	T. Rose	76, 350
Churn	A. J. Conner	76, 606
Churn	M. Morse and P. W. Sawyer	76, 649
Churn	T. Rich	76, 815
Churn	D. D. Baker	76, 879
Churn	J. Liebhaber	76, 928
Churn	A. Westcott	77, 144
Churn	W. T. Best	77, 160
Churn	G. W. Corbit, J. M. Orput, and G. M. Case.	77, 172
Churn	C. H. Bradley	77, 352
Churn	C. H. Elliott	77, 431
Churn	A. L. Converse	77, 460
Churn	A. B. Corby	77, 462
Churn	J. E. Finley	77, 601
Churn	E. P. Newman	77, 753
Churn	W. C. Douthett	77, 873
Churn	J. C. Slaughter	77, 926
Churn	D. Bartholomew and D. C. Dinsmore	78, 042
Churn	G. W. Goodwyn	78, 081
Churn	A. D. Hoffman	78, 091
Churn	L. Scott	78, 139
Churn	J. H. Fleming	78, 199
Churn	C. Hess	78, 286
Churn	I. N. Frost	78, 368
Churn	A. Schuffert and G. Cooper	78, 398
Churn	J. Kepler	78, 526
Churn	A. E. Gillilan	78, 589
Churn	M. Wood	78, 706
Churn	S. T. Curtiss	78, 791
Churn	J. J. McLane	78, 809
Churn	S. Mills	78, 812
Churn	F. A. Jewett	78, 877
Churn	C. C. Reese	79, 002
Churn	J. H. Rowe	77, 008
Churn	W. H. and L. Waddell	79, 035
Churn	M. Calvert	79, 103
Churn	A. Stump	79, 156
Churn	J. W. Bradley and G. H. Jordan	79, 197
Churn	J. H. Monce	79, 244
Churn	S. S. Stokes	79, 409
Churn	G. R. Stevens	79, 702
Churn	G. H. Daw	79, 739
Churn	P. Penington	79, 773
Churn	J. C. Gilbert	79, 821
Churn	E. F. Shaw	80, 021
Churn	W. H. Henderson	80, 174
Churn	A. A. Ross	80, 507
Churn	D. A. Fiske	80, 616
Churn	J. Oothoudt	80, 658
Churn	J. Stadler and G. M. Streng	80, 882
Churn	C. E. Zimmerman	81, 056
Churn	C. N. White	81, 445
Churn	D. L. Main	81, 518
Churn	V. M. R. Branch	81, 589
Churn	N. P. Chaney	81, 599
Churn	J. Fassauer	81, 615
Churn	J. Watts	81, 716
Churn	J. L. Middleton	81, 810
Churn	J. W. Thompson	81, 842

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Churn	T. Haigh	81,896
Churn	H. Leber	82,235
Churn	J. Shaw and W. A. Hinkley	82,356
Churn	W. C. Smith	82,446
Churn	E. Spain	82,652
Churn	W. C. Douthett	83,050
Churn	N. C. Folger	83,057
Churn	G. Beisner	83,595
Churn	E. P. Russell	83,664
Churn	A. Schlingman, D. Glander, and J. Campbell.	83,732
Churn	D. Lown	83,779
Churn	S. S. Case	83,815
Churn	S. Hewit	83,853
Churn	A. P. Bryson	84,532
Churn	J. K. Wood and D. R. Speer	84,524
Churn	S. S. Elder	84,619
Churn	W. B. Tucker	84,658
Churn	F. Whitton	84,668
Churn	A. Westcott	84,784
Churn	J. Carlton	84,858
Churn	S. R. Owen	85,026
Churn	C. Sweeney	85,187
Churn	C. W. Brewer	85,272
Churn	W. E. Kinert	85,452
Churn and butter worker	S. L. Hall	80,624
Churn and ice cream freezer	C. Higley	79,349
Churn and ice cream freezer, Combined	G. C. Westover	73,766
Churn, Atmospheric	D. C. Hall	76,753
Churns, &c., Operating	I. Morse	77,077
Churn, Barrel	S. H. Swasey	73,134
Churn dasher	A. H. Brainard	78,511
Churn dasher	M. R. Heliker	85,445
Churn dasher	M. O. Davis	73,583
Churn dasher	J. L. Marsh	74,396
Churn dasher	J. W. Barton	74,485
Churn dasher	R. Crawford	74,995
Churn dasher	H. McDonough	75,286
Churn dasher	B. M. Parks	75,963
Churn dasher	M. E. J. Marr	76,484
Churn dasher	J. E. Williams and M. Lemon	77,787
Churn dasher	E. B. West	77,939
Churn dasher	J. D. Kellogg, jr	78,749
Churn dasher	D. S. Miller	79,491
Churn dasher	T. W. Tyler	80,685
Churn dasher	H. A. Crance	80,921
Churn dasher	J. S. Carson	81,340
Churn dasher	J. S. Carson	81,341
Churn dasher	A. T. Bleyley	81,586
Churn dasher	E. H. Funk	82,216
Churn dasher	M. H. Thomas	82,892
Churn dasher	M. Heliker and O. A. White	82,947
Churn dasher	S. Yates	83,015
Churn dasher	E. H. Lord and W. Thompson	84,953
Churn dasher and lid	S. P. Hopkins	81,372
Churn dasher head	B. F. and A. H. Stover	78,125
Churning apparatus	E. J. Moore	76,497
Churning apparatus	E. J. Moore	83,080
Churning motion	D. Morris	80,001
Churn, Portable ventilating	E. P. Williams	78,249
Churn power, Endless platform for	A. B. Smith	81,833
Churn, Working	J. H. Monce	74,114
Chute for river navigation	I. A. Putnam	77,212
Cigar	C. Quartley	74,246
Cigar	F. L. Hilbright	80,284
Cigar	W. C. Kneeland	80,287
Cigar and cigarette machine	J. and A. Marengo	78,985
Cigar and match box combined	G. Graetz	85,170
Cigars, Bundling	C. A. Siecke	78,142
Cigar case	S. N. Risley	84,906
Cigar, Cutting, perforating, and lighting	C. F. Smith	76,537
Cigar header	G. Moebs	78,312
Cigar holder	W. K. Vanderslice	73,478
Cigar holder	M. V. B. Young	80,527
Cigar machine	A. Weeks	79,423
Cigar machine	C. Müller	80,204
Cigar machine	R. A. Bright, jr	83,247
Cigars, Making	J. F. Shepard	77,846
Cigars, &c., Mouth-piece for	W. Thompson	76,119
Cigars, Pressing	G. Studer	85,344
Cigarette and cigar machine	J. and A. Marengo	78,985

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Invention or Discovery.	Name of Patentee.	No.
Cinders for fixing furnace, Treating	H. McDonald	76,223
Circles, Bending	W. Blood	78,418
Circuit breakers, Induction soil apparatus for	C. G. Page	76,654
Circuit closer	W. J. Biggar and J. C. Blood	79,894
Cistern, Automatic feeder and cut-off	S. H. Plumb	75,969
Clamp	W. Sailer	81,298
Clamp	E. K. Purdy	82,985
Clamp	A. Anderson	80,894
Clamp and fruit jar	A. J. H. Hilton	76,915
Clamp, Book, Portable	C. W. Sherwood	75,588
Clamp, Book, Portable	W. C. Watson	75,660
Clamp, Clothes line	G. R. Nebinger	74,713
Clamp, Crimping	L. Hill	81,503
Clamp, Door and sash	E. F. Dunaway	75,880
Clamp, Drawing	J. Bouniol	73,947
Clamp, Floor	W. Portlock and J. H. Smith	74,128
Clamp, Floor	G. E. Banner	76,583
Clamp, Floor	J. H. Baker	77,243
Clamp, Floor	E. A. Hall	77,610
Clamp, Floor	F. S. Mack	80,079
Clamp, Floor	G. B. Perkins	81,531
Clamp, Floor	J. H. Ferreira	82,709
Clamp, Flooring	D. D. Mackay	81,803
Clamp for filing saws	C. Kendig	73,344
Clamp for forming metal cones	F. I. Seymour	75,302
Clamp for holding leather	A. Rittenhouse	81,293
Clamp for holding leather to the currier's bench	J. Shimer	78,334
Clamp for holding palm leaf warp	C. Powers	76,246
Clamp for holding pickets	P. McCarthy	76,644
Clamp for hub-boring machine	G. V. Brecht	78,922
Clamp for iron structures	J. M. Moorehead	82,738
Clamp for saddles, &c	W. K. Raiviigh	82,986
Clamp for scrub-brush	C. B. Clark	75,369
Clamp for suspending pasteboard, &c	E. H. Sampson	84,909
Clamp for trussing cylinders or staves	W. Shepperman	74,725
Clamp for vehicle seats	H. E. Murray	77,309
Clamp for wood bending machine	J. B. Van Horn	79,530
Clamp, Harness maker's	J. F. Johnson	81,787
Clamp, Hawser	H. A. Ellis and C. F. Gladding	78,794
Clamp, Joiner's	J. Kuneman	81,381
Clamp, Joint	D. E. Hall	79,116
Clamp, Paper, and inkstand combined	E. J. Toof	77,131
Clamp, Pipe and faucet	J. Elliott	85,372
Clamp, Railroad rail	W. B. Atkinson	82,271
Clamp, Saw	W. N. Kingston	79,478
Clamp, Suspending	D. P. Foster	84,055
Clamp, Suspending	D. P. Foster	85,298
Clasp, Bag	E. L. Dickey	74,517
Clasp, Belt	E. Hatch	74,354
Clasp, Belt	J. H. Hawes and G. H. Bliss	77,282
Clasp, Curtain	B. F. Watson and A. Shephard	84,448
Clasp for boots, shoes, belts, dresses, &c	E. W. Prussia	80,834
Clasp for fastening garments	W. Wright	78,505
Clasp for joining belts	B. D. Randleman	80,219
Clasp for trunks, &c	L. Ransom	82,988
Clasp, Hoop skirt	J. F. J. Gunning	74,340
Clasp, Hoop skirt	A. J. Cross	79,210
Clasp, Hoop skirt	L. Fellheimer	80,343
Clasp, Hoop skirt	J. Ingraham	84,492
Clasp, Hoop skirt	M. Samuels	85,480
Clasping	L. A. Sanford	82,643
Claw bar	M. Hennasy	80,072
Clay, Cleaning	L. P. Norton	73,921
Clay, Separating stones from	D. Wellington	81,314
Clay washing and stone separating machine	E. Wilzinski	74,967
Cleaning and boring device	J. B. Jordan	79,356
Cleat, Belaying	J. Bangs	74,789
Cleat, Belaying	C. S. H. Foster	84,873
Clevis	E. M. Potter	73,197
Clevis	R. C. Whitehouse	77,426
Clevis iron	T. P. Warren	78,775
Clevis, Three horse	J. Fowler	79,463
Clock	S. B. Terry	76,117
Clock	R. Woolworth	76,370
Clock	J. B. Mayer	82,266
Clock	S. B. Terry	84,517
Clock and advertiser combined	G. M. Levette	74,704
Clock calendar	J. K. Seem	73,127
Clock, Calendar	W. A. Terry	79,026
Clock, Calendar	B. L. Lewis	85,456

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Clock case, Composition	S. B. H. Vance and E. M. Smith	79, 521
Clock dial, Composition	S. Barnes	82, 788
Clock escapement	C. Reinhart	79, 003
Clock escapement	W. C. Kellum	83, 775
Clock escapement	W. C. Kellum	83, 776
Clock machine	G. Richardson	75, 196
Clock movement	M. Tromly	83, 802
Clock, Pendulum, Attachment for	O. P. McDonald	77, 504
Clock, Repeating	C. W. Roberts	84, 709
Clock, Striking attachment to	N. E. Mulford	77, 080
Clock, Striking mechanism for	J. B. Mayer	82, 267
Clock, Winding stop for weight	O. H. Woodworth	78, 170
Clod crusher	T. H. Ashton	82, 784
Clod pulverizer and land roller combined	J. Brewer	82, 793
Clog	J. A. Davis	84, 267
Closet and blacking case	J. Macferran	74, 705
Closet, Chamber, Portable	W. J. Lyman	74, 558
Cloth and clothes pin	R. Hathaway	78, 523
Cloth, Creaser for	W. J. Crane	75, 378
Cloth drawers	H. Heath	77, 189
Cloth drawers	J. Dyson	83, 141
Cloth drawers	H. P. Wetmore and J. G. Hitchcock	84, 073
Cloth, Drying	A. Chambers	83, 690
Cloth, Enameled	E. M. Stevens	75, 807
Cloth, Finishing	G. C. Howard	81, 170
Cloth, Finishing	J. Earnshaw	84, 483
Cloth, Hair	I. Lindsley	76, 476
Cloth, Leather, &c., to render them water and fire-proof, Treating.	R. O. Lowrey	77, 990
Cloth, Measuring	W. F. Boggs	75, 848
Cloth, Measuring	G. R. McIntire	77, 305
Cloth, Measuring	C. L. Shotwell	78, 399
Cloth-measuring apparatus	R. H. Kent	84, 281
Cloth-measuring apparatus	S. B. Luckett	84, 290
Cloth-measuring apparatus	J. E. Race and A. Smith	84, 903
Cloth-measuring machine	D. Max	81, 922
Cloth, paper, &c., Water-proofing	R. O. Lowrey	80, 640
Cloth, Printing and embossing	L. Murr	75, 957
Cloth, Tenter bar for	F. Willig	83, 894
Cloth, Tenter bar for shaping articles of	S. L. Fiske	75, 143
Cloths used by bank-note engravers	H. M. Baker	74, 878
Cloths used by engravers, Recovering pigments, oils, and gums from.	H. M. Baker	84, 404
Cloth, Water-proof	S. C. Bishop	73, 288
Cloth, Water-proof	A. Paraf	81, 815
Cloth, yarn, &c., Bleaching	W. Luther	73, 733
Clothes and cloth pin	R. Hathaway	78, 523
Clothes, Cleansing	J. Braun	85, 060
Clothes drier	I. N. Deal	74, 318
Clothes drier	W. B. Noyes	74, 715
Clothes drier	H. Du Bois	75, 251
Clothes drier	H. P. Crouse	76, 305
Clothes drier	E. K. Hall	76, 441
Clothes drier	H. J. Hancock	76, 756
Clothes drier	M. B. Wheaton	76, 862
Clothes drier	D. M. Buckley	76, 990
Clothes drier	C. Bange	77, 440
Clothes drier	J. D. Davenport	78, 069
Clothes drier	W. Arrouquier	78, 351
Clothes drier	J. M. Butters	78, 575
Clothes drier	A. W. Smith	78, 661
Clothes drier	R. B. Stillman	78, 902
Clothes drier	W. Johnston	79, 474
Clothes drier	J. R. Watkins	79, 524
Clothes drier	L. B. Waterman	80, 316
Clothes drier	G. H. Hammond	80, 729
Clothes drier	M. T. Campbell	81, 249
Clothes drier	J. B. Blood	82, 280
Clothes drier	A. S. Hopson	82, 408
Clothes drier	H. D. Struse	82, 657
Clothes drier	J. B. White	84, 849
Clothes drier	W. H. Acker	84, 928
Clothes drier	D. Witt	85, 499
Clothes drier, Adjustable	H. Storrs	76, 589
Clothes drier and ironing stand	B. S. Boydston	75, 120
Clothes hook and line holder combined	T. Weaver	81, 312
Clothes horse, &c., Combined	H. L. Stillson	82, 256
Clothes-line adjuster	R. White	81, 911
Clothes-line holder	A. Comey	74, 798
Clothes-line holder	J. W. Gladding	77, 274
Clothes-line holder	H. Morgan	78, 750

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Clothes line holder	O. C. Perkins and J. R. Richards	79, 593
Clothes line supporter	F. W. Tilton and M. C. Swift	81, 310
Clothes pin	D. D. Jones	73, 609
Clothes pin	D. K. Hickok	75, 422
Clothes pin	P. Finley	77, 268
Clothes pin	E. Seaver	77, 540
Clothes pin	W. M. Doty	77, 598
Clothes pin	J. O. Couch	78, 651
Clothes pin	J. G. Roth	79, 502
Clothes pin	J. A. Rand	81, 945
Clothes pin	J. Haigney and F. M. Hedman	82, 114
Clothes pin	L. Matthews	82, 624
Clothes pin	A. L. Taylor	76, 547
Clothes pin	H. D. Haraden	77, 037
Clothes pins, Making	J. B. Smith	85, 338
Clothes pin or clasp	H. C. Smith	75, 478
Clothes post, Extension	G. Dittenhaver	73, 171
Clothes pounder	D. S. Morgan	75, 562
Clothes pounder	S. T. McDougall	79, 671
Clothes sprinkler	J. W. Walters	79, 531
Clothes sprinkler	E. H. Kirkham	75, 168
Clothes sprinkler	W. V. Wilson	76, 870
Clothing, Fitting	R. Bisbee	74, 978
Clover separator and huller	D. M. Heikes	77, 731
Club feet and crooked legs, Straightening	H. R. Allen	73, 768
Clutch for elevating	C. C. Blodgett	76, 588
Clutch, Friction	A. W. Hall	74, 080
Coach pad	B. F. Hooper	76, 762
Coal and wood dumping apparatus	E. R. Kerr	85, 101
Coal, Conveying and dumping	H. C. Clark and R. B. Little	78, 430
Coal cutting machine	G. E. Donisthorpe	82, 391
Coal cutting machine	G. E. Donisthorpe	82, 608
Coal dust for fuel, Consolidating	W. Footner	77, 970
Coal dust for fuel, Preparing	A. D. Ditmars	81, 149
Coal excavating machine	J. Borton	76, 704
Coal hod and screen	A. Porter	74, 770
Coal hod, Bottom for	E. W. Kimball	73, 535
Coal hod, Sheet metal	M. G. Fagan	79, 564
Coal hopper and petroleum scale combined	F. E. and L. I. Howe	77, 488
Coal, Loading	D. Risher	81, 946
Coal mining apparatus	G. E. Donisthorpe	81, 759
Coal mining apparatus	G. E. Donisthorpe	81, 760
Coal mining machine	G. E. Donisthorpe	76, 417
Coal mining machine	G. E. Donisthorpe	76, 418
Coal mining machine	G. E. Donisthorpe	76, 419
Coal mining machine	G. E. Donisthorpe	82, 390
Coal chute	H. Merriman	84, 749
Coal chute, Extension	J. Heatherington	74, 686
Coal scuttle	G. T. Page	85, 240
Coats, Drying and pressing	J. Braun	85, 058
Coat supporter	R. C. Kelly	84, 495
Cobalt and nickel from other ores, Separating	A. Monnier	78, 001
Cock, Compression	A. A. Howard	78, 804
Cock, Compression	G. E. Boisselier	84, 792
Cock for gas burner	S. B. H. Vance	76, 277
Cock for racking off beer	F. Wagner	80, 787
Cock for water pipe	W. Johnson	85, 309
Cock, Gas	P. Keller	73, 534
Cock, Gauge	F. Stebbins	81, 027
Cock or faucet	C. Harrison	81, 900
Cock, Stop	J. Doering	72, 986
Cock, Stop	C. Schultz and P. Warker	76, 106
Cock, Stop	J. Regester	82, 161
Cock, stop, Steam, gas and water	W. H. De Valin	84, 617
Cockle and garlic separator	J. W. Neal and A. J. Truxell	83, 198
Cocoanut, Desiccated	G. W. Waitt	79, 790
Cocoanut, Desiccated	G. B. Williams	84, 241
Codfish, Article prepared from	E. Crowell	84, 801
Coffee and tea pot	D. B. Woodworth	76, 684
Coffee and tea steamer	C. G. Murch	82, 976
Coffee, &c., Making extracts and decoctions from	L. Brauer	84, 609
Coffee huller and polisher	C. De St. Charles	83, 609
Coffee, Hulling	D. Lombard	73, 819
Coffee-making apparatus	J. Petsch and S. N. Buynitzky	74, 937
Coffee pot	J. Nason	74, 045
Coffee pot	J. W. Patterson and J. S. Hill	76, 514
Coffee, Preserving	B. T. Babbitt	75, 828
Coffee, Roasted	J. Arbuckle, jr	73, 486
Coffee roaster	B. T. Babbitt	75, 829
Coffee roaster	B. K. Maltby	78, 386
Coffee roaster	T. Heermans	70, 469

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Coffee roaster	F. M. Bode	80, 329
Coffee roaster	J. E. Edmundson	82, 393
Coffee roaster and corn popper	L. A. Warner	76, 362
Coffee, Roasting	O. H. Taylor	83, 889
Coffee, Roasting	W. Johnston and J. D. Flansburgh	84, 193
Coffee, tea, &c., Packing	J. Garsed and C. Denn	83, 951
Coffee urn	G. Jones	84, 830
Coffin	J. C. Williams	73, 857
Coffin	C. Potter and E. Jones	76, 344
Coffin	S. Avery and L. Delille	76, 376
Coffin	B. Smith	79, 921
Coffin	J. E Evarts	80, 816
Coffin	E. Ellinger	81, 885
Coffin	M. R. Margerum	82, 333
Coffin	F. H. Hill	83, 964
Coffin	S. Merrick	84, 130
Coffins, &c., Name plate for	G. Brabrook	75, 725
Coffins, Refrigerator	J. S. Cox	75, 377
Coin assorting	J. W. Meaker	76, 492
Coin assorting	J. W. Meaker	76, 493
Collar and bosom combined	E. Hatch	74, 355
Collar and cuff	J. Blakey and A. B. Fox	77, 573
Collar and hame, Horse	A. Dunbar	78, 075
Collar and neck-tie combined	G. F. Perkins	75, 047
Collar and neck tie, Fastening for	E. Rau	83, 318
Collar, Applying re-enforcing patches to button holes of	H. F. Cary	83, 927
Collar block	J. Jacobs	73, 977
Collars, cuffs, &c., Coating and water-proofing	S. W. H. Ward	83, 893
Collars, cuffs, &c., Paper, Fabric for the manufacture of.	J. Restein	85, 397
Collar fastening	C. H. L. Roberts and W. C. Dudley	82, 879
Collar for pipes in hot blast furnaces	H. McCullaugh	85, 392
Collar, Fur	W. King	75, 928
Collar, Horse	T. Moore	73, 368
Collar, Horse	J. H. Sperbeck	75, 590
Collar, Horse	I. Houghtling	76, 456
Collar, Horse	E. Webber	76, 858
Collar, Horse	C. Wolf	77, 698
Collar, Horse	W. Youngblood	77, 701
Collar, Horse	S. P. Taylor	80, 682
Collar, Horse	J. A. Sutherland	82, 361
Collar, Horse	E. Sullivan	79, 024
Collar, Horse, Fabric for covering	E. Harbaugh	85, 382
Collar, Horse, Fastening and strengthening	J. P. and J. E. Force	84, 687
Collar, Horse, Fastening for	A. Van Fleet	80, 246
Collar, Horse, Fastening for	B. H. Hobart and D. C. Chapman	82, 836
Collar, Horse, Fastening for	C. K. Marshall	79, 137
Collar, Horse, Metallic	W. Fauntleroy	82, 100
Collar, Horse, Stuffing	E. B. Miller	75, 641
Collar, Horse, Stuffing	S. B. McCorkle	79, 997
Collar, Horse, Stuffing machine	H. F. Knapp	77, 294
Collar machine	J. F. Walker	83, 814
Collar machine	G. H. Spaulding	78, 242
Collars, Moulding	C. Spofford and C. H. Montague	85, 037
Collar, Paper	C. H. Denison	79, 460
Collar, Paper, Applying cloth patch to	J. P. Courtney and C. Redmayne	81, 255
Collar, Paper, Applying cloth patch to	G. W. Cilley and G. H. Spaulding	73, 693
Collar, Paper, Moulding	P. W. Smith	83, 332
Collar, Shirt, Fastening	C. E. Palmer	80, 424
Collar, Shirt, Fastening for	S. Kaufman	83, 973
Collar, Stay for	C. A. Seely	79, 261
Collodion, Solidified	C. Seidel	76, 107
Coloring matter, Vegetable	J. B. Cornell	74, 312
Column, Metallic	G. Walters and T. Shaffer	82, 663
Columns, &c., Constructing	G. Walters and T. Shaffer	82, 664
Columns, &c., Constructing	G. Walters and T. Shaffer	83, 425
Column, Constructing wrought iron	G. Walters and T. Shaffer	83, 226
Column, Wrought iron	C. Foster	73, 884
Comb	J. S. Dickinson	76, 414
Comb	L. Picot	80, 833
Comb	J. Smith	82, 560
Comb	A. A. Young	79, 621
Comb and brush combined	E. J. Toof	77, 416
Comb cleaner	B. W. Remington	74, 423
Comb, Curry	J. H. Barringer, jr	74, 974
Comb, Curry	J. W. Latcher	80, 190
Comb, Curry	C. B. Bristol	83, 757
Comb, Curry	C. Foster	79, 747
Comb, Enamelled metal	W. Kerr, jr. and J. A. Robbins	85, 311
Comb, Fountain	G. F. H. Brown	80, 855
Combs, Sawing	J. P. Noyes	76, 650
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Commercial transactions, Teaching	C. A. Walworth	74, 740
Compass	H. Stewart	77, 123
Compass, Beam and calipers, Combined	W. Burrows	85, 430
Composing stick	J. L. Wait	78, 033
Composition for coating metals, &c	B. Oertley and X. Fendrich	80, 085
Composition for covering roof, pavements, &c	J. See	78, 544
Composition for covering wooden bridges, buildings, &c.	J. Heckel and M. Eichinger	76, 443
Composition for corns, bunions, &c	A. J. Ferguson	81, 486
Composition for fire kindling	W. P. Winkley	82, 506
Composition for forming building blocks, pavements, &c.	S. E. Carr	83, 037
Composition for forming casts and fancy articles	M. Schall	75, 058
Composition for molded and coated articles	S. Whitemarsh	79, 794
Composition for kalsomining walls, &c	N. A. Frank	79, 337
Composition for setting posts, timber, &c	A. D. Purinton	78, 691
Composition for tile or slab for floors	I. Marsh, jr	78, 601
Composition of matter	G. F. J. Colburn	73, 694
Composition of matter for emery cloth, polishing wheels, &c.	L. Francis	72, 994
Composition of matter for forming ornaments	E. A. Hildreth	74, 225
Compound, Disinfecting	C. A. Seely and C. J. Eames	74, 608
Compound, Explosive	A. Nobel	78, 317
Compound, Explosive	J. Hafenegger	81, 894
Compound, Fire-proof	R. Spencer	84, 143
Compound for cleaning silverware, jewelry, &c	G. H. Baxter	82, 479
Compound for coating the outside walls of buildings	J. S. Houghton	84, 550
Compound for covering roofs, &c	C. B. Hutchins	79, 472
Compound for curing felons and similar diseases	R. Feibelman	81, 152
Compound for destroying bed bugs and other vermin	P. Seebald	79, 151
Compound for destroying pain	S. T. Bond	80, 123
Compound for embalming dead bodies	E. H. Crane	81, 755
Compound for insulating telegraphic and electric wires	S. C. Bishop	83, 031
Compound for roofing, &c., Fibrous	R. O. Lowrey	77, 992
Compound for roofing, &c., Plastic	R. O. Lowrey	77, 991
Compound for the cure of dropsy	C. Brown	83, 249
Compound for treating ringbone, spavin, &c., in horses	W. H. Vance	84, 322
Compound for use in safe and powder magazine	E. H. Ashcroft	76, 133
Compound, Lubricating	E. F. Gerdom and C. W. Schindler	80, 471
Compound, Medical	D. W. Taylor	73, 135
Compound, Medical	J. T. Stewart	73, 552
Compound, Medical	J. M. Thompson	73, 939
Compound, Medical	T. Rosbrugh	74, 147
Compound, Medical	C. A. F. Dietz	74, 205
Compound, Medical	J. Smith	74, 622
Compound, Medical	G. W. C. Gamble	74, 689
Compound, Medical	O. G. Ditmars	75, 536
Compound, Medical	O. G. Ditmars	75, 537
Compound, Medical	H. Clark	75, 732
Compound, Medical	E. A. Lowdermill	75, 776
Compound, Medical	M. C. Edey	76, 176
Compound, Medical	C. K. Tayntor	76, 272
Compound, Medical	W. P. Thurber	76, 555
Compound, Medical	R. Alexander	76, 343
Compound, Medical	L. Rogers	78, 017
Compound, Medical	L. Rogers	78, 018
Compound, Medical	J. P. Humes	78, 096
Compound, Medical	C. H. Whittemore	81, 122
Compound, Medical	I. W. Scranton	82, 038
Compound, Medical	J. H. Butts	81, 876
Compound, Medical	T. H. W. Upshur	82, 046
Compound, Medical	G. Mohler	82, 541
Compound, Medical	J. Ramsburgh, jr	82, 873
Compound, Medical	S. Bass	83, 755
Compound, Medical	E. M. and L. M. Berry	83, 823
Compound, Medical	J. M. Hughes	85, 385
Compound, Medical, for cattle, &c	D. P. Mathews	81, 920
Compound, Medical, for treating horses, cattle, &c	G. Van Wagenen	81, 711
Compound to be applied to the hair	B. F. Atwood	83, 440
Compound, Vitrified	J. O'Friel	76, 509
Computing apparatus	T. Wallworth	74, 641
Concentrator	J. Hendy	78, 089
Concrete block machine	L. Dodge and L. J. Magnusson	85, 291
Concrete block-making machine	O. V. Evans	82, 301
Condenser	W. Phelan	76, 655
Condenser	W. A. Lighthall	76, 929
Condenser	F. Ransom	83, 092
Condenser	W. Phelan	83, 309
Condenser	W. L. and T. Winans	83, 430
Condenser and furnace for collecting quicksilver	J. C. Coult	77, 592
Condenser and furnace for reducing quicksilver and other ores.	T. W. Dresser	79, 453

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Condenser and furnace, Quicksilver	T. W. Dresser	85, 371
Condenser for spirit still	P. Coats	77, 718
Condenser, Steam	A. Van Orsdale	81, 964
Condenser, Steam-engine	J. Shirt and C. Briggs	84, 773
Condenser, Surface	I. S. Wilson and H. See	75, 102
Condenser, surface, Connecting the tubes with the heads of.	H. Allen	73, 221
Condenser, Vapor and steam, to be applied to brewers' boilers, &c.	C. Clifford	84, 995
Condenser, Vapor, for lard refining kettle	W. M. Bartram	82, 195
Condensing and refrigerating apparatus for preserving animal and vegetable substances.	E. D. Brainard	73, 292
Confection	D. L. Page	81, 401
Confection or cake	W. Manning	73, 018
Confectionery, Making	J. Gardner	85, 083
Connecting rod	E. S. Pierce	75, 051
Connecting rod adjustment	R. D. O. Smith	79, 019
Connection for wooden rod	A. Good, jr., and S. Strouse	81, 270
Cooking apparatus	J. M. Gale and I. M. Avery	78, 585
Cooking apparatus, Steam	E. Savage	82, 557
Cooking utensil	J. Smith and I. E. Hall	80, 881
Cooler and filter	N. Downes	84, 482
Cooler and refrigerator	A. Koch	77, 624
Cooler and refrigerator	L. R. Comstock and J. N. Cherry	83, 467
Cooler, Beer	H. Shlaudeman	77, 664
Cooler, Beer	N. Hiemenz	77, 732
Cooler, Beer	G. Fuchs and J. Luigart	78, 659
Cooler, Beer	J. Agate	79, 931
Cooler, Beer	D. Cammerer	82, 593
Cooler, Beer	L. Schulze	83, 099
Cooler, Beer	G. Winter	83, 431
Cooler, Beer	J. Fallows	83, 702
Cooler, Beer	J. Geemen	83, 953
Cooler, Beer	J. Yates and E. Deuell	84, 244
Cooler, Beer	A. D. Puffer	84, 439
Cooler, Beer	T. L. Rankin and C. W. Grassmuck	85, 477
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Cooler, Butter	E. Kaufmann and A. Weber	82, 005
Cooler, Flour	J. S. Reynolds	84, 842
Cooler for water, milk, &c	H. Pietsch	85, 125
Cooler, Lard	G. C. Cassard	78, 925
Cooler, Liquid	R. Morton	75, 044
Cooler, Liquid	W. A. Colsten	84, 996
Cooler, Milk	J. C. Thayer	79, 613
Cooler, Milk	L. B. Arnold	85, 160
Cooler, Milk	C. G. Riggs and H. C. Markham	85, 330
Cooler, Water	J. L. Hadden	77, 289
Cooler, Water, and refrigerator	C. C. Savery	81, 827
Cooler, water, Enameled	C. C. Savery	77, 106
Cooler, Wine	J. Nuellens and M. Neuhaus	81, 814
Coop, Poultry	J. Golder	85, 226
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Copper and cast steel, Combining	J. Park, jr	73, 375
Copper, silver, &c., from their solutions, Separation of, and preparing finely-divided iron.	G. Bischof, jr	74, 791
Cord, Covering	J. Bachelder	81, 577
Cord, Covering	J. Turner	81, 845
Cord-covering machine	W. H. Palmer, jr	84, 506
Cord-holder	J. P. Gruger and C. Makinson	77, 034
Cord retainer for pictures and mirrors	W. Read, jr	74, 771
Core bar	R. T. Crane	80, 607
Cores for molding articles of lead, &c	L. Brandeis	85, 056
Cores, Making	B. S. Benson	79, 629
Cores, Venting metallic	A. Shepard	84, 072
Cork, Cutting	L. W. Felt	76, 615
Cork-cutting machine	G. Hammer	83, 850
Cork-extractor	J. Morton	73, 370
Cork-extractor	E. Button	78, 513
Cork-extractor	J. Autenrieth	81, 728
Cork-pull	S. E. Clapp	73, 435
Cork-pull	D. Williamson	74, 966
Cork-puller	G. W. Schermerhorn	82, 353
Corkscrew	G. Twigg	73, 677
Corkscrew	S. E. Clapp	74, 199
Corkscrew	J. Bussey	74, 495
Corkscrew	J. E. Earle	79, 216
Corkscrew	C. L. Ridgway	81, 292
Corn and cotton seed, Planting	A. Runstetler and A. Windeck	75, 466
Corn and grain, Ventilating and drying	D. A. Dickinson	78, 935
Corn and potato coverer	J. Swart	80, 680
Corn coverer	J. D. Haynie	78: 665

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Corn crib and threshing machine, Combined	J. R. Jordan and J. Campbell	85,011
Corn dropper	J. Nevison	84,571
Corn husker	C. Ford	75,403
Corn husker	L. H. Johnson	76,464
Corn husker	I. S. Bunnell	78,052
Corn husker	T. Percival	78,321
Corn husker	C. O. Yale	78,908
Corn husker	G. E. Stewart	79,703
Corn husker	J. M. Hartnett	81,631
Corn husker	S. Wesson	82,269
Corn husker	J. I. Gorton	84,876
Corn husker and straw and stalk cutter	R. Warriner and J. H. Baker	79,166
Corn husker, sheller, &c	M. Jones	77,494
Corn husker, sheller, and stripper	F. Hafelfinger and R. N. Eagle	84,419
Corn, Husking	H. W. Knowlton	73,251
Corn-husking machine	D. Sager	79,011
Corn-husking machine	D. Bookwalter	83,033
Corn-husking machine and fodder cutter, Combined	M. C. Jeffers	74,370
Corn-husking pin	E. Blair	82,915
Corn marker	J. P. Olin	75,190
Corn marker	W. E. Phelps	78,997
Corn marker	J. W. Eardley	83,612
Corn, Marking and covering	E. Barto	83,905
Corn planter	A. Armstrong	76,971
Corn, Planting	D. and W. F. Chipman	77,255
Corn popper and coffee roaster	L. A. Warner	76,362
Corn sheller	J. R. Hamilton	73,323
Corn sheller	P. C. Chipron	74,306
Corn sheller	M. and S. Housman	74,364
Corn sheller	J. A. Merriman	74,569
Corn sheller	J. Warren	74,643
Corn sheller	E. F. Sherman	74,726
Corn sheller	J. R. Wilbur	74,965
Corn sheller	J. Brinkerhoff	74,981
Corn sheller	C. H. Brady	76,154
Corn sheller	J. Warren	77,227
Corn sheller	J. H. Sharp	77,410
Corn sheller	J. C. Zimmerman	78,714
Corn sheller	W. Roberts	79,007
Corn sheller	J. H. McPheeters and P. P. Gross	79,675
Corn sheller	M. Day	79,961
Corn sheller	M. Day	79,962
Corn sheller	A. C. Mills	30,362
Corn sheller	W. H. Whiterow	81,121
Corn sheller	G. F. Johnson	81,375
Corn sheller	D. Bacon	81,458
Corn sheller	D. Codd	83,832
Corn sheller	E. Doud	84,173
Corn sheller	J. A. Cauldwell	84,610
Corn sheller	J. P. Smith	85,035
Corn sheller and apple grinder, Combined	M. H. Ripley and W. N. Temple	82,250
Corn sheller and cleaner	N. Shoek	82,039
Corn sheller and straw cutter, Combined	C. R. Hewett	73,184
Corn sheller, Hand	C. Christian	75,368
Corn-shelling machine	J. S. Raekham	83,314
Cornet, &c	I. Fiske	74,331
Cornice and the like from paper, Molding	L. W. Kimball	85,312
Cornice for building	C. C. Hare	78,083
Cornice, Running	A. Leverty	78,381
Corns, bunions, &c., Composition for curing	A. J. Ferguson	81,486
Corpse preserver	M. E. Mott	78,314
Corpse preserver	J. J. Reichert	82,552
Corpse-preserving case	J. S. Waterman	76,568
Corset	C. Z. Cummings	73,235
Corset	L. H. Foy	79,647
Corset	T. B. De Forest	80,462
Corset	E. J. Meriman	81,926
Corset	W. W. Netterfield	82,147
Corset, abdominal and skirt supporter	J. McNeven	80,988
Corset, Busk or stay for	T. B. De Forest	82,209
Corset, Children's	M. B. Solomon	76,354
Corset elasp	W. B. Cargill	75,856
Corset fastening	W. B. Cargill	78,056
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Corset fastening	P. H. Niles and F. W. Marston	84,899
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Cotton and other plants, Cultivating	P. Poullain	78,233
Cotton and wood, Preparing	A. G. Deru	77,011
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Cotton picker	C. Payne and B. Vandecar	74, 242
Cotton picker	R. F. Cooke	78, 362
Cotton picker and cleaner	S. H. Gilman	81, 622
Cotton pickers, Screen cylinder for	R. Kitson	76, 926
Cotton scraper and cutter	A. Runstetler and A. Windeck	74, 006
Cotton seed and corn, Planting	A. Runstetler and A. Windeck	74, 766
Cotton seed cleaner	T. W. Brown	80, 593
Cotton seed for planting, Preparing	R. M. Lafferty	79, 765
Cotton waste, Cleaning	H. M. Baker	80, 381
Cotton waste, Picking and separating	D. Goff	80, 724
Cotton worm, Exterminating	C. Steinmann	74, 165
Couch, Adjustable	G. Widmer	77, 856
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Cough mixture	S. R. Whitlow	81, 446
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Counter sink and drill	P. A. Whitney	74, 870
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Coupling, Car	T. Arndt	81, 323
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Coupling, Car	H. B. Steele	81, 551
Coupling, Car	A. Sanders	81, 689
Coupling, Car	T. H. Bomar	81, 741
Coupling, Car	A. C. Tiehenor	81, 961
Coupling, Car	J. M. Cook	81, 985
Coupling, Car	H. C. Glasgow	82, 707
Coupling, Car	H. C. Glasgow	82, 708
Coupling, Car	S. Madden	82, 966
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Coupling, Car	W. E. Bush	83, 252
Coupling, Car	J. P. Freeman	83, 272
Coupling, Car	F. Coffrin	83, 464
Coupling, Car	R. M. Barthelmess and C. C. Millar	83, 591
Coupling, Car	J. K. Landis	83, 715
Coupling, Car	T. B. Blaekstone	83, 907
Coupling, Car	J. Elbertson	83, 945
Coupling, Car	J. Osman and J. F. Potter	84, 066
Coupling, Car	J. D. M. Armbrust	84, 465
Coupling, Car	E. Russell	84, 648
Coupling, Car	C. Kohler	84, 700
Coupling, Car	O. S. St. John	84, 716
Coupling, Car	C. McInturff	84, 747
Coupling, Car	W. G. Bell	84, 933
Coupling, Car	A. B. Thompson	85, 147
Coupling, Car	H. W. Boifeuillet	85, 359
Coupling, Car	O. S. St. John	83, 489
Coupling, car, Automatie	A. J. Elder	85, 052
Coupling, ear, Automatic	W. Bragg	83, 358
Coupling, ear, Automatie	P. Laflin	83, 572
Coupling, car, Automatie	H. Tarbox	83, 673
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Coupling, Carriage-shaft	H. M. Beecher	80, 267
Coupling, Carriage-thill	H. B. Willcox	80, 262
Coupling, Flexible pipe-joint	S. Ainsworth	81, 572
Coupling for railroad-ear heaters, Steam pipe	G. A. Fullerton	85, 377
Coupling for railroad-train heaters	J. R. Guy	83, 488
Coupling for sectional vessels	L. B. Raymond and W. Hanley	75, 645
Coupling for the hounds and poles of wagons	F. Bremerman	84, 513
Coupling, Hose	R. J. Gaines	76, 622
Coupling, Hose	C. F. Hartwig	74, 210
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Coupling, Hose	P. H. Niles	76, 503
Coupling, Hose	W. Hamilton	79, 343
Coupling, Hose	L. W. Hanson and S. Bush	80, 407
Coupling, Hose	L. B. Forester	80, 820
Coupling, Hose	H. C. Bull and S. T. Shelley	83, 455
Coupling, Hose and pipe	M. S. Curtis and W. D. Tewksbury	76, 057
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Coupling, Pipe, Extension	J. McCarthy	77, 503
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Coupling, Railroad rail	W. S. Mallory	74, 393
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Coupling, Shaft	G. W. Hubbard	73, 100
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Coupling, Shaft	J. F. Light	78, 529
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Coupling, Shaft	S. Wheeler	79, 168
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Coupling, Shaft	C. Binnett	84, 672
Coupling, Shaft	W. S. McKinney	85, 465
Coupling, Shaft and pole	P. Finley	74, 677
Coupling, shaft, Angular	J. M. Case	75, 364
Coupling, shaft, Covering for	S. E. Chase	75, 525
Coupling steam pipe for railroad car heater	H. R. Robbins	78, 134
Coupling, Stove pipe	O. M. Higgins	73, 718
Coupling, Thill	W. W. Goff	73, 317
Coupling, Thill	K. Goddard	74, 816
Coupling, Thill	K. Goddard	74, 817
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Coupling, Thill	G. H. Gardner	76, 183
Coupling, Thill	P. Jones	76, 198
Coupling, Thill	G. C. Smith and R. Judson	76, 666
Coupling, Thill	C. S. Bonney	76, 984
Coupling, Thill	H. Webster	78, 035
Coupling, Thill	J. P. Thorp	79, 088
Coupling, Thill	H. M. Beecher	79, 891
Coupling, Thill	L. Derby	80, 152
Coupling, Thill	I. R. Potter	80, 214
Coupling, Thill	C. Robinson	80, 310
Coupling, Thill	I. C. Hart	80, 626
Coupling, Thill	S. E. Horner	81, 085
Coupling, Thill	R. Fink and J. B. Hershock	81, 355
Coupling, Thill	E. M. Morrison and J. K. Ross	81, 527
Coupling, Thill	J. Haverly and C. A. Tibbitts	82, 405
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Coupling, Thill	R. Pyle	83, 546
Coupling, Thill	N. N. Gordon	83, 844
Coupling, Thill	W. W. Anderson	84, 077
Coupling, Thill	L. Pentz	84. 212
Coupling, Thill	W. H. Curtiss	84, 265
Coupling, Thill, for carriage	M. M. Copp	78, 579
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Coupling, Vehicle	C. W. Gretes	81, 363
Coupling, Wagon	H. Mitchell	74, 843
Coupling, Wagon	J. M. Wynn	81, 240
Cover for chambers, &c	J. S. Davison and N. Lorton	81, 261
Cover for circular vessels	J. Kline	84, 363
Cover for pots, kettles, &c	G. Reuben	85, 398
Cowl	C. W. Atkeson	75, 109
Cowl, chimney, and ventilator, Exhausting	J. W. C. Anderson	73, 280
Cows, Milking	T. H. Lindley	83, 777
Cow milking machinery	L. O. Colvin	74, 507
Cows and calves from sucking the teats, and for leading cattle, Device for preventing	A. S. Haven	74, 086
Cradle	L. and A. R. Hill	73, 892
Cradle and baby jumper	G. H. Mellen	79, 534
Cradle, Automatic	S. G Delano	81, 757
Cradle, Folding	C. Klein	74, 917
Cradle or couch	R. Hale	73, 802
Cradle or couch	A. E. and J. B. Blood and F. W. Pope	80, 801
Cradle, Swing	P. P. Carroll	76, 601
Cranberry gatherer	W. Hall	81, 897
Crane	C. Williams	81, 317
Crane, Hay	M. Simms and J. V. Chambers	73, 263
Crane, Hydraulic	S. K. Wellman	79, 710
Crane, Power	W. F. Durfee	80, 930
Crank pins, wrist pins, &c., Turning	T. A. Goff	78, 733
Crank planer	W. H. Warren	73, 412
Crank, Serial	C. F. Ritchel	80, 769
Crate, Fruit	T. Mabbett, sr	77, 060
Crayon holder	R. Wright	80, 378
Cream preparatory to churning, Tempering	E. T. Brownfield	75, 622
Cream saver	S. E. Mallet	81, 519
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Crevices, Stopping	L. A. Gossin	73, 318
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Crimping machine	R. A. York	76, 576
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Crutch	J. A. Lobb	77, 824
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Culinary steamer	W. S. Mc Neil	75, 944
Culinary vessel	H. Poole	81, 534
Culinary vessel	W. H. Bennett	73, 568
Culinary vessel	H. L. Dunckele	76, 310
Culinary vessel	C. A. Johnson	79, 574
Culinary vessel	A. F. Marston	81, 658
Culinary vessel	A. C. Kasson	84, 194
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Cultivator	J. C. Boyd	73, 291
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Cultivator	W. Walton	78, 626
Cultivator	G. Garrett	78, 799
Cultivator	S. Reed	79, 001
Cultivator	J. H. Hill	79, 119
Cultivator	E. Terril	79, 161
Cultivator	A. R. Blood, A. Hathaway, and V. R. Beach.	79, 304
Cultivator	M. E. Hanover and D. D. Bailey	79, 344
Cultivator	E. Phifer	79, 387
Cultivator	J. H. Davey	79, 450
Cultivator	N. A. Rand	79, 598
Cultivator	G. W. Cook	79, 956
Cultivator	A. P. Routt	80, 015
Cultivator	J. H. Skelly	80, 094
Cultivator	H. Preston	80, 502
Cultivator	R. McCorkell	80, 556
Cultivator	J. Reichard	81, 108
Cultivator	D. McNeely and C. J. Cady	81, 807
Cultivator	M. F. Lowth and T. J. Howe	82, 423
Cultivator	A. T. Heflin	82, 406
Cultivator	D. S. Early	82, 814

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Cultivator	G. and J. Seibert	82, 646
Cultivator	A. H. Allison	82, 060
Cultivator	J. H. Clifton	82, 089
Cultivator	T. Thorley	82, 180
Cultivator	J. A. & S. S. Woodward and T. Mason	82, 191
Cultivator	O. Stone	78, 243
Cultivator	J. C. Stroud	82, 562
Cultivator	W. Rodgers	82, 753
Cultivator	J. J. Thompson and V. F. Collier	83, 111
Cultivator	W. Custer	83, 259
Cultivator	A. M. Griswold	83, 487
Cultivator	J. H. B. Keller	83, 509
Cultivator	J. Mallon	83, 519
Cultivator	W. H. Startzman	83, 564
Cultivator	P. R. Totten	83, 569
Cultivator	S. Day	83, 838
Cultivator	L. Clifton	83, 931
Cultivator	A. F. Stoner	84, 016
Cultivator	J. Vowles	84, 029
Cultivator	A. A. Harmon	84, 184
Cultivator	T. Waite	84, 238
Cultivator	T. Arndt	84, 338
Cultivator	W. F. Coulter, G. F. Trabue and W. A. Lowrey.	84, 413
Cultivator	T. E. McDonald	84, 430
Cultivator	S. Way	84, 449
Cultivator	S. G. Peabody	84, 575
Cultivator	A. B. Spies	84, 588
Cultivator	I. H. Chappell and J. Montgomery	84, 611
Cultivator	R. Sandiford	84, 649
Cultivator	G. B. St. John	84, 776
Cultivator	C. A. Harper	84, 823
Cultivator	C. Alvord	84, 931
Cultivator	D. S. Slater	75, 211
Cultivator	J. H. Brinton	84, 935
Cultivator	G. M. Dwight	85, 001
Cultivator	J. Hinds and J. Gee	85, 095
Cultivator	L. D. McClintock	85, 233
Cultivator	W. A. Dryden	85, 292
Cultivator	J. W. Jessop	85, 387
Cultivator	F. J. Underwood	85, 412
Cultivator	J. Millard	85, 467
Cultivator	I. A. Palmer	85, 471
Cultivator	W. L. Stewart	85, 488
Cultivator and chopper, Cotton	Z. Doolittle and A. M. Crowder	74, 519
Cultivator and corn planter combined	C. Dyer	83, 478
Cultivator and corn plow	I. B. Arthur	74, 032
Cultivator and gang plow	I. B. Mahon	75, 941
Cultivator and harrow	S. Conrad	76, 578
Cultivator and harrow	A. S. White	82, 573
Cultivator and harrow combined	C. Rich and O. L. Neilsen	73, 547
Cultivator and harrow combined	N. W. Wheeler	82, 775
Cultivator and harrow combined	D. M. Harkrader	82, 942
Cultivator and hoe combined	H. P. Eckler	78, 442
Cultivator and planter	C. Rubbles	77, 535
Cultivator and planter combined	G. W. Kinzer	81, 177
Cultivator and planter combined	C. L. Lee	79, 236
Cultivator and planter combined, Corn	J. S. Mason	82, 137
Cultivator and planter, Corn	A. Edmister	83, 943
Cultivator and plow	W. H. Damron, R. H. Massey and L. F. Whitman.	73, 081
Cultivator and plow	A. Runstetler and A. Windeck	74, 005
Cultivator and plow	J. Lane	82, 130
Cultivator and plow	S. F. Seely	84, 911
Cultivator and plow, Combined	L. R. Wright	81, 054
Cultivator and plow, Convertible	J. Orr and H. H. Martin	83, 404
Cultivator and plow, Steam propeller	J. Marquis	82, 558
Cultivator and potato digger combined	M. Darling and H. Gray	77, 176
Cultivator and potato planter, Combined	C. F. Hoffman	81, 371
Cultivator and revolving harrow combined	S. D. Carpenter	85, 282
Cultivator and seeder	L. Bishop	75, 845
Cultivator and seeder	H. S. Matterson	73, 020
Cultivator and seeder	M. D. Smith	78, 146
Cultivator and seeder	J. S. and I. Rowell	78, 833
Cultivator and seeder	C. Lobdell	84, 499
Cultivator and seeder, Broadcast	G. Esterly	79, 331
Cultivator and seeder combined	A. Ingalls	73, 336
Cultivator and seeder combined	E. F. Crawford	78, 066
Cultivator and seeder combined	L. Stadler	83, 334
Cultivator and seeding machine, Combined	O. M. Pond	75, 575
Cultivator and seeding machine, Combined	S. S. Hogle	84, 121

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Cultivator and seed sower	C. G. Curtis	76, 306
Cultivator and shovel plow	B. F. Ream	74, 720
Cultivator and steam plow	P. H. Standish	75, 310
Cultivator and sulky plow combined	W. G. Crossley	72, 981
Cultivator, Corn	N. S. Johnson	73, 979
Cultivator, Corn	W. R. Adams	75, 718
Cultivator, Corn	A. Campbell	78, 424
Cultivator, Corn	E. F. Rate	83, 093
Cultivator, Corn	D. W. Travis	85, 189
Cultivator, Corn and cotton	J. W. Milroy	73, 988
Cultivator, Cornstalk cutter, &c., Combined	M. Gordon	76, 909
Cultivator, Cotton	L. Henderson	78, 088
Cultivator, Double shovel	S. B. Forbes	77, 474
Cultivator, Drag bar for	C. Alvord	83, 235
Cultivator, Garden, and vine cutter combined	P. Alling	83, 437
Cultivator, Hand	B. Taylor	81, 034
Cultivator, Hand	J. Scheiblein and J. Heitzman	84, 910
Cultivator, harrow and planter combined	J. G. S. Garwood	73, 593
Cultivator, Joint, and coupling for	W. H. Edwards	83, 944
Cultivator, planter, and corn plow combined	I. B. Arthur	77, 238
Cultivator, plow, harrow, and roller combined	S. C. Thornton	83, 675
Cultivator, revolving harrow, sower and corn planter, Combined.	W. P. Byler	74, 496
Cultivator, roller, and broadcast seeder, Combined	J. P. Long	75, 936
Cultivator, Rotary	G. F. Lynch	80, 643
Cultivator, Rotary	S. Mahurin	83, 187
Cultivator, seeder, and harrow combined	D. Kint	77, 052
Cultivator, Seeding	M. Hayden	73, 972
Cultivator, Sulky	E. S. Easterday	74, 754
Cultivator, Sulky	I. Welty	80, 102
Cultivator, Sulky	W. Harvey	79, 570
Cultivating teeth	L. Rogers	74, 004
Cultivating teeth	J. D. Turk	75, 669
Cultivating teeth	W. B. Ready	80, 503
Cultivating teeth	M. F. Lowth and T. J. Howe	75, 436
Cultivating teeth	D. Dean	79, 451
Cupboard and table	J. C. Mack	82, 426
Cup, Egg	C. D. P. Watters	77, 140
Cup for effervescing drinks	A. Rottanzi	79, 689
Cup, Lubricating	M. T. Carson	85, 164
Cup, Nursery	J. F. Leslie and E. A. Tibbets	80, 355
Cup, Oil or suet	R. Ross	81, 542
Cup, Pocket drinking	J. S. Towndrow	83, 341
Cup, Soap	J. G. Harrison	80, 408
Cup, Surgical	J. G. Hadfield	75, 412
Cupola and blast furnace	C. Truesdale	81, 561
Curb for streets, roads, &c	O. Faurot and W. P. Harris	76, 614
Curd breaker	P. Crary	73, 508
Curling iron	S. E. Condon	74, 800
Curtain, Carriage, Button-hole lining for	J. Barclay	76, 695
Curtain fixture	T. J. Marinus	73, 108
Curtain fixture	C. F. Knauer	73, 612
Curtain fixture	C. R. Jenkins	73, 811
Curtain fixture	S. S. Putnam	74, 135
Curtain fixture	J. M. Corns	74, 508
Curtain fixture	W. Brown	74, 661
Curtain fixture	A. Studley	75, 072
Curtain fixture	W. D. Gridley	75, 750
Curtain fixture	A. Young	75, 821
Curtain fixture	J. Chase	75, 860
Curtain fixture	T. Curley	75, 869
Curtain fixture	L. J. Schaefer	76, 252
Curtain fixture	J. D. and I. W. Legg	77, 499
Curtain fixture	I. Kinman	77, 890
Curtain fixture	J. P. Miller	78, 311
Curtain fixture	G. M. White and C. S. Meeker	78, 628
Curtain fixture	G. F. Beardsley	79, 435
Curtain fixture	L. E. Michell	80, 650
Curtain fixture	D. E. Long	80, 750
Curtain fixture	W. H. Woods	80, 793
Curtain fixture	J. Shorey	81, 019
Curtain fixture	J. David	81, 258
Curtain fixture	J. D. Legg	81, 280
Curtain fixture	S. S. Brown	82, 796
Curtain fixture	A. S. Gerald	82, 824
Curtain fixture	W. H. and L. Young	83, 680
Curtain fixture	B. Handforth	83, 957
Curtain fixture	L. Smith and S. Foster, jr	84, 443
Curtain fixture	A. Lovie	85, 016
Curtain fixture	H. Fininley	85, 295
Curtain fixture	A. S. Dickinson	85, 433

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Cushion, Bed, &c., Filling for	G. C. Barney	78, 412
Cushion, Pin	L. J, Atwood	83, 819
Cutlery	R. E. Curtis	77, 175
Cutlery	M. Rubel	78, 328
Cutlery	R. H. Fisher	79, 061
Cutlery	S. Mason	79, 370
Cutlery	W. C. Mason	79, 371
Cutlery	E. Day	80, 062
Cutlery	A. L. Taylor	80, 238
Cutlery	W. D. Woods	82, 779
Cutlery	W. T. Clement	83, 831
Cutlery, Attaching handles to	J. Flood	78, 796
Cutlery, Grinding	W. Fosket	74, 214
Cutlery, Pocket	J. Carreer	85, 211
Cutlery, Sharpening	A. Thayer	78, 771
Cutlery, Table	W. Clayton	80, 334
Cut-off, Rainwater	R. S. Laird and W. F. Stone	83, 176
Cut-off, Rainwater	J. Van Norman and W. Young	83, 808
Cutters and knives of mowing machines while being ground, Clamping.	H. J. Case	80, 596
Cutter and mangler, Beefsteak	De Witt C. Thompson	84, 718
Cutter and wrench, Pipe	J. L. Brierly	78, 047
Cutter, Anvil	V. A. Dunn	75, 395
Cutter, Bait and vegetable	Z. G. Greenleaf	74, 682
Cutter, Bait or meat	N. Richardson	73, 464
Cutter, Biscuit	S. E. Clapp	77, 583
Cutter, Bolt	E. A. Sloat	73, 205
Cutter, Bolt	T. W. Moore	74, 575
Cutter, Bolt	J. Johnson	76, 197
Cutter, Bolt	F. Miller	77, 637
Cutter, Bolt	A. Carbnow	78, 055
Cutter, Bolt	H. Howe	80, 351
Cutter, Bolt	T. W. Moore	83, 525
Cutter, Bolt and rivet	J. S. Henry and A. H. Reist	74, 087
Cutter, Bread	J. Madden and J. G. Haserot	73, 017
Cutter, Bread	G. L. Jones	77, 383
Cutter, Bread	J. D. Soles	81, 427
Cutter, Bread and vegetable	H. A. Titus	74, 864
Cutter, Bread, meat and vegetable	G. Stackhous	78, 149
Cutter, Button-hole	A. Humann	74, 827
Cutter, Button-hole	J. S. Crane	74, 315
Cutter, Button-hole	F. H. Walker	79, 418
Cutter, Button-hole	A. J. Lytle	83, 293
Cutter, Button-hole	W. S. Porter	84, 902
Cutter, Cake	G. O. Sanderson	78, 137
Cutter, Cheese	M. Morse and P. W. Sawyer	78, 228
Cutter, Cheese	J. G. Dreher	84, 539
Cutter, Cheese, and box	S. S. Brown	82, 795
Cutter, Cornstalk	J., D. and J. H. Wilde	74, 652
Cutter, Cornstalk	M. Gordon	76, 910
Cutter, Feed	T. P. Allen	75, 508
Cutter, Feed	N. McLeod	83, 984
Cutter, Fish-bait	V. Doane, jr	83, 048
Cutter, Fodder	E. F. Varner	83, 571
Cutter, Fodder and corn-husking machine, Combined	M. C. Jeffers	74, 370
Cutter for leather, &c., Cylindrical	J. H. Golding	85, 085
Cutter, Harvester	T., R. and S. Knowles	74, 550
Cutter, Harvester	E. M. Allen	76, 135
Cutter, Harvester	M. Lewis	78, 460
Cutter, Harvester	T. J. Christy	78, 515
Cutter, Harvester	J. T. Norris	78, 889
Cutter, Harvester	W. N. Whiteley	81, 044
Cutter, Harvester, Rest for grinding	T. Brett	76, 883
Cutter, Hay	F. Gerfen	78, 369
Cutter, Hay	H. Kinsey, F. W. Kissell, J. E. and J. M. Smith.	84, 063
Cutter head	G. Rowe and S. W. Nelson	79, 690
Cutter head	E. S. Wright	81, 859
Cutter head	S. Fawcett	82, 211
Cutter head	W. G. Farmer	82, 699
Cutter head for tenoning blind slat	M. W. Clark	76, 052
Cutter head for wood-planing machine	T. Tostevin	76, 556
Cutter, Ice	G. R. Marvin	74, 236
Cutter, Ice	F. G. Siemers	81, 303
Cutter, Ice	C. W. Flint	85, 080
Cutter, Ice	G. L. Cummings	85, 217
Cutter, Meat	J. Naeher	74, 409
Cutter, Meat	J. E. Smith	74, 947
Cutter, Meat	A. J. Eddy	77, 014
Cutter, Meat	C. Welte	77, 143

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Cutter, Meat	S. L. Stockstill and H. H. Dille	79, 085
Cutter, Meat	H. Obrecht	79, 679
Cutter, Meat	C. A. Foster	79, 902
Cutter, Meat	D. Slaughter	80, 675
Cutter, Meat	H. Howe	81, 088
Cutter, Meat	F. G. Siemers	81, 421
Cutter, Meat	J. G. Perry	83, 308
Cutters of mowing machines, Grinding	W. H. Laubach	74, 707
Cutter, Paper	T. R. Timby	73, 674
Cutter, Paper, and arm rest combined	C. B. Dickinson	78, 192
Cutter, Peg	D. B. Sanderson	76, 949
Cutter, Pipe	J. Peace	81, 402
Cutter, Pipe and bolt	G. B. Kirk	73, 813
Cutter, Pipe and rod	D. F. Hartford	73, 528
Cutter, Pipe, Self-feeding	M. H. Freeman	74, 527
Cutter, Root	J. and W. L. Heberling	76, 912
Cutter, Root	G. S. Perfater	84, 374
Cutter, Rotary, Holding while being ground	H. Disston	79, 213
Cutter, Slate	H. Hopper and J. G. Hetzell	83, 634
Cutter, Straw	A. J. Bell	73, 157
Cutter, Straw	J. F. Hammond	73, 180
Cutter, Straw	W. H. Evans and W. H. Wainwright	73, 961
Cutter, Straw	L. B. Hoit	75, 269
Cutter, Straw	C. A. Lundy	75, 437
Cutter, Straw	J. J. Andrew	76, 137
Cutter, Straw	J. Laughlin	76, 209
Cutter, Straw	G. W. Parsons	77, 209
Cutter, Straw	G. A. Edwards	77, 599
Cutter, Straw	J. Riley	77, 762
Cutter, Straw	D. Sturgis	79, 513
Cutter, Straw	S. B. Hiles and J. B. Danner	80, 175
Cutter, Straw	J. T. Watson and H. E. Robinson	80, 524
Cutter Straw	J. Ambrun	83, 682
Cutter, Straw	J. W. Brockway	82, 685
Cutter, Straw	E. P. Ralph and J. Hannan	83, 315
Cutter, Straw	E. and J. Strothman	84, 317
Cutter, Straw, and corn sheller combined	C. R. Hewett	73, 184
Cutter, Straw, and stalk and corn husker	R. Warriner and J. H. Baker	79, 166
Cutter, Stubble	I. B. Conklin	80, 394
Cutter, Thread	C. A. Woodbury	79, 093
Cutter, Thread and twine	J. W. Strange	76, 113
Cutter, Tobacco	E. L. Gilman and T. S. Smith	83, 955
Cutter, Tube	J. De Galleford	76, 729
Cutter, Tube-hole	C. H. Lavis	74, 385
Cutter, Vegetable	T. J. Hatfield	73, 004
Cutter, Vegetable	G. P. Hachenberg	73, 597
Cutter, Vegetable	J. Caldwell	73, 775
Cutter, Vegetable for animal food	R. I. Burbank	83, 828
Cutter, Watch-case	J. J. and J. Fortenbach	75, 892
Cutting machine	W. H. Johnson	77, 985
Cutting machine, Reversing	S. D. Tripp	81, 707
Cylinders and pipes, Drilling and boring the flanges of	H. S. Fairbanks	85, 293
Cylinder, Card	J. M. Stone	79, 872
Cylinder, Cutting out section of angular	J. O. Joyce	84, 697
Cylinder for tanning hides, Revolving	J. W. Lull	76, 784
Cylinder, Glass, Sizing	S. R. Wilmot	84, 040
Cylinders, Lowering	G. R. Bramhall	78, 860
Cylinders of carding engines, Attaching card clothing	D. H. Rowe	85, 133
Cylinder, Steam	W. Inglis	85, 098
Cylinder, Turning	J. M. Poole	79, 683
D.		
Dairy and water elevator combined	H. N. Brooks	83, 827
Dam, Coffer	E. Bell	73, 566
Dam, Portable and adjustable still-water	S. Lewis	80, 492
Damper	J. C. Rhodes	80, 223
Damper	W. Hailes	80, 476
Damper	D. B. Cox	80, 920
Damper for hot-air furnace	A. H. Mershon	77, 512
Damper, Illuminating	J. H. Keyser	82, 228
Damper, Stove-pipe	A. Colton	75, 863
Damper, Stove-pipe	D. A. White	79, 041
Damper, Stove-pipe	J. Healey, jr	79, 758
Damper, Stove-pipe	L. S. Enos	79, 817
Damper, Stove-pipe	J. Johnson	79, 836
Damper, Stove-pipe	F. D. Pastorius	80, 832
Damper, Stove-pipe	G. Tamkin	82, 565
Damper, Stove-pipe	J. C. Kennedy	82, 848
Damper, Stove'pipe	W. H. Deily	83, 139
Damper, Stove-pipe	L. O. Allen	84, 930

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Dash-board and rein holder	P. Verplanck, jr	76,007
Davits, ships'	S. Gill and D. C. Woods	84,742
Dead bodies, Preserving	C. A. Seely and C. J. Eames	74,607
Dental instrument	S. C. Taylor	74,629
Dental plates, &c., Material for	J. A. McClelland	77,304
Dental plugging instrument, Automatic	G. B. Snow and T. G. Lewis	79,270
Dentistry	E. C. Smith and D. F. Wilcox	77,773
Derrick	C. Fricke	77,271
Derrick	J. Sheldon	77,541
Derrick	C. S. Lockwood	81,365
Derrick	J. B. Drake and W. H. Hutson	83,938
Derrick	A. Campbell	85,729
Derrick, Portable	G. C. Brown	76,155
Derrick, Sugar-pan	D. Young	77,342
Derrick, Sugar-pan	J. O. Ayers	83,356
Derrick, Sugar-pan	A. J. Weed	82,774
Desiccating and ventilating device	E. H. Ashcroft	81,060
Desiccating leached tan and other substances	C. H. Moseley	82,739
Designs upon fabrics, Composition for making	R. L. Jones	82,122
Desk and seat	H. W. White	73,416
Desk and seat	R. Cruikshank	75,379
Desk and seat	G. A. Stewart	82,765
Desk and seat, School	J. P. Scott and S. H. La Rue	74,433
Desk and seat, School	M. B. Cochran	74,504
Desk and seat, School	A. E. Roberts	79,145
Desk and seat, School	L. C. Abbott, S. D. Tuttle, and M. L. Holt.	80,106
Desk and seat, School	A. Hutchinson	84,947
Desk, School	G. W. Hildreth	74,688
Desk, School	E. I. Stearns	76,838
Desk, School	H. L. Andrews	82,061
Desk, School	J. Mealey	83,521
Desk, School	W. S. Wooton	83,896
Desk, School, and musical instrument	W. O. Trowbridge	83,008
Desk, table, &c	E. Becker	80,898
Desk, Writing and drawing	W. W. Levering	80,749
Despatches, Electro-pneumatic apparatus for transmitting.	C. F. Varley	78,845
Detecter, Low-water	J. Harrison, jr	75,754
Detecter, Low-water, and safety valve combined	D. Burns	77,451
Detecter, Low-water, for boiler	T. Dutton	81,989
Detecter, Low-water, for steam generator	G. B. Massey	74,706
Detecter, Low-water, for steam generator	W. W. Bailey	75,618
Diaper, Child's	M. A. Moore	84,703
Die and block for forming hats	L. Bommer	83,597
Die and plunger	H. G. Williams	80,042
Die and punch	T. G. Arnold	83,586
Die and punch, Holding and adjusting	P. E. Austin	84,468
Die and tap	G. Grübel	81,162
Die for bolt-making machine	R. Gracey	83,377
Die for closing buckle	M. Fowler	74,335
Die for cutting spoon blank	F. A. Rich and H. W. Bassett	79,004
Die for cutting the teeth of metallic combs	C. Foster	78,585
Die for forging eye bolts	F. Leonard	78,977
Die for forming letters, &c., on the edges of type blocks	T. S. Hudson	76,460
Die for forming slots in screws	H. Hammond	73,888
Die for heading bolts	C. Kane	73,728
Die for heading bolts	W. J. Lewis	76,210
Die for making axle nuts	A. B. Candee and L. S. Taylor	78,576
Die for making carriage axles	W. W. Simmons	84,845
Die for making clevis blanks	J. Kritch	81,380
Die for making clock collets	H. C. Thompson	76,958
Die for making hammers	H. W. Bailey	75,662
Die for making pliers	S. H. Wood	76,574
Dies for making square-headed bolts	W. Shields	74,616
Die for making square-headed bolts	W. Shields	81,419
Die for making thimbles and ferrules	J. H. Cole	77,170
Die for making toe calks for horseshoes	E. R. Cheney	80,807
Die for stamping stove pipe dampers	I. Van Hagen	82,771
Die for stamping tin ware	J. Neuberger and P. J. Illig	75,961
Die for stamping wooden boxes	W. Weeks	81,852
Die, Tinners'	P. W. Armstrong	74,481
Differential gear power machine	H. F. Shaw	75,304
Dipper, Attaching handle to	J. B. Wood	73,066
Diseases, Treating, by vacuum	J. G. Hadfield	85,303
Dish, Butter	W. E. Hawkins	74,221
Dish, Butter	I. A. Richards	74,722
Dish, Butter	N. Lawrence	76,639
Dish, Butter	W. W. Lyman	80,297
Dish cloth holder	J. T. Walker	80,100
Dish cover	H. S. and F. M. Goff	79,824

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Dish, Covered	W. A. Fenn	78,366
Dish washer	C. Messenger	84,431
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Disinfectant or ozone generator	W. H. Ford and S. Logan	85,297
Disks from metal, Punching and raising	C. Diedrichs	73,784
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Distillery	H. H. Kirk	74,098
Distilling and condensing spirits and other liquids	H. G. Dayton	84,479
Distilling and rectifying	C. Gresiuchna	73,092
Distilling apparatus	A. J. Rieley	77,216
Distilling apparatus	A. Webster	78,498
Distilling apparatus	A. A. Meyendorff	78,678
Distilling apparatus	D. Savalle	79,260
Distilling apparatus	W. Corfield	85,286
Distilling apparatus	W. Corfield	85,287
Distilling apparatus for spirits	J. C. Cookson	81,605
Distilling apparatus for spirits	D. Green	81,624
Distilling spirituous liquids	J. F. Collins	73,539
Ditches, Cutting open	J. N. Smith and W. O. Buckley	80,880
Ditching and boring machine, Combined	I. B. Jones	82,846
Ditching and grading machine	F. H. De Tray	73,441
Ditching and grading machine	F. M. Howard and D. W. Avery	77,487
Ditching machine	E. Worth and C. A. Davis	73,560
Ditching machine	A. A. Fuselier	74,074
Ditching machine	W. Gause	74,338
Ditching machine	J. King	74,549
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Ditching machine	J. Masters	76,788
Ditching machine	E. L. Foreman	77,024
Ditching machine	G. H. Stevenson	77,930
Ditching machine	E. Barnes	77,949
Ditching machine	T. B. Fagan	78,198
Ditching machine	P. O'Connor and M. Collins	79,851
Ditching machine	W. R. Selfridge	80,092
Ditching machine	J. Marsh	83,296
Ditching machine	L. Rickard	84,136
Divider and calipers	E. S. Scripture	73,126
Dog power	A. W. Hager and J. H. S. Grove	84,354
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Door	G. M. McMahan	76,790
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Door, &c., Retaining device for	L. T. Howell	83,967
Door and gate close	H. N. Conklin	82,804
Door and shutter fastener	J. Auser	84,984
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Door and window catch	S. W. Gear	78,521
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Door button	W. E. Sparks	75,996
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Door fastener	W. J. Ross	84,767
Door fastener	J. M. Clark	85,165
Door fastener	J. O. Reilley	85,243
Door fastener	J. H. McElroy and J. H. Holly	85,321
Door fastening and alarm	A. F. Kitchen	84,362
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Door holder	J. K. Clark	80,390
Door holder	G. C. Bunsen	81,746
Door holder, Spring	J. B. Okey	73,829
Door, Iron	L. Hover	83,063
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Door stop	W. May	83,650
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Elevator	J. S. Baldwin	76, 692
Elevator	J. S. Baldwin	76, 693
Elevator	G. R. Clarke	78, 646
Elevator	G. Joslin	79, 129
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Elevator	J. Westover	80, 103
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Elevator, Water	W. M. Palmer	74, 768
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Elevator, Water	W. P. Walling	79, 707
Elevator, Water	W. M. Palmer	79, 772
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Eraser	W. A. Morse and J. G. Powell	78, 887
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Evaporator	P. J. Badoux	78, 639
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Excavator	C. F. Woodruff	80, 696
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Excavator	B. T. Stowell	84, 230
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Eye glass and spectacle	J. J. Bausch	73, 285
Eye glasses and spectacles, Mounting	C. N. Dunham	82, 930
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Eyes on metal rods, Forming	C. Kellogg	74. 377
Eye water	J. Roemheld	81, 008
Eyelet	G. W. Prentice	81, 684
Eyelets, Machine for casting	J. M. Osgood	77, 647
Eyelets, Machine for cutting	D. B. Brayton	84, 673
Eyelet, Implement for making	D. H. Hoxsie	74, 758
Eyelet machine	G. P. Tew	79, 105
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Fabric	G. Streat	73, 473
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Fabric, Drying and stretching	O. C. Sweet	82, 564
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Fabric, Felted	H. Hayward	80, 263
Fabric, Felted	J. T. Waring	82, 904
Fabric, Felted tufted	J. T. Waring	84, 325
Fabric, Fibre and gum	A. F. Bishop, J. M. Pendleton, and J. H. Aiken.	81, 740
Fabric for covering steam boilers, &c	W. C. Selden and C. B. Kid	83, 414
Fabric for covering walls, &c., Compound	J. M. Perkins	76, 244
Fabric for floor covering, wainscoting, &c	M. Flurscheim	83, 948
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Fagot for beam	H. T. Buffington, jr	82, 487
Fagot for railroad rail	W. Leighton	75, 433
Fagot for railroad rail	H. Rowe	77, 659
Fagot or pile for manufacturing railroad rails	W. Hayward and J. Lees	79, 904
Fan	S. Ainsworth	76, 875
Fan	A. B. Hancock	84, 276
Fan and fly brush, Automatic	E. J. Clark	76, 996
Fan and pocket-book combined	O. Brück	76, 988
Fan, Automatic	J. Beck	77, 709
Fan, Automatic, table caster and lamp stand	T. W. Carmichael	74, 303
Fan blower	P. Clark	85, 213
Fan, Folded	T. S. Thorn	75, 316
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Fan, Rotating	J. H. Reynerson	81, 539
Fan, Table, and caster stand	N. H. Tilman and D. G. Good	77, 415
Fanning machine	G. F. Evans	81, 353
Fare-box for passenger cars	J. E. Woodruff	76, 290
Faucet	J. Marchbank	73, 822
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Faucet	D. P. Smith	81, 305
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Faucet	J. E. Tucker	85, 257
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Faucet, Basin	J. Benson	79, 190
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Faucet, Beer	F. J. Walz and C. Steck	75, 085
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Faucet for soda-water fountain	A. M. White and E. G. Burnham	76, 017
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Faucet, Measuring	J. D. Smith	77, 928
Faucet, Measuring	T. S. Reeves	80, 307
Faucet, Measuring	O. L. Wheeler	80, 847
Faucet, Measuring	O. B. Blake and O. E. Colony	80, 852
Faucet or cock	C. Harrison	81, 900
Faucet, Siphon	T. W. Plum	75, 191
Feathers, Bleaching and dyeing	A. P. Viol and C. P. Duflot, jr	81, 709
Feathers, Cleaning	H. J. Beckwith	77, 571
Feathers, Cleaning	T. Taylor	81, 841
Feathers, Cleaning and renovating	D. Budd	78, 421
Feathers, Cleansing and renovating	H. B. Steele	76, 840
Feathers, Dressing	A. C. Sanford	80, 017
Feather-dressing machine	S. W. Bevans	76, 982
Feather duster	M. A. Goodenough	77, 278
Feather renovator	W. F. Daugherty	80, 610
Feather renovator	C. E. Hendrick	81, 369
Feather renovator	A. Bond	82, 200
Feather renovator	W. H. Elliot	84, 809
Feather renovator	H. H. Robbins	81, 294
Feather renovator	J. C. Moorehead and W. W. Elliott	77, 075
Feather renovator	C. E. Mason and G. F. Bell	79, 668
Feather renovator	C. E. Hendrick	79, 975
Feed, Changing	R. L. Nelson	74, 578
Feed motion	A. J. Shipley	85, 249
Feed trough and rack, Combined	J. Depue	76, 061
Felloe and spoke connection	G. Allen	79, 533
Felloes, Clip and ferrule for joints on	P. Jones	73, 903
Felloes, Dressing	W. H. Rodehcaver	80, 013
Felloes, Expanding, and tightening spokes	A. N. Towne	73, 476
Felt, fur, bristles, &c., Cutting and trimming	C. F. Harlow	79, 468
Felting machine	C. Mossant	78, 991
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Fence	A. Sheldon	73, 761
Fence	A. Todd, jr	74, 017
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Fence	A. D. Smith and E. Stow	75, 994
Fence	C. Lee	76, 475
Fence	N. L. Shaw	77, 109
Fence	O. J. Everson	77, 967
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Fence	J. Southwick	81, 836
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Fence, Farm	E. G. McMillan	83, 871
Fence, Field	D. S. Humphrey	73, 011
Fence, Field	I. A. Gormly	73, 090
Fence, Field	I. A. Gormly	76, 745
Fence, Flood	V. Wood	78, 633
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Fence for collecting rain-water for stock	L. Howe	74, 699
Fence for crossing streams	W. McFarrin	79, 141
Fence for poultry yard	H. W. Rutt	77, 101
Fence, Foundation for	T. W. Welch and G. B. Starbird	80, 318
Fence, Iron	A. Terry	84, 318
Fence, Iron post for rail	H. S. Brooks and J. Lehman	78, 572
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Fence, Metallic	M. Kelly	84, 062
Fence, Panel	C. W. Sproull	79, 698
Fence, Portable	L. F. Henderson	73, 098
Fence, Portable	H. A. Stewart	74, 166
Fence, Portable	S. Keller	75, 551
Fence, Portable	W. E. Roberts	76, 102
Fence, Portable	L. P. Pease	77, 087
Fence, Portable	C. S. S. Griffing	77, 371
Fence, Portable	H. D. Smalley	77, 544
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Fenee, Portable	T. B. Wickham	77, 942
Fence, Portable	R. Samuel	78, 329
Fence, Portable	L. W. Bosart	78, 783
Fenee, Portable	W. Corson	78, 789
Fence, Portable	J. Angspurger	79, 624
Fenee, Portable	H. Willard	79, 884
Fenee, Portable	J. Leonard	78, 979
Fenee, Portable	B. F. Brattain	80, 052
Fenee, Portable	J. W. Norman	80, 657
Fence, Portable	L. W. Bosart	83, 911
Fenee, Portable	C. S. Coolidge and J. A. Rollins	85, 285
Fence, Portable folding	A. M. Olds	82, 865
Fence post	H. K. Flinchbaugh	75, 144
Fence post	G. R. Patton	76, 515
Fence post	M. Krumm, jr	76, 637
Fence post	P. McDuff	77, 066
Fenee post	I. D. Richards and H. D. Snyder	77, 842
Fenee post	R. E. Bowen	85, 360
Fence-post driver	I. J. Parker	80, 364
Fence-post driver	J. D. Israel	80, 962
Fence-post driver	W. S. Graves	81, 771
Fence post, Iron	W. Merrell	83, 985
Fence posts, mortising, and sharpening fenee rails, Machine for.	J. A. Snyder	73, 844
Fenee, Rail	E. G. Warner	82, 186
Fences, Raising	T. J. Smith	84, 141
Fenee, Stream or river	H. A. Kephart	73, 345
Fenee, Wire	G. W. Ensminger	84, 810
Fence, Wire and pieket	E. C. Patterson	79, 854
Fence, wire, Fastening for	W. E. Lockwood	73, 349
Fenee, wire, Iron post for	H. K. Flinchbaugh	75, 145
Fence, wire, Portable	L. W. Bosart	76, 151
Fence, wire, Straining	F. H. Crandall	73, 302
Fenee, Wire stretcher	W. B. Hayden	81, 367
Fence, wood and wire, Combined	G. Fletcher, sr	84, 180
Fenee, Worm and pen	J. Will	73, 420
Fender for interfering horses, India-rubber	C. Brinkerhoff	85, 205
Ferrule and clip for joints of felloes	P. Jones	73, 903
Ferrule, Boiler-tube	J. U. Adams	74, 028
Ferry bridge guard	J. A. Clarke	75, 526
Fertilizer	W. G. Busey	76, 991
Fertilizer	A. Smith	77, 667
Fertilizer	J. Althouse	77, 860
Fertilizer	L. S. Fales	78, 730
Fertilizer	J. S. Ramsburg	77, 840
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Fertilizers, Distributing	J. S. Edwards	75, 252
Fertilizers, Distributing	J. F. Fisher	84, 870
Fertilizer, land roller and seed sower combined	L. D. Taylor	79, 280
Fertilizers, Manufacture of	D. A. Ter Hoeven	79, 160
Fertilizer, phosphatic, Manufacture of	G. F. Wilson	75, 325
Fiber and gum fabric	A. F. Bishop, J. M. Pendleton, and J. H. Aiken.	81, 740
Fibers from mulberry trees, Separating	W. Holdmann	80, 737
Fibers from wood, &c., Separating	M. R. Fletcher	74, 332
Fiber, vegetable, Solution for treating, for manufacture of parchment.	S. Gwynn	73, 322
Fibrous material during their manufacture, Preventing mildew or injury to.	E. T. Rice	83, 409
Fibrous material for the manufacture of rope, cord, and for covering wire, cord, &c.	H. A. Martin	73, 109
Fibrous substances, Drawing	J. B. Fuller	81, 489
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Field marker	J. M. Canterbury	74, 302
File	H. B. Nickerson	75, 568
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File and rasp	F. C. Curie	80, 460
File blanks, Grinding	E. Norton	77, 646
Files, Cutting	W. T. Nicholson	78, 681
File-cutting machine	T. E. Thurston	79, 898
File-cutting machine	J. B. Mignault	73, 824
File-cutting machine	S. A. Sutton	80, 679
File fastener	E. P. McCency	80, 986
File for grooving rolls	H. L. Butts	76, 599
File handle	H. C. Storrs	77, 332
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Filter	G. T. Palmer	73,751
Filter	L. Holms	78,524
Filter	W. C. Long and H. A. Lownsbery	81,386
Filter	T. Simmons	82,255
Filter	C. H. Jaekson	85,449
Filter and cooler	N. Downes	84,482
Filter and heater, Feed-water	J. Armstrong	81,971
Filters, Bone, coal and other	H. Torstriek	85,256
Filter, Cistern	N. Gonner and H. Bader	74,215
Filter for faucet, Adjustable	H. G. Fuhrmann	80,469
Filter for saccharine and other liquids	H. Merrill	82,735
Filtering and cooling liquids	D. E. Somes	82,651
Filtering, draining, and drying, Centrifugal machine for.	R. J. Barr	80,702
Finish for painted surfaces	H. T. Payne and W. Ayres	73,377
Fire and steam regulator	A. Kipp, jr	81,649
Fire-arm	C. Slotterbek	84,224
Fire-arm, Breech-loading	S. Belden and J. F. Crabtree	85,268
Fire-arm, Breech-loading	J. E. McBeth	73,357
Fire-arm, Breech-loading	F. E. Boyd and P. S. Tyler	73,494
Fire-arm, Breech-loading	F. Muller	74,119
Fire-arm, Breech-loading	H. Lord	74,387
Fire-arm, Breech-loading	J. Rider	74,428
Fire-arm, Breech-loading	S. S. Rembert	74,590
Fire-arm, Breech-loading	W. Morganstern	74,712
Fire-arm, Breech-loading	J. Werndl	74,737
Fire-arm, Breech-loading	B. H. Jenks	74,760
Fire-arm, Breech-loading	C. Callaghon	74,888
Fire-arm, Breech-loading	J. W. Coehran	75,627
Fire-arm, Breech-loading	C. H. Alsop	76,374
Fire-arm, Breech-loading	J. Broughton	76,595
Fire-arm, Breech-loading	H. O. Peabody	76,805
Fire-arm, Breech-loading	F. H. Escherieh	78,519
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Fire-arm, Breech-loading	D. B. Wesson	78,847
Fire-arm, Breech-loading	W. Morganstern	79,291
Fire-arm, Breech-loading	T. Wilson	80,043
Fire-arm, Breech-loading	J. E. MeBeth	80,985
Fire-arm, Breech-loading	B. Burton	81,059
Fire-arm, Breech-loading	J. V. Meigs	81,100
Fire-arm, Breech-loading	J. Merlett	81,283
Fire-arm, Breech-loading	C. B. Richards	81,290
Fire-arm, Breech-loading	W. R. Pape	84,373
Fire-arm, Breech-loading	A. Wyley	84,459
Fire-arm, Breech-loading	I. M. Milbank	84,566
Fire-arm, Breech-loading	E. Von Jeinsen	84,922
Fire-arm, Breech-loading	E. Allen	84,929
Fire-arm, Breech-loading	J. R. Cooper	84,838
Fire-arm, Breech-loading	P. J. J. Noël	85,120
Fire-arm, Breech-loading	H. Berdan	85,162
Fire-arm, Breech-loading	E. F. Gunn	85,442
Fire-arm, Double barrelled	E. Maynard	83,194
Fire-arm, Magazine	V. Fogerty	82,819
Fire-arm, Magazine	L. Wheeloek	84,598
Fire-arm, Magazine	F. Vetterlin	85,494
Fire-arm, Revolving	G. Holman	75,016
Fire-arm, Revolving	F. A Thuer	82,258
Fire-arm, Revolving	F. Wesson	84,976
Fire-arm, Revolving	J. Adams	85,350
Fire-arm, Safety guard for	B. P. Cutler	76,058
Fire, Composition for kindling	W. C. Philbrick	73,922
Fire, Compound for extinguishing	E. A. Galbraith	80,720
Fire detceter	W. C. Grimes	76,911
Fire escape	E. Hawthorne	73,007
Fire escape	J. Paar	76,097
Fire escape	A. Robinson	76,527
Fire eseape	T. Thompson, jr	81,436
Fire escape	S. A. Swahn and C. C. Sehmitt	82,176
Fire escape	J. L. Jürgens	82,325
Fire extinguisher	W. H. Laubaeh	82,422
Fire extinguisher, Steam	J. Souther	79,021
Fire, Extinguishing	W. Mullally	78,636
Fire, Extinguishing	J. Babcoek	80,701
Fire, Extinguishing	R. Lapham	81,653
Fire, Extinguishing	G. Clark, jr	82,471
Fire, Extinguishing, Compound for	T. Drew	85,434
Fire kindler	J. McFarland	79,140
Fire kindler	V. G. Tansey	80,429
Fire kindling	C. Gaudin, and Z. and J. Granier	79,903
Fire kindling	I. Morris	83,988
Fire kindling and fuel	I. Bicknell	72,964
Fire kindling, Composition for	W. P. Winkley	82,506

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Fireplace	C. B. Gregory	75, 155
Fireplace	C. B. Gregory	76, 750
Fireplace	W. D. Guseman	76, 751
Fireplace	W. B. Coates	80, 455
Fireplace	D. Hattan	80, 731
Fireplace	G. H. McElevey	81, 389
Fireplace	J. Ervin, sr	83, 701
Fireplace and andiron	F. Passy	79, 253
Fire plug	J. H. Rhodes	78, 393
Fire plug	J. P. Cummings	79, 960
Fire pot, Tinners'	C. W. Johnston	81, 644
Fire-proof safe	H. H. Bryant	79, 808
Fire-proof structure	H. H. Bryant	79, 809
Fire shield	J. C. Clark	84, 859
Fish and potatoes, Article of food prepared from	W. D. Cutter	83, 336
Fish, Conveying live	A. J. Smidth	80, 775
Fish, meats, &c., Preserving and freezing	P. Nunan	83, 533
Fish, Preparing, desiccating and preserving	W. D. Cutter	81, 987
Fishing apparatus	J. Koehler	77, 893
Fishing apparatus	J. Stetson	83, 749
Fishing attachment for vessels	T. Bell	76, 387
Fishing-jig	S. Albee	83, 681
Fishing tackle	E. C. Talbot	75, 075
Fishing tackle	L. D. Lothrop	77, 628
Fishing tackle	A. A. Dennett	80, 151
Fistula, &c., Treating	E. F. Garvin	84, 815
Flame aerator	C. L. Browne	77, 799
Flask, Closing vulcanizing	H. M. Edson	79, 816
Flask, Dentists'	G. E. Hayes	73, 974
Flask, Dentists'	G. E. Donham	75, 000
Flask, Dentists'	C. P. Bellows	84, 988
Flask or bottle	W. T. Fry	80, 939
Flask, Vulcanizing, Steam compresser for	G. E. Hayes	73, 326
Flax and hemp fiber for the manufacture of dusters, &c., Preparing.	E. G. Wayman	74, 736
Flax, Breaking	A. S. Miller	78, 811
Flax, Dressing	W. C. McBride	75, 559
Flax, Scutching	A. S. Miller	78, 810
Fleecing cradle	J. K. Alvord	83, 754
Flexible abrader and polishing machine	J. H. Crane	81, 986
Flier for speeders	J. H. Aldrich	83, 436
Flock duster	M. Waterhouse	73, 144
Flocking machine, Feeding apparatus for	H. Turner	73, 676
Floor cleaner	A. Armstrong	75, 236
Floor cloth, leather, cloth, &c., Producing	R. O. Lowrey	77, 993
Floor cloth, Manufacture of	J. H. Williams	79, 712
Floor covering	W. Howell, J. C. Finn and C. A. Duy	82, 119
Floor, Ice house	J. Barbian	72, 960
Floor, Mosaic	G. G. Garibaldi	76, 742
Floors, tiles, and for other purposes, Composition for forming.	J. Neubrand	83, 529
Floors, Waxing	R. B. Walker	77, 784
Flour, &c,, Mixing	J. B. Peterson	79, 386
Flour bolt	W. Craig	73, 167
Flour bolt	E. H. Kellogg	73, 981
Flour bolt	S. A. Smith	75, 307
Flour bolt	J. G. Humes	79, 354
Flour bolt	C. B. Horton	81, 086
Flour bolt	H. N. Shultz	81, 831
Flour dispenser	D. L. Johnson	82, 958
Flour dredge	E. A. Goodes	81, 770
Flour packer	S. Hewit	77, 374
Flour packer	C. Custer	79, 211
Flour safe and sifter	G. W. and C. L. Sherman	74, 157
Flour, Self-raising	W. C. Hughes	74, 826
Flue block	J. Binns	78, 717
Flue brazier, Portable upright	W. Grunert and G. E. Bingham	75, 899
Fluid, Burning	G. W. Flowers, and J. C. and D. W. Happersett.	74, 756
Fluid, Burning, Filtering	J. D. Kirkpatrick	74, 698
Fluid elevator, Rotary	S. P. Ruggles	79, 781
Fluid for exciting galvanic chains	F. T. Bakker	79, 432
Fluid indicator	J. Corduan	76, 166
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Flute	T. Berteling	76, 389
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Fly frame flier	J. S. Streeter	80, 783
Fly net for window	W. C. McGowan and J. Hale	81, 099
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Food for the sick, Article of	A. Meyer-Berck	81,190
Food prepared from fish and potatoes, Article of	W. D. Cutter	83,836
Food warm, Device for keeping	E. Bevan	76,390
Foot-muff	W. M. Marshall	80,753
Foot rest, grate and fire-brick base, Combined	J. H. Keyser	80,971
Foot warmer, nurse lamp and sad-iron heater	E. Small	75,802
Forceps, Dental	S. Woolverton	75,716
Fore-part irons	J. Blease	77,246
Forge, Blacksmiths'	T. S. Clark	85,283
Forge hearth	R. W. Clark	73,502
Forge, Portable	J. B. Bolinger	84,048
Forging apparatus	N. Peterson and G. W. Jones	78,825
Forging apparatus	D. Davies	82,093
Forging machine	W. H. Defrees	78,266
Forging machine	J. Copley, jr	78,862
Fork and hook combined, Manure	C. C. Cole	74,895
Fork and hook, Convertible	L. Riggs	73,390
Fork and knife	C. A. Moore	85,029
Fork and knife handle	C. A. Moore	81,399
Fork and knife holder	J. W. Patten	83,533
Fork and knife scourer	D. S. Marvin	77,632
Fork blank	J. C. Richardson	84,377
Fork blank	J. C. Richardson	85,400
Fork, Carving, and knife sharpener combined	E. S. Scofield	80,226
Fork, Cook	H. Smith	76,835
Fork, Grain and hay hoisting drum	H. Strickler	76,954
Fork, Hand	F. W. Palmer	77,906
Fork, Hay	J. G. Hitchcock	73,009
Fork, Hay	H. F. Bemenderfer and D. H. Fineh	76,980
Fork, Hay	G. M. Robinson	81,541
Fork, Hay	C. S. Ambruster	81,726
Fork, Hay	E. G. Dorchester and U. Scott	84,712
Fork, Hay and manure	A. J. Martin	79,586
Fork, Hay, Horse	C. E. Gladding	73,179
Fork, Hay, Horse	J. H. Walker	73,211
Fork, Hay, Horse	D. W. Amos	73,222
Fork, Hay, Horse	L. Atwater	73,223
Fork, Hay, Horse	I. C. Spear	73,403
Fork, Hay, Horse	H. E. Dewey	73,515
Fork, Hay, Horse	E. Rhodes, sr	73,650
Fork, Hay, Horse	H. A. Estes	74,064
Fork, Hay, Horse	J. R. Lyons	74,103
Fork, Hay, Horse	L. S. Mason	74,106
Fork, Hay, Horse	J. H. Mullin	74,405
Fork, Hay, Horse	D. J. Howenstine	74,538
Fork, Hay, Horse	E. McKenzie	74,565
Fork, Hay, Horse	N. Palmer	74,934
Fork, Hay, Horse	J. E. Lobdell	75,282
Fork, Hay, Horse	G. Kinney	75,430
Fork, Hay, Horse	S. Page	75,452
Fork, Hay, Horse	H. B. Steele	75,481
Fork, Hay, Horse	H. C., and A. Stouffer	75,486
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Fork, Hay, Horse	W. Zimmerman	76,029
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Fork, Hay, Horse	F. M. Willson	76,868
Fork, Hay, Horse	N. Starr, jr	77,120
Fork, Hay, Horse	J. B. Sweetland	77,125
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Fork, Hay, Horse	H. C. Mapes	77,299
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Fork, Hay, Horse	H. D. Palmer	78, 816
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Fork, Hay, Horse	G. W. Bowlsby	80, 442
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Fork, Hay, Horse	A. Smith	80, 839
Fork, Hay, Horse	G. W. Heath	80, 950
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Fork, Hay, Horse	W. D. Brooks	82, 485
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Fork, Hay, Horse	C. A. Howard	83, 063
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Fork, Hay, Horse	W. M. Gillan	83, 705
Fork, Hay, Horse	E. Rhodes, jr	83, 794
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Froth arrester for beer glasses	J. Winkler	84, 242
Fruit and vegetable slicer	E. Holmes	78, 373
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Fruit drier	J. Spear	82, 654
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Fuel and fire kindling	I. Bicknell	72, 964
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Fumigator	R. Kerr	76, 923
Funnel	T. W. Slade	75, 065
Funnel, Air-escape	J. I. Beaumont	79, 799
Funnel and grater	E. A. Goodes	75, 541
Funnel, Measuring	C. Chinnock	82, 087
Fur cuff	E. H. Hart	77, 483
Fur, felt, bristles, &c., Cutting and trimming	C. F. Harlow	79, 468
Fur muffler	G. W. and W. F. Parker	77, 085
Furnace	M. L. Horton	74, 536
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Furnace	W. Duryea and W. Ennis	75, 881
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Furnace, air, Hot	C. F. Whorf	75, 097
Furnace, air, Hot	J. Whitehill	76, 018
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Furnace and condenser for collecting quicksilver	J. C. Coult	77, 592
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Furnace, boiler, Steam	S. P. Bartley	76, 585
Furnace, boiler, Steam	N. L. Carpenter	78, 426
Furnace, boiler, Steam	F. Sulter	79, 514
Furnace, boiler, Steam	S. Smith	81, 222
Furnace, Boiling and puddling	J. I. Williams	77, 790
Furnace, Charcoal	C. W. Briggs	81, 742
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Furnace, Cupola	N. Burdick	78, 924
Furnace, Cupola	J. H. Eddy	80, 537
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Furnace door fastening	P. E. Shear	77, 112
Furnace draught regulator	J. F. Neall and W. Myers	77, 081
Furnace, Feeding fuel to	J. G. McCormick	79, 914
Furnace, Feeding saw dust, &c., to	J. A. McClelland	80, 647
Furnace lining	B. A. Haycock	76, 442
Furnace for boiling and puddling iron and other metals	J. Zimmer	78, 172
Furnace for burning fuel for heating metals, &c	T. J. Leigh	77, 822
Furnace for desulphurizing steel and other wire	A. Cary	84, 534
Furnace for evaporating kettle, Arch of	E. Laass	78, 527
Furnace for generating steam	D. N. Melvin	75, 039
Furnace for heating bolt blanks	A. Alexander	74, 970
Furnace for heating soldering irons	W. Hatch	83, 629
Furnace for melting and refining steel	A. Thoma	85, 410
Furnace for melting glass	L. B. Goodhue	77, 479
Furnace for melting metals	W. Shea and L. D. Harvey	79, 866
Furnace for melting metal, glass, &c	W. P. Prickett	78, 007
Furnace for melting steel, iron, &e	E. R. Playle	82, 160
Furnace for decarbonizing pig iron for the preparation of steel.	A. Thoma	75, 078
Furnace for roasting and chloridizing ores	H. Tindall	83, 122
Furnace for roasting and smelting gold and other ores	J. W. Shaeffer	80, 020
Furnace for roasting and treating ores	R. George	80, 065
Furnace for roasting ores	N. Bartlett	77, 950
Furnace for roasting ores	C. Mellinger	78, 113
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Furnace for smelting lead ores	D. P. Webster	76, 364
Furnace for smelting ores of lead and other metals	R. H. Hall	75, 415
Furnace for smelting ores of gold, silver, &e	E. W. Nohl	81, 671
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Furnace, Heating	N. E. Cornwall	74, 051
Furnace, Heating	J. Watts	76, 000
Furnace, Iron	A. Harnar	77, 730
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Furnace, Puddling	W. Stevenson	73, 665
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Furnace, Puddling	T. J. Jones	74, 374
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Furnace, puddling, Water bosh for	J. Stokes and J. Brough	80, 573
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Furnace, Steam boiler	H. H. Huntley	82, 841
Furnaces, Hot blast apparatus for puddling and other	P., jr., and R. Hoop	83, 382
Furniture drawer and fastening	J. Koch	75, 553
Furniture edge	F. Hutwohl	75, 920
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Fuse, Electric	H. J. Smith	79, 268
Fuse, Manufacturing	T. Richards	81, 291

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Gas, Illuminating	J. J. Ensley	74, 063
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Gas, Lighting	A. Barbarin	81, 735
Gas, Lighting	W. W. Batchelder	83, 593
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Gas machine	D. M. Graham	80, 404
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Gas regulator	S. F. Mathews	78, 305
Gas regulator	H. Giroud	83, 706
Gas retort	M. L. Callender	84, 679
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Gas torch	W. A. Lawton	74, 099
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Gate, Farm	H. A. Henderson	75, 756
Gate, Farm	B. Weirich and J. Smith	77, 142
Gate, Farm	J. Curtis	77, 174
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Gate, Farm	C. Rich	77, 658
Gate, Farm	V. W. Horton	78, 095
Gate, Farm	T. W. Johnson	78, 670
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Gate, Farm	G. W. Blackwell	80, 439
Gate, Farm	H. S. Shisler	81, 017
Gate, Farm	E. Easton	81, 077
Gate, Farm	A. L. Butler	81, 337
Gate, Farm	W. McGuire	81, 521
Gate, Farm	L. F. Tanner	81, 558
Gate, Farm	J. Root	81, 620
Gate, Farm	L. Charles	81, 982
Gate, Farm	C. S. Bonney	82, 075
Gate, Farm	G. Gibbs	82, 393
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Gauge	L. H. Mayott	82, 969
Gauge	E. W. Mathewson	77, 997
Gauge	B. F. Merrill	80, 649
Gauge and rest, Weather-board	I. Williams	80, 691
Gauge and saw set	W. B. Noyes and C. S. Baker	80, 871
Gauge and square combined	T. C. Hendry	74, 356
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Gauge, Carpenters'	W. Brodhead	76, 884
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Gauge, Carpenters'	A. H. Blaisdell	79, 052
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Gauge cock, Boiler	W. G. Thomas	73, 672
Gauge for auger	W. E. Whiting	74, 466
Gauge for circular saws	W. P. Miller	83, 524
Gauge for mortising window sash	W. P. Boyd	84, 407
Gauge for stoneware	A. W. Loomis	83, 515
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Gauge for weather-boarding	I. Williams	80, 692
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Generator, Gas	D. W. Ranke	78, 828
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Generator, Steam, and air heater combined	O. M. Stillman	76, 845
Generator, steam, Combination of a puddling furnace with a	G. W. Hawksly and M. Wild	78, 370
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Girder and beam	J. Montgomery	83, 196
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Glass and mica, Gilding and silvering	W. M. Marshall	80, 754
Glass and "moils," Removing metallic seales from	W. P. Parrott and J. J. Bordman	77, 834
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Glass knob	E. D. Ives	76, 766
Glass light	W. A. Demuth	82, 389
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Glass, Manufacture of	L. Bemelmans and L. De Give	79, 892
Glass, Manufacture of	L. Bemelmans and L. De Give	79, 893
Glass, Medicine	T. G. Boggs	85, 203
Glass plates, &c., Grinding	J. Kendall and A. Hathaway	79, 131
Glass, Polishing	J. Kendall and A. Hathaway	79, 132
Glass pressing machine	G. J. Capewell	79, 635
Glass pressing machine	M. Sweeney	79, 786
Glass, Printing upon	D. B. Wingate	79, 713
Glass, Sheet	S. S. Ferris	83, 841
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Glassware	D. C. Ripley	83, 210
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Globe	G. D. Abbot	80, 891
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Globe, Lantern	W. Westlake	74, 020
Globe, Oil, for steam chest	C. A. Wilson	82, 467
Globe, school, Construction of	E. Weissenborn	84, 398
Glove	R. D. Burr	80, 707
Glove fastener	P. Courvoisier	83, 935
Glove fastening	I. Cole	78, 649
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Glue, Drying	C. Wahl	80, 249
Glue, Drying	C. Wahl	80, 250
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Glue stock, Preparation of	W. Adamson	79, 178
Glue, Treating	A. Dietz	79, 736
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Gold and silver from their ores, Extracting	J. W. Kidwell	83, 582
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Governor	W. Bellis	78, 782
Governor	J. W. Hayes	80, 173
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Governor, Engine	W. S. Henson	83, 060
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Governor, engine, Steam	L. F. Fuller	76,071
Governor, engine, Steam	J. A. Lynch and R. K. Huntoon	82,332
Governor, engine, Steam	J. W. Gray	76,322
Governor, engine, Steam	J. A. Marden	82,729
Governor, engine, Steam	J. H. Springer	80,096
Governor, engine, Steam	J. L. Dickinson	81,072
Governor, engine, Steam	C. G. Cross	80,533
Governor, engine, Steam	J. H. and C. E. Randall	82,874
Governor, engine, Steam	S. Trumbore	84,396
Governor, for steam and other enginery	B. Mackerley	85,113
Governor, Steam	W. L. Collamore	73,578
Governor, Steam	J. Tremper	74,454
Governor, Steam	E. H. Parker	83,655
Governor, steam, Marine	J. B. Cullen	75,868
Grading and ditching machine	F. H. De Tray	73,441
Grading and ditching machine	F. M. Howard and D. W. Avery	77,487
Grading machine	W. C. Bartlit and J. M. Merryman	76,698
Grahamite, called "Viscosine," Preparation from	H. Wurtz	73,862
Grahamite, Compounding printers' ink from	H. Wurtz	74,188
Grahamite, called "Irisene," Preparation from	H. Wurtz	73,861
Grahamite, Preparation of	H. Wurtz	73,860
Grahamite, Refined	H. Wurtz	73,859
Grain and corn, Ventilating and drying	D. A. Dickinson	78,935
Grain and hay cocks, Cover for	E. R. Whitney	84,453
Grain and other products, Transporting and storing	S. F. Shoonmaker	77,768
Grain binder	A. S. Stone	75,215
Grain binder	J. F. Gordon	77,878
Grain binder	J. K. Bull	81,875
Grain binder	J. B. Greenhut	81,891
Grain binder	V. Hayes, C. G. Waldo and H. A. Main	84,693
Grain binder	S. D. Carpenter	85,209
Grain binder	S. D. Carpenter	85,210
Grain cleaner	J. E. Anderson	83,438
Grain cleaner	J. Montgomery	85,325
Grain, Cleaning	T. Hancock and J. H. Leaman	73,803
Grain, Cleaning	M. Eckley	77,468
Grain conveyer	J. M. Rush	73,529
Grain, Dampening	I. Shellabarger	78,838
Grain, Dam pening	I. Shellabarger	81,016
Grain drier	L. S. Chichester	74,893
Drier	J. B. Johnson	75,277
Grain drier	J. De Bary	75,386
Grain drier	H. H. Bingham and J. C. Hunt	75,844
Grain drier	W. Standing	79,699
Grain drier	H. Spendelow and R. Heneage	82,170
Grain drier	C. W. Mills and L. S. Chichester	82,432
Grain drier	D. Bonnell	82,589
Grain drier	L. S. Chichester	83,255
Grain drier	H. Henley and J. J. Reinhart	85,007
Grain, flour, food, &c., Elevating	J. Raney	77,654
Grain, Hulling	A. Hubbell	75,761
Grain measure	E. O. Melvin	73,112
Grain, Measuring and registering	W. H. Pfrimmer	77,521
Grain moistener	L. J. Adams and J. H. Esale	81,861
Grain rake	W. Baldwin	79,720
Grain register	S. Hudson	78,208
Grain regulator	E. W. Hitchings	74,824
Grain scouring apparatus	P. H. Massey	76,486
Grain separator	O. Holmes	73,605
Grain separator	T. H. Mc Culloch	73,736
Grain separator	E. L. Dorsey	75,133
Grain separator	S. Harris	75,417
Grain separator	W. T. Chaffee	75,520
Grain separator	S. E. Oviatt	77,206
Grain separator	J. S. Upton	77,419
Grain separator	S. S. Hurlbut	77,490
Grain separator	E. C. Patterson	79,497
Grain separator	D. S. Yeakel	79,715
Grain separator	L. H. Davis	79,813
Grain separator	E. Lucas	79,993
Grain separator	O. N. Rich	80,666
Grain separator	J. F. Pool	81,288
Grain separator	M. D. Williams	81,448
Grain separator	D. Shannon and W. Spencer	81,951
Grain separator	C. W. Mills and L. S. Chichester	82,431
Grain separator	P. N. and J. Recker	82,989
Grain seperator	D. Hathaway	83,630
Grain separator	S. E. Oviatt	84,705
Grain separator	A. B. Smith	85,141
Grain separator and thrashing machine	L. B. Lathrop	73,348
Grain separator and thrashing machine, Combined	L. P. Teed	78,843

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Grain separators, Riddle for	G. A. Wells	85, 043
Grain separating machine, Thrashing and	J. Miller	84, 367
Grain storer	R. M. Mitchell	82, 339
Grain tester, Pocket	B. Martin	73, 356
Grain thrasher	A. S. Whittemore	74, 650
Grain thrasher and separator	G. W. Greer and F. F. Landis	79, 467
Grain, Thrashing and cleaning	W. B. Emery	77, 471
Grain, Thrashing and cleaning	H. Gill	80, 541
Grain, Tolling	J. Armstrong	82, 193
Grain, Tolling	W. S. Widger and W. M. Read	83, 428
Grain, Treating and storing	C. Alden	83, 753
Grain weighing and registering machine	L. Reynolds	85, 181
Grain weighing and tallying machine	F. S. McWhorter	83, 298
Grain weighing machine	H. and H., jr., Pooley, T. Roberts and L. Luc.	74, 719
Grapes, Harvesting	J. F. Single	78, 241
Grape trellis	A. Scofield	82, 996
Grape vines, Cultivating	G. Perry	74, 416
Grape vines, Training	R. Rowley	85, 244
Grapple for sunken vessels	J. T. Martin	77, 501
Grapple, Timber	M. N. Ward	84, 780
Grappling iron	W. H. Hawley	82, 832
Grate	J. H. Yocum	73, 767
Grate	J. L. Babbitt	75, 830
Grate	E. Bosdevex	79, 195
Grate	P. Murray	85, 470
Grate and ash sifter in cooking stove	D. E. Paris	78, 685
Grate bar	A. C. Fletcher	74, 526
Grate bar	A. C. Fletcher	76, 734
Grate bar	A. Hartupee	77, 038
Grate bar	H. Collinson	77, 458
Grate bar	H. King	78, 292
Grate bar	A. C. Fletcher	79, 743
Grate bar	A. C. Fletcher	81, 155
Grate bar	J. W. Griswold and E. L. Thompson	81, 161
Grate bar	W. S. Mackintosh	82, 965
Grate bar for furnace	W. C. Cambridge	83, 689
Grate bar for furnace	G. H. Clarke	73, 436
Grate, Coal, and stove	C. K. Marshall	79, 845
Grate, Fire	H Speeler	73, 662
Grate, Fire	W. S. Bronson	77, 445
Grate, Fire	J. Vandercar	80, 844
Grate, foot-rest, and fire-brick base, Combined	J. H. Keyser	80, 971
Grate for brick kilns	J. Maltpress	84, 639
Grate for furnaces, Basket	J. J. Heindl	76, 444
Grate for hot-air furnace	E. S. Renwick	81, 109
Grase for stove, range, and heater	R. Whiting and A. Hamilton	80, 689
Grate, Friction	C. S. Rankin	79, 391
Crate, Fruit	W. G. Goodale	81, 153
Grate, Hoisting	G. Stowe	79, 873
Grate of railroad car stove	J. Stone	81, 118
Grate, Stove	G. Chilson	76, 302
Grate, Stove	D. S. Baker	77, 707
Grate, Stove	G. Chilson	79, 312
Grate, Stove	J. H. Yocum	79, 716
Grate, Stove	J. C. Smith	80, 233
Grate, Stove	A. J. Magoon	80, 645
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Grate, Stove	G. D. Woodworth	83, 232
Grate, Stove and furnace	J. W. Griswold	73, 800
Grate, Stove and furnace	B. Gommenginger and C. W. Trotter	80, 280
Grate, stove, Cooking	L. Emmons	73, 705
Grater and funnel	E. A. Goodes	75, 541
Grater and slicer	C. W. Saladee and J. S. Hall	78, 612
Grater, Nutmeg	J. G. Roth	76, 820
Grater, Nutmeg	H. H. Barstow	80, 116
Grater, Nutmeg	E. A. Goodes	80, 347
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Gravel containing gold, &c., Disintegrating	J. B. Cox	80, 606
Grave mound	J. Meley	83, 077
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Gridiron	W. Andrews	75, 107
Gridiron	C. Denn	79, 056
Gridiron	C H. Mock	80, 831
Gridiron	E. B. Phelps	84, 758
Grinder for plane knives	J. Grant	75, 411
Grinding machine	J. L. Otis	83, 405
Grinding machine	J. Flint	85, 081
Grinding tools	D. W. Ayres	79, 049
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Grommet	I. W. Norcross	84, 900
Grooving machine	W. H. Bond and G. G. Lee	83, 128
Grubbing machine	C. E. Chase and B. F. Devendorff	85, 069
Grubbing machine, Capstan for	B. B. Newell	79, 380
Guano, &c., Distributing	J. F. Thomas	74, 448
Guano distributer	N. Foster	76, 621
Guard, Safety door key	W. K. Marvin	77, 633
Guide for band saw	J. Lemman	78, 880
Guide for band saw	W. P. Welch	78, 905
Gum, Artificial, for coating and water proofing	R. O. Lowrey	80, 641
Gum scrubber, Holder for	L. Fleckenstine	72, 993
Gun barrels to stocks, Attaching	N. R. Davis	81, 348
Gun, Blast	C. Kirchhof	76, 925
Gun carriage	C. S. Tyson	78, 030
Gun carriage	A. Moncrieff	83, 873
Gun lock	J. F. and W. N. Crabtree	75, 248
Gun lock	S. Belden and J. F. Crabtree	76, 587
Gun lock	M. Tromly	84, 233
Gun lock	J. Stokes	84, 314
Gun, Magazine	W. R. Evans	84, 685
Gun, Self-loading battery	T. J. Cranmer	74, 994
Gun, Toy	R. Frisbie	73, 966
Gunpowder	L. H. G. Ehrhardt	73, 786
Gunpowder	W. H. Jackson	79, 229
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Gutta-percha, rubber, &c., Articles of	J. B. Newbrough and E, Fagan	73, 916
Gutter in foot pavement	J. Read	83, 663
Gutters, sheet metal, Forming tubular beads on	O. W. Stow	75, 487
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Hair cloth	J. Noblit	73, 920
Hair, Coloring	J. C. Ayer and E. Haeffely	73, 865
Hair, Composition for dressing	J. C. Tilton	82, 660
Hair crimper	S. F. Conant	76, 401
Hair crimper	G. W. Wood	76, 683
Hair dressing compound	F. Stearns	75, 806
Hair dye and dressing compound	G. F. Peckham	77, 911
Hair, Dying	W. Patton	82, 982
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Hair of animals, Clipping	A. D. Renshaw	77, 093
Hair picker	F. Calvert	76, 158
Hair, Picking	E. Hoffstaetter	76, 451
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Hair restorative	E. J. Balcear	83, 820
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Halter	W. Garrison and C. H. Stevens	73, 711
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Hame	D. M. Nixon	77, 645
Hame	T. G. Brooks	81, 469
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Hame fastener	W. A. Robinson	73, 651
Hame fastener	A. Sweetland	75, 074
Hame fastener	E. A. Cooper	75, 864
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Hame fastener	J. Harding	79, 223
Hame fastener	A. B. and S. A. Woodard	79, 930
Hame fastener	J. Koch and D. Seachrist	81, 650
Hame fastener	R. R. McDonald	82, 142
Hame fastener	W. H. Payne	83, 087
Hame fastener	T. Skelton	85, 250
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Hame fastening	C. Morgan	83, 987
Hame fastening	W. S. Thompson and R. V. Love	82, 045
Hame for harness	D. Clemons	83, 041
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Hammer	H. H. W. Wright	75, 615
Hammer	J. H. Godwin	79, 066
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Hammer, Drop	J. Wool	77,155
Hammer, hatchet and scraper	A. Barbarin	83,021
Hammer, Piano	C. W. Brewer	81,872
Hammer, Power	A. Strube	75,808
Hammer, Power	T. Shaw	84,221
Hammer, Shoemakers'	J. Vigeant	73,141
Hammer, Steam	D. Joy	80,550
Hammer, Steam, Valve gear for	F. B. Miles	80,082
Hammer, Trip	C. Vogel	74,868
Hams, Beef, &c., Curing	O. M. Martin	84,893
Handle for dental and surgical instruments	H. T. Fogg	81,616
Handle for metal tea and coffee pots	W. Bellamy	73,567
Handle for pocket cutlery	S. Barnes	74,279
Handle for smoothing irons	R. W. Towle	77,681
Handle for tea and coffee pot	H. Bullard	79,726
Handle, Hammer	D. Weiser	78,164
Handle, Metallic	J. Hatton	73,804
Handle, Polishing wooden	E. Quinlan	80,564
Handle, Surface file	J. Weare	79,709
Handle to axes, picks, &c., Fastening	J. Stewart	81,308
Handle to tool, Attaching	G. Raymond	80,565
Hand spinning machine	J. L. Johnson and J. W. Foust	83,970
Harness	J. J. Smokey	74,623
Harness	A. Harroun, jr	75,632
Harness	W. S. Wood	76,369
Harness	R. O'Brien	76,507
Harness	G. M. Zell	76,874
Harness	A. McMullen and J. H. Rock	77,508
Harness	J. K. Harris	78,282
Harness	W. A. Jordan	81,788
Harness and saddle	R. M. La Rue	75,930
Harness, Attaching rosettes to	W. L. Denio	82,927
Harness attachment	W. W. Beebee	73,286
Harness, Back pad to	J. Umbach	80,433
Harness, Breast yoke for double	A. F. Hammel	82,830
Harness, Carriage	E. Wilder	73,149
Harness, Cart	P. K. Curll	73,236
Harness, Check hook for	C. H. Bassett	84,080
Harness, Elastic draft attachment for single and double.	J. Barron	82,072
Harness for breaking horses	T. Hammond	76,626
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Harness or vehicle, Breaking the surge on	F. P. Hart	85,307
Harness loop	G. W. Roland	77,918
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Harness pad	J. Maclure	74,399
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Harness pad tree	J. W. Hinman	74,823
Harness pad press	G. W. Lawbaugh	74,921
Harness pad press	G. W. Lawbaugh	85,013
Harness ring	W. Yates	79,797
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Harness saddle	G. H. Buckius	81,336
Harness saddle tree	J. F. Knorr	82,961
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Harness, Securing buckle and ring to	R. B. Anderson	79,180
Harness, Slide snap for	J. and D. C. Kerr	78,807
Harness, Single	J. S. Reid	73,835
Harness, Single	O. V. Flora	79,745
Harness snap	E. A. Cooper	79,107
Harness trace	R. J. Steele, jr	75,593
Harness tree	J. H. Whissemore	81,041
Harness tree pad	W. A. Sharp and J. A. Shannon	84,071
Harness trimming	T. J. Magruder	74,491
Harness trimming	M. A. Fisk	75,257
Harrow	J. Mercier	73,024
Harrow	J. N. and T. Wallis	73,061
Harrow	N. B. Miller	73,626
Harrow	E. Forney	73,792
Harrow	M. Boshenz	74,194
Harrow	M. W. Gunn	74,348
Harrow	C. E. Steller	74,626
Harrow	D. L. Dickson	74,673
Harrow	J. Ruhl	75,202
Harrow	I. Crum	75,867
Harrow	J. Rankin	77,091
Harrow	F. R. Willson	79,042

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Harrow	J. J. Thomas	82, 451
Harrow	A. J. Craig	82, 923
Harrow	W. H. Barry	83, 238
Harrow	W. F. Osborn	83, 878
Harrow	H. M. Hiekman and B. G. Devoe	83, 962
Harrow	M. Atwood	84, 339
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Harrow	C. Hanson	84, 547
Harrow	O. W. Edmonds	84, 807
Harrow	B. T. Martin	84, 956
Harrow, Adjustable	J. C. Center	77, 354
Harrow and cultivator	S. Conrad	76, 578
Harrow and cultivator	A. S. White	82, 573
Harrow and cultivator, Combined	C. Rich and O. L. Neilsen	73, 547
Harrow and cultivator, Combined	N. W. Wheeler	82, 775
Harrow and cultivator, Combined	D. M. Harkrader	82, 942
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Harrow and plow, Combined	J. Harsha	73, 002
Harrow and plow, Combined	P. Wonsey	74, 024
Harrow and plow, Combined	J. Haessel	83, 154
Harrow and roller	J. Ginther	82, 512
Harrow and roller, Revolving	E. K. Harvey	78, 283
Harrow and seed sower	A. Walker	80, 522
Harrow and seed sower, Combined	C. Curtis	82, 387
Harrow and seed sower, Combined	A. Hallam	85, 443
Harrow and stone remover combined	E. Babcock	74, 035
Harrow, cultivator and planter combined	J. G. S. Garwood	73, 593
Harrow, drill, planter, and roller, Combined	D. B. Platt	78, 998
Harrow, Field and seed sower, Combined	D. Wilber	74, 651
Harrow, Flexible	C. D. Blinn	77, 574
Harrow, Revolving	B. Lyon	82, 623
Harrow, Revolving	W. R. Toby and M. J. Barealo	84, 656
Harrow, Riding attachment to	A. D. Shaver	79, 604
Harrow, roller and crusher, Combined	J. Simpson	81, 386
Harrow, Sulky	B. Randall	76, 657
Harrow, Sulky	E. W. Hewitt	84, 879
Harrow teeth	A. Jones	77, 737
Harrow teeth	A. Patterson	83, 656
Harrow teeth	P. V. Hixon	82, 835
Harvester	S. B. Haines	72, 999
Harvester	D. S. Fisher	73, 314
Harvester	W. F. Goodwin	73, 424
Harvester	W. D. Carpenter	73, 501
Harvester	H. W. Pell	73, 641
Harvester	H. W. Pell	73, 642
Harvester	E. Emmert	73, 788
Harvester	F. Nishwitz	73, 826
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Harvester	C. Moul	73, 914
Harvester	J. W. Thompson	74, 016
Harvester	S. O. Bartow	74, 036
Harvester	B. G. H. Hathaway	74, 085
Harvester	R. Dutton	74, 208
Harvester	R. Dutton	74, 209
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Harvester	A. B. Graham	74, 342
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Harvester	W. Rose	74, 600
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Harvester	B. G. H. Hathaway	74, 685
Harvester	E. E. Lewis	74, 835
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Harvester	W. H. Stevenson	75, 070
Harvester	A. Whiteley	75, 229
Harvester	J. S. Davis	75, 383
Harvester	E. W. Fairman	75, 401
Harvester	C. G. Miller	75, 444
Harvester	L. Wallace	75, 606
Harvester	E. W. Merrill	75, 640
Harvester	W. F. Goodwin and A. M. Smith	75, 677
Harvester	I. Lancaster	75, 773
Harvester	I. Lancaster	75, 774
Harvester	C. Russell and W. K. Miller	75, 797
Harvester	D. H. Thayer	76, 001
Harvester	A. Shebanck	76, 255
Harvester	A. B. Graham	76, 436
Harvester	S. Rex	76, 522
Harvester	C. Wheeler, jr	76, 571
Harvester	G. G. Lyman	77, 058

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Harvester	C. Wheeler, jr	77,145
Harvester	C. Wheeler, jr	77,146
Harvester	J. Ramsey	77,524
Harvester	A. Rank	77,525
Harvester	A. Rank	77,526
Harvester	W. N. Whiteley	77,691
Harvester	C. Cadwell	77,714
Harvester	E. J. Leyburn	77,897
Harvester	E. A. and H. G. Smith	78,144
Harvester	S. Rockafellow	78,236
Harvester	G. Weiland	78,245
Harvester	G. Rector	78,482
Harvester	L. D. Snook	78,490
Harvester	G. W. N. Yost	78,708
Harvester	G. W. N. Yost	78,709
Harvester	G. W. N. Yost	78,710
Harvester	W. F. Goodwin	78,800
Harvester	F. Welch	78,904
Harvester	D. Babcock	79,300
Harvester	C. Denton	79,452
Harvester	A. Rank	79,500
Harvester	C. R. and J. O. Taber	79,518
Harvester	J. F. Coddington	79,551
Harvester	S. Johnston	79,575
Harvester	J. J. Duchesne	79,740
Harvester	W. Sprague	79,871
Harvester	W. N. Whiteley	81,046
Harvester	O. Bonney, jr	80,124
Harvester	A. B. Barnard, S. R. Nye and R. L. Hewett.	81,129
Harvester	H. E. Fowler	81,158
Harvester	W. O. Harrison	80,170
Harvester	I. S. and H. R. Russell	81,215
Harvester	E. W. Skinner	81,221
Harvester	G. W. N. Yost	81,241
Harvester	W. N. Whiteley	80,258
Harvester	H. K. Burnett	80,272
Harvester	A. Smith	81,423
Harvester	J. Harris	80,479
Harvester	G. W. N. Yost	81,569
Harvester	K. H. C. Preston	81,686
Harvester	C. W. and B. F. Witt	80,694
Harvester	T. S. Brown	81,472
Harvester	A. B. Smith	81,832
Harvester	E. G. Passmore, jr	82,156
Harvester	T. C. Sebring	82,253
Harvester	M. G. Hubbard	82,412
Harvester	M. G. Hubbard	82,413
Harvester	M. G. Hubbard	82,414
Harvester	M. G. Hubbard	82,415
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Harvester	G. W. N. Yost	82,782
Harvester	L. B. Stilson	82,890
Harvester	A. Rank and J. H. Cox	82,987
Harvester	H. Howe	83,164
Harvester	I. H. Palmer	83,304
Harvester	L. J. McCormick, W. R. Baker and L. Erpelding.	83,520
Harvester	J. Toay	83,568
Harvester	M. J. Wine	83,578
Harvester	M. Hallenbeek	83,627
Harvester	J. F. Earl	83,839
Harvester	J. M. Knepley	83,975
Harvester	J. Seibel	84,006
Harvester	A. G. Donnelly	84,051
Harvester	C. Wheeler, jr	84,151
Harvester	J. Blue	84,340
Harvester	W. N. Whiteley	84,399
Harvester	L. Miller	84,432
Harvester	S. K. Lighter and J. Curtis	84,887
Harvester	G. W. N. Yost	84,927
Harvester	W. N. Whiteley	85,045
Harvester	G. W. N. Yost	85,159
Harvester	J. A. Dodge	85,168
Harvester	G. W. Stewart	85,254
Harvester	G. E. Burt	85,274
Harvester	G. E. Burt	85,275
Harvester	G. W. N. Yost	85,349
Harvester, Clover	S. L. Stockstill and W. H. H. Searff	74,861
Harvester, Clover	P. Dismukes	84,416
Harvester, Corn	J. Mains	74,104

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Harvester, Corn	E. Boswell	75, 119
Harvester, Corn	G. Meader	77, 394
Harvester, Corn	P. C. Yost	77, 562
Harvester, Corn	D. Sarver and R. Coons	77, 660
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Harvester, Corn	S. Patton	81, 202
Harvester, Corn	N. Newman	82, 148
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Harvester dropper	G. R. Clements	83, 040
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Harvester, Dropping platform for	A. H. Shreffler	83, 735
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Harvester, Dropping platform for	J. Miller	84, 368
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Harvester finger bar	R. Dutton	78, 197
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Harvester Gearing for	M. G. Hubbard	82, 411
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Harvester guard finger	L. Miller	84, 433
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Harvester, Pitman connection for	C. Wheeler, jr	74, 463
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Harvester reel	G. W. N. Yost	78, 711
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Harvester reel and rake	W. N. Whiteley	82, 050
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Harvester track clearer	N. Stonecipher	79, 609
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Hasp for trunk locks	L. Uitting	83, 570
Hasp for trunk locks	N. P. Ryder	83, 883
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Hat, Blocking	W. C. Griswold, A. Pelisse, and A. H. Hook.	81, 364
Hat, Blocking and stretching	G. A. Manderville and W. E. Pine	73, 541
Hat, Blocking and stretching	G. H. Hawkins	80, 733
Hat blocking machine	W. C. Griswold	72, 998
Hat blocking machine	J. Eberhardt	79, 059
Hat bodies, Felted	R. Johnson	73, 812
Hat bodies, Fulling	A. Cattaneo	75, 122
Hat bodies, Fulling and felting	W. M. Storm and G. H. Ennis	83, 743
Hat bodies, Printing	A. Barnes	76, 696
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Hat bodies, Stretching	P. Keffer	75, 684
Hat bodies with fur, Facing wool	R. D. Hine	78, 090
Hat, brim of, Cutting and shaping	F. R. Going	75, 897
Hat brim, Pattern for trimming	C. M. Hawes	80, 732
Hat, Combined sweat band fastener and size mark for	T. A. Lawrence and J. H. Murfey	75, 685
Hat conformator	B. Hogan	75, 760
Hat conformator	E. Z. Webster	85, 041
Hat, Felting	M. D. Whipple	84, 599
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Hat ironing machine	G. W. Stout and J. C. Richardson	84, 915
Hat, Pressing	S. Howard	80, 181
Hat, Pressing	J. C. Richardson	73, 044
Hat, Pressing	W. E. George	79, 338
Hat, Stretching and blocking	S. Polley	82, 748
Hat, Sweat for	G. W. Thompson	82, 364
Hats, Ventilating	T. R. Johnson	80, 963
Hatch, Safety	G. N. Creamer	78, 265
Hatchet, hammer and scraper	A. Barbarin	83, 021
Hatchway	J. D. Sinclair	84, 387
Hay and grain cocks, Cover for	E. R. Whitney	84, 453
Hay and straw cutting machine	C. Brown	78, 181
Hay carrier	H. C. Stauffer	84, 591
Hay elevating apparatus	J. F. Nugent	76, 506
Hay elevator	H. G. Porter	75, 193
Hay hoisting drum and grain fork	H. Striekler	76, 954
Hay loader	E. N. Curtiee	74, 055
Hay loader	H. Hull	74, 226
Hay loader	A. Barker	78, 566
Hay loader	A. W. Lozier	79, 135
Hay loader	N. B. Douglas	79, 327
Hay loader	F. M. Reynolds	80, 222
Hay loader	A. W. Lozier	84, 560
Hay loader	N. L. Hatch	85, 092
Hay raker and loader	W. T. Nichols	73, 747
Hay raker and loader	L. Clarke	74, 307
Hay raker and loader	M. B. Fuller	74, 814
Hay raker and loader	J. Harper	75, 416
Hay raker and loader	W. T. Nichols	75, 450
Hay raker and loader	J. S. Coffman and M. Graybill	75, 528
Hay raker and loader	A. J. Preston	75, 790
Hay raker and loader	O. Luce	76, 215
Hay raker and loader	G. B. Garlinghouse and J. C. Moore	76, 743
Hay raker and loader	J. M. Boorman	77, 247
Hay raker and loader	S. K. Morse	77, 641
Hay raker and loader	M. A. Dilley	77, 721
Hay raker and loader	S. R. Higgins	77, 817
Hay raker and loader	J. Ruhl and E. S. Herrington	78, 136
Hay raker and loader	J. Adams	78, 912
Hay raker and loader	W. H. Hiteshew	82, 316
Hay raker and loader	L. Underwood	82, 770
Hay spreader	G. G. Knowles	77, 739
Hay spreader	D. Kennedy	80, 412
Hay spreader	A. H. Caryl	80, 806
Hay spreader	N. Chapman	82, 382
Hay spreader	J. M. Burdick	84, 087
Hay spreader	G. E. Burt and E. A. Hildreth	84, 257
Hay spreader	W. H. Butterworth	84, 409
Hay spreader	A. B. Barnard	84, 725
Hay spreader	T. C. Craven	84, 800
Hay spreader and cocker combined	R. T. Gill	76, 073
Hay spreader and horse rake combined	F. E. Nearing	73, 192
Hay spreader, Teeth for	G. A. Squier	76, 952
Hay stacker	W. T. Nichols	73, 748
Hay, straw, and vegetables, Cutting	R. I. Burbank	85, 067
Hay, Unloading	J. Backus	83, 018
Hay, Unloading	G. Van Sickle	82, 570
Hay, Unloading	G. Smith	83, 667
Hay, upon wagons, Binding	J. W. Hodges	81, 783
Head and shoulder rest	A. V. W. Van Veehten	78, 702
Head block	T. L. Clark	75, 371
Head block	E. H. Stearns	81, 837
Head block	A. A. Adams	82, 269
Head block	W. A. L. Kirk	82, 328
Head block	C. R. Bushnell	83, 830
Head block	A. C. Martin and W. Ritchie	83, 982
Head block	J. F. Cook	84, 937
Head rest	H. C. Hunt	77, 043
Head rest	M. Warne	83, 227
Head rest for car seat, Portable	R. W. Heywood	76, 446
Head rest for seats	J. R. Chiles	73, 782
Heater, Air, and steam generator combined	O. M. Stillman	76, 845

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Heater and filter, Feed water	J. Armstrong	81,971
Heater, Car	A. H. Lighthall and C. F. North	75,172
Heater, car, Railroad	W. C. Baker	75,345
Heater, car, Railroad	A. C. Miner	78,990
Heater, car, Railroad	J. Rice	80,505
Heater, car, Railroad	I. R. Amsden	81,322
Heater, car, Railroad	W. S. McNeil and O. S. Cadwell, jr	81,392
Heater, car, Railroad	H. M. Britton	81,873
Heater, car, Railroad	W. B. Farwell	82,210
Heater, car, Railroad	I. Dripps	82,810
Heater, car, Railroad	J. C. Eckert	83,142
Heater, car, Railroad	A. Davidson	84,735
Heater, Feed water	G. I. Washburn	74,959
Heater, Feed water	T. Shipton	78,140
Heater, Feed water	S. Stueky	80,516
Heater, Feed water	L. B. Powelson	83,543
Heater, Feed water, for steam generator	G. Candee	77,454
Heater, Fireplace	J. M. Thatcher	85,255
Heater, Flat-iron	S. W. Smith	75,995
Heater for fire engine	P. M. Kafer and J. M. De Lacy	73,015
Heater for steam generator, Feed water	D. F. McKim	85,116
Heater, Gas	S. Darling	73,957
Heater, Gas	D. Kellogg	75,429
Heater, Gas	J. S. Hull	76,195
Heater, Gas	P. Sehreyer	76,828
Heater, Gas	S. T. McDougall	77,635
Heater, Gas	C. Burnham	78,053
Heater, Gas	O. C. Fox	78,951
Heater, Gas	W. Jones	79,230
Heater, Gas	H. Y. Lazear	79,989
Heater, Gas	D. H. Lowe	84,889
Heater, Gas	J. T. Greenwood	81,892
Heater, Gas and other	J. Q. Birkey	75,516
Heater, Hot air furnace for	J. B. Driscole	82,811
Heater, Hot water	G. H. Sellers	83,553
Heater of steam generators, Feed water	H. N. Waters	74,735
Heater, Portable service	W. H. Seanlan	85,136
Heater, Sad-iron	S. M. Johnson	81,377
Heater, Sad-iron	D. H. Lowe	84,429
Heater, Sad-iron, nurse lamp, and foot warmer	E. Small	75,802
Heater, Steam	W. Simpson and W. Howitt	76,534
Heater, Steam	P. F. Kessler and J. Carlisle	78,377
Heater, Steam	J. Davis	80,396
Heater, Steam	G. M. Woodward	83,351
Heater, Steam	F. W. Sehultz and J. A. Wilson	83,885
Heater, Steam	P. D. Wesson	84,977
Heater, Steam	J. Johnson	85,176
Heater, Steam	J. Johnson	85,177
Heater, Steam, for brewers and others	T. Williams and J. J. Yates	74,469
Heater, Tubular air	B. R. Hawley	81,781
Heater, Water	H. Sabin	83,796
Heater, Water, for steam generator	J. W. Sutton	81,840
Heater, Water, for baths, tubs, &c	W. H. Thomas	74,630
Heater, water, Steam engine	W. A. Jones and J. L. Sherman	84,425
Heating and ventilating apparatus, Car	S. W. Francis	77,270
Heating apparatus	J. Johnson	76,329
Heating apparatus	J. R. Jenness	82,322
Heating apparatus for railroad car	T. Smith and J. O. Reilley	82,885
Heating apparatus for railroad ear	E. Spencer	84,969
Heating apparatus, Steam	C. C. Hall	79,826
Heating apparatus, Steam	J. Chambers	74,045
Heating apparatus, Water	J. C. Ryan	83,552
Heating device for chairs, &c	C. S. Hunt	78,742
Heating purposes, Metallic base and moulding for	C. E. Finkle	77,022
Heat, Non-conduetor of	J. Chalmers	80,709
Heat, Obtaining	J. Johnson	76,463
Heat radiator	S. B. Sill	73,842
Heat radiator	W. B. Choate	84,089
Heddles, Wire	E. T. Hertle and R. Thompson	79,905
Hedge plants and weeds, Extracting	J. L. Kniek	77,385
Hedge trimmer	T. C. Mathews	79,372
Heel, Boot and shoe	J. W. Tull and G. Stevenson	82,662
Heel easing	J. R. Moffitt	76,794
Heel calk	G. F. Clemons	77,960
Heel-cutting machine	R. C. Lambert	76,207
Heel pattern, Metallic	J. Brobst	80,904
Heel protector	A. H. Southwick	76,262
Heel seats, Cutting	A. B. Keith	78,211
Heel trimmer	C. H. Helms	80,953
Heliometer	C. F. L. Risch	77,324
Heliometer	C. F. L. Risch	78,133
Hemmer	E. P. Davis	76,720

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Hemp breaking machine	J. S. Hoskins	77, 815
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Hide, raw, Gauge frame for splitting	J. Hoffman	78, 092
Hides and furs, Dressing	C. I. Weston	76, 015
Hides and leather, Softening	J. Tidd	73, 408
Hides and skins, Compound for treating	L. F. Robertson	77, 099
Hides and skins, Tanning	F. J. Burcham	78, 256
Hides, Beaming	P. Lennox, H. H. Robbins, and E. Hayes.	78, 380
Hides, Beaming	P. Lennox	80, 829
Hides, Composition for depilating	P. G. Schlosser	78, 543
Hides from animals, Removing	P. Lull	76, 642
Hides, Handling	J. Hammond	80, 947
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Hides, Unhairing	E. Brock and J. Schultz	81, 247
Hinge	R. Reiber	73, 120
Hinge	S. A. Chapman	73, 297
Hinge	J. Sowle	73, 661
Hinge	J. Adt	76, 034
Hinge	E. Lindsley	80, 639
Hinge	T. D. McCall and S. Bushnell	81, 805
Hinge	W. Shannon	84, 771
Hinge	W. Shannon	84, 772
Hinge and fastener combined	L. Felker	83, 369
Hinge, Blind	C. B. Clark	75, 862
Hinge, Blind	R. B. Prindle	82, 245
Hinge, Blind	C. B. Clark	82, 920
Hinge, Blind	M. Adler	83, 585
Hinge, Blind	C. B. Clark	83, 603
Hinge, Blind	W. McKee and C. H. Jordan	83, 869
Hinge, Butt	M. A. Avery	74, 788
Hinge, Butt	W. H. Van Gieson and J. J. Crooke	75, 320
Hinge, Butt	H. D. Blake	75, 724
Hinge, Butt	H. Hockemeyer	82, 717
Hinge, Butt	B. C. Pole	83, 659
Hinge, Butt	J. H. Carkeet	83, 760
Hinge, Butt	G. A. Jenks	84, 630
Hinge, Butt	J. W. Jordan	85, 310
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Hinge butts, Finishing loose	E. Luther, P. Lyon, and W. Edwards	85, 112
Hinge, Compound safe-door	P. J. Stuhltrager	82, 658
Hinge, Door	C. Dupré	73, 174
Hinge, Door	G. Lane	74, 384
Hinge, Door	A. W. Walter	83, 572
Hinge, Double acting	G. Dumbolton	76, 422
Hinge, Double acting	J. H. Carkeet	79, 950
Hinge for sheet metal box	C. J. Hauck	75, 903
Hinge for sleeping-car berths	J. I. Fogg	76, 620
Hinge, Gate	P. Dennis	74, 805
Hinge, Gate and door	D. S. Esten	76, 727
Hinge hooks, Manufacture of	C. Kaulbeck	73, 533
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Hinges, Riveting	H. M. Ritter	84, 907
Hinges, Riveting	H. D. Blake	75, 663
Hinge, Self-locking shutter	E. H. Benjamin	79, 051
Hinge, Trunk	O. Luce	83, 647
Hod, Coal	F. G. and W. F. Niedringhaus	83, 301
Hod, Coal, and ash screen combined	T. J. Thurston	81, 037
Hoe	W. T. Clement	73, 437
Hoe	G. H. Owens	77, 083
Hoe	I. N. Wood	78, 561
Hoe	C. W. Saladee and J. S. Hall	78, 611
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Hoe	J. L. Fountain	79, 462
Hoe	C. P. Howell	85, 384
Hoe	T. Drake	73, 702
Hoe, Adjustable	H. P. Eckler	78, 442
Hoe and cultivator combined	R. H. Gordon, sr	73, 525
Hoe and garden rake combined	H. Thacker	84, 231
Hoe and rake combined	H. Waters	74, 960
Hoe blank	S. A. Millard	80, 083
Hoe blank, Rolling	A. Burchard	74, 984
Hoe, Double	L. Streeter	81, 839
Hoe, Garden	M. H. Fletcher	83, 771
Hoe, garden, Compound adjustable	E. W. Walton	78, 774
Hoe, Horse	D. C. Matteson and T. P. Williamson	83, 719
Hoe, Horse	A. Kirkpatrick	79, 133
Hoe, Implement for shielding plants from	L. T. Richardson	78, 326
Hoes, Manufacture of	T. J. Mason	84, 957
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Hoe, and potato planter and digger combined	F. B. Marden	73, 618
Hoe, Rolling	S. A. Millard	74, 570
Hoe, Scuffle, and garden trimmer	I. Pardee	76, 288
Hoe seed dropper	T. Nevison, jr	76, 235
Hoe, Seeding attachment to	E. L. Bergstresser	75, 843
Hoe, Weeding	A. Coleman	77, 258
Hoe, Weeding	L. King	83, 290
Hoe, Weeding	A. E. Lyman	83, 866
Hoe, Wheel	E. D. and O. B. Reynolds	75, 460
Hoeing machine	H. C. Briggs	84, 165
Hogs from rooting, Preventing	L. L. Rinehart and P. Phillips	74, 002
Hogs from rooting, Preventing	G. and W. L. Nixon	74, 582
Hogs from rooting, Preventing	J. D. Kirkpatrick	77, 891
Hogs, Slaughtering	J. J. Fouts	77, 368
Hog-snout slitter	J. J. Gish	75, 148
Hoisting and dumping apparatus	W. B. Culver	84, 939
Hoisting apparatus	C. R. Otis	76, 240
Hoisting apparatus	J. Sanderson	78, 138
Hoisting apparatus	J. V. and W. H. Merriek	78, 675
Hoisting apparatus	J. Christiansen	78, 927
Hoisting apparatus	D. Head	79, 071
Hoisting apparatus	J. E. Marshall and J. W. Schroeder	79, 138
Hoisting apparatus	E. U. and W. L. Seoville	80, 569
Hoisting apparatus	W. W. Crapster	81, 256
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Hoisting apparatus	C. R. and N. P. Otis	83, 725
Hoisting apparatus for builders	L. Atwood	85, 419
Hoisting gear	W. O. Jones	80, 968
Hoisting machine	G. R. Clarke	78, 645
Hoisting machine	H. J. Reedy	78, 829
Hoisting machine	H. T. Goodling	80, 067
Hoisting machine	J. Kennedy	84, 496
Hoisting machine	G. H. Reynolds	81, 289
Hoisting machine	W. C. Williamson	85, 415
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Holdback	R. Moody	83, 400
Holder, Blacking box	C. R. Bacon and G. D. Clark	74, 276
Holder, Door and package	J. K. McDonald	76, 224
Holder, Limb and basket	W. Richardson	76, 248
Hollow ware, Casting	J. Ziegler	83, 751
Hone, Boxed	J. Potter and O. Abell	73, 383
Hoof expander	J. Tipton	73, 765
Hook	J. B. Sweetland	79, 159
Hook and eye	W. Law	73, 817
Hook and eye to cord, Securing	J. D. Franklin	74, 072
Hook and fork combined, Manure	C. C. Cole	74, 895
Hook and fork, Convertible	L. Riggs	73, 390
Hook, Back band	C. Wack	80, 373
Hook, Belt	F. J. Jones	76, 082
Hook, Belt	E. F. Sherman	80, 227
Hook, Belt	C. G. Sargent	84, 968
Hook, Bench, for carpenters' benches	C. H. Weston	74, 182
Hook, Bench, for carpenters' benches	S. Swan	78, 620
Hook, blank, Cutting and forming blind	G. Orr	77, 905
Hook, Cant	E. Broad	73, 075
Hook, Cant	G. W. Herring	75, 162
Hook, Cant	J. McDonald	81, 098
Hook, Cant, and lifting jack	D. Fasig	83, 947
Hook, Check	A. Bedford	83, 594
Hook, cheek, and terret, Fastening for	A. L. Hill	83, 157
Hook, Check rein	F. U. Stokes	73, 406
Hook, Check rein	J. S. Campbell	73, 777
Hook, Clasp	D. Hayes	79, 347
Hook, Clothes line	E. H. Gray	77, 605
Hook, Fish	R. A. Fish	77, 365
Hook, Fish	J. B. Christain	79, 446
Hook for carpenter's bench	S. Swan	78, 620
Hook for hoisting apparatus, Rafter	D. Hicks and S. Doty	77, 375
Hook, Grappling	E. J. Riker	84, 510
Hook, harness, Safety	J. L. Dickinson	73, 958
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Hook, Hat	C. L. Spencer	83, 562
Hook, Holdback	N. W. Robinson	74, 143
Hook, hoof, Joining and fitting	F. Stanley	82, 172
Hook, Hop	E. and E. C. Denio	80, 277
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Hook, Painters'	J. W. Pattee	79, 853
Hook, pile, Revolving	J. D. Leach and S. Hutchings	84, 886
Hook, Pruning	J. Stark	79, 700
Hook, Pruning	B. M. Parks	82, 868
Hook, Safety	E. F. Brundage	74, 043

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Hook, Self-adjusting	W. Bisbee and F. G. Hearn	83, 906
Hook, Self-guarding	H. Fisher	85, 169
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Hook, Snap	J. McKibben	74, 111
Hook, Snap	I. C. Richmond	74, 426
Hook, Snap	J. C. Covert	74, 897
Hook, Snap	W. Cooper, jr., and W. D. Rumsey	79, 638
Hook, Snap	W. H. Bouser	79, 944
Hook, Snap	W. E. Sparks	81, 026
Hook, Snap	L. A. Sanford	82, 644
Hook, Snap	E. A. Cooper	83, 134
Hook, snap, Lock	W. F. Arnold	78, 175
Hook, staple, &c., Pointing	W. Malick	84, 562
Hook, Tanners'	J. Hoffman	80, 350
Hook, Trace	G. L. Miller	77, 515
Hook, Watch chain	C. Faas	81, 354
Hook, Whiffletree	D. D. Robinson	73, 047
Hook, Whiffletree	W. H. Hawley	74, 222
Hook, Whiffletree	W. H. Hawley	74, 223
Hook, Whiffletree	C. A. Babcock	76, 377
Hook, Whiffletree	F. W. Beckwith	76, 978
Hook, Whiffletree	J. Wood	82, 469
Hook, Wire	R. S. Willard	85, 498
Hoop, barrel, Cutting	J. Dobbins	80, 154
Hoop, barrel, Dressing	J. T. Forsyth	32, 613
Hoop, Cheese	S. Purdy	76, 345
Hoop, Cheese	L. Chapin	78, 643
Hoop, Cheese	H. M. Viets	79, 164
Hoop, Cheese	A. F. Bent	85, 201
Hoop, Driving	T. Lucey	82, 425
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Hoop, Mast	W. McKay	85, 234
Hoop, Sawing	A. Lutz	73, 615
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Hoop skirt	W. H. Towers	84, 149
Hoop skirt former	A. R. Stanley	76, 263
Hoop, Toy	J. L. Lay	82, 724
Hop box	W. R. Crandall	78, 433
Hops, Cultivating	N. Baker	79, 097
Hops, Curing	J. S. Sandt	78, 485
Hop drier	J. Whitney	75, 503
Hop drier	W. F. Waterhouse	80, 578
Hop picking tool	J. Dean	75, 385
Hop picker	H. Forncrook, F. J. Shepperd, and A. Garton.	79, 336
Hop pole	D. F. Wilcox	78, 037
Hop pole	W. Conner	78, 787
Hop pole	L. B. Clark	79, 636
Hop pole	J. G. Wilbur	80, 104
Hop pole cleaner	H. Forncrook	80, 468
Hop pole, Dressing	C. D. Brown	83, 918
Hop pole, Pulling	I. W. Legg	78, 103
Hop pole, Pulling	J. R. Woodworth	73, 482
Hop pole, Sharpening	T. S. Angel	80, 050
Hops, Poling	G. J. Olendorf and A. O. Parshall	73, 750
Hops, Poling	G. J. Olendorf	84, 299
Hops, Preserving	S. F. Schoonmaker	75, 203
Hop stripper	S. Holt	79, 072
Hop trellis	L. D. Snook	77, 775
Hop vine supporter	P. J. Fuller	79, 648
Hop vine trellis	Y. W. Smith	81, 426
Horse and cattle poke, &c	G. W. Bell and G. W. Fulmer	76, 881
Horses, &c., Grooming	R. Beaumont and W. Clarke, jr	84, 528
Horses attached to vehicles, Checking	M. O'Connell	80, 085
Horses, Attaching shoes to	H. B. Ferren	82, 215
Horse blinder	J. Dunlap	85, 075
Horse collar fastening	W. A. Sharp and J. A. Shannon	81, 416
Horses cribbing, Preventing	S. S. Bent	79, 437
Horse equalizer, Three	G. Cramton	74, 053
Horses, Fettering	A. H. Lewis	76, 640
Horses from dragging weights, Preventing	A. Pope, jr	77, 317
Horse hitch	W. A. Middleton and J. A. Haller	80, 870
Horse hitch, Safety	T. Weaver	84, 450
Horse hitching device	F. Deming	77, 364
Horse, Knee boot for	J. Finlay	84, 813
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Horse, Measuring the feet of a	H. B. Ferren	82, 214
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Horse power	H. Aldridge and W. Bedford	77, 945
Horse power	W. King	78, 808
Horse power	J. A. Green	78, 957
Horse power	J. H. Kleppinger	79, 074
Horse power	D. G. Tittle	79, 282
Horse power	I. Keller	79, 476
Horse power	G. Oerllein	79, 852
Horse power	M. G. Groff	80, 164
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Horse power	B. H. Wilcox	82, 777
Horse power	J. A. Hafner	83, 059
Horse power	M. Fisk	84, 348
Horse power, Adjustment of gearing for	J. S. Everitt	78, 445
Horse power and truck combined	C. Roberts and J. A. Thorp	84, 766
Horse power and windlass	S. B. Minnich	84, 434
Horse power, Brake for	T. G. Palmer	83, 995
Horse power fastener	R. Knott	83, 862
Horse power machines, Connecting the draught lever to	H. Shaw	81, 544
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Horses, Quarter boot for	W. H. Jones	79, 128
Horseshoe	W. T. Harmar	73, 971
Horseshoe	N. W. Hubbard	74, 539
Horseshoe	G. W. Skinner	74, 620
Horseshoe	J. Jorey	74, 829
Horseshoe	G. T. Chapman	74, 892
Horseshoe	A. S. Hopson	76, 078
Horseshoe	W. Hinds	76, 449
Horseshoe	P. Murray	76, 501
Horseshoe	J. M. Cuykendall	78, 436
Horseshoe	J. S. Toan	80, 033
Horseshoe	J. A. Heyl	80, 074
Horseshoe	G. B. Milligan	80, 199
Horseshoe	I. R. Potter	80, 213
Horseshoe	L. A. Smith	80, 778
Horseshoe	J. N. Clarke	81, 142
Horseshoe	C. O. Stevens	81, 307
Horseshoe	A. E. Kroger	81, 512
Horseshoe	B. Ladd	81, 796
Horseshoe	H. D. Lyman	82, 013
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Horseshoe	J. J. Mervesp	84, 958
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Horseshoe, Attaching	J. Wagner	75, 494
Horseshoe blank, Forming	C. H. Perkins	75, 456
Horseshoe blank, Rolling	A. Reese	83, 207
Horseshoe, Calk of, Sharpening	H. M. Close	79, 316
Horseshoe calk sharpener	R. Crocker	79, 319
Horseshoe calk sharpener	W. Duncan	82, 813
Horseshoe calk, Sharpening	W. M. Jones	73, 102
Horseshoe calk, Sharpening	P. Winegard	80, 044
Horseshoe calk, Sharpening	E. A. Bushnell	80, 805
Horseshoe, Constructing	P. C. Johnson and E. Froggott	82, 528
Horseshoe cushion	G. E. Rust	73, 050
Horseshoe machine	E. B. Turner	83, 342
Horseshoe machine	H. J. Batchelder and G. E. Woods	76, 975
Horseshoe machine	E. Wassell	85, 414
Horseshoe making	O. A. Howe	82, 409
Horseshoe making	J. Zepf	84, 043
Horseshoe making	W. Morehouse	85, 119
Horseshoe, Toe calk for a	C. H. Perkins	78, 892
Horses, Singeing	J. Alexander	84, 983
Horse, Spring	H. F. Metzler	77, 513
Horses, Stopping	N. Fountain	81, 157
Horses to vehicles, Attaching	C. Leroy	82, 852
Horse, Wood-saw	W. Tripp	79, 614
Horse yoke	D. K. Croffut	74, 316
Hose	A. Carney	76, 049
Hose	E. L. Perry	85, 395
Hose and machine for making	G. Coles, J. A. Jacques and J. A. Fanshawe.	83, 132

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Hose and skirt supporter combined	M. J. Foss	83,146
Hose and tubes with India rubber, &c., Lining flexible and other.	J. B. Forsyth	79,220
Hose, Elbow support for flexible	A. O. Bourn	80,901
Hose nozzle, Revolving	H. B. Morrison	79,493
Hose, Rubber and gutta percha	E. M. Chaffee	78,260
Hose tender	H. A. Gilbertson	80,941
Hot bed sash and frame	M. Cridge	81,881
Houses, Fire-proof	W. A. Berkey	84,044
House for fruit, &c., Dry	L. A. Oellig	73,637
House, Fruit, Ventilating	J. S. Houghton and C. B. Rees	83,163
House, Refrigerating	T. L. Rankin	83,316
House, Smoke	C. Good	81,995
Howel and croze	J. B. Siegfried	82,163
Hub and axle	N. Maxham	74,841
Hub and axle, Lubricating	T. Wilson	81,449
Hub and box for wheels, Combined	S. Mosher	83,083
Hub boring machine	N. Johnson	75,167
Hub boring machine	J. W. Walters	77,137
Hub boring machine	A. R. Silver	80,837
Hub, Carriage	S. Allaire	75,105
Hub, Carriage	M. Whelan	77,147
Hub, Carriage wheel	H. D. Haraden	77,977
Hub fastening for eccentric	G. W. Miller and J. D. Stevens	77,747
Hub for pulley, &c., Self-oiling	D. M. Weston	75,323
Hub, Metal	W. W. Ball	77,568
Hub, Metallic	J. Oliphant	79,496
Hub to axle, Attaching	J. Weathers	77,785
Hub, Tool for fitting band on	C. E. Stone	79,925
Hub, Wagon	E. R. Baker	81,127
Hub, Wagon	A. S. Woodward	84,601
Hub, Wagon, Turning	W. W. Cleaveland	82,600
Hub, Wagon, Wheel	W. H. Rodeheaver	76,818
Hub, Wagon, Wheel	F. Nichols	88,630
Hub, Wagon wheel, Boring	J. Wharff	78,246
Hull of a steamboat	W. Hagerty	79,114
Husker and stalk cutter combined	J. D., C. B., and L. N. Rice, and E. Briggs, jr,	82,553
Husks for mattresses, Preparing	W. Nash and M. Kenfield	83,402
Hydrant	T. R. Bailey, jr	75,344
Hydrant	B. G. Fuller	77,027
Hydrant	H. J. Bailly	78,917
Hydrant	T. Brown	79,200
Hydrant	Z. E. Coffin	80,143
Hydrant	W. Kearney	82,326
Hydrant	R. Reiley	83,882
Hydrant	J. Allison	83,899
Hydrant	C. E. Frazier	84,104
Hydrant	J. W. Marshall	84,202
Hydrant	S. Tice	84,848
Hydrant	H. J. Bailey	85,267
Hydrant and gas pipe stop	F. Shickle	84,222
Hydrant, Non-freezing	J. E. Carter	83,602
Hydrant, Self-adjusting curb for	J. A. Finnegan	81,266
Hydraulic apparatus	J. F. Thompson	84,719
Hydrocarbons, Burning	F. T. Suhr	77,124
Hygrometer	A. E. Lazell	75,432
I.		
Ice breaker	A. Flannigain	77,366
Ice calk	G. W. Farley	78,270
Ice chute, Automatic	J. A. Wolfer	85,156
Ice creeper	W. C. Wells	78,560
Ice creeper, Parlor	L. G. Hoffman	79,760
Ice crusher	J. W. Hollingsworth and H. D. Weaver	75,913
Ice crusher	N. Richardson	78,830
Ice, Cutting	J. Baker	74,278
Ice, Cutting	C. and G. Beatty	80,119
Ice house	A. Baierle	85,161
Ice house for brewers and butchers	A. Baierle, F. Hartman and F. Reese	78,507
Ice, Making, and cooling air and liquids	D. E. Somes	77,669
Ice, Making, and cooling air and liquids, Apparatus for	D. E. Somes	73,936
Ice, Manufacture of	R. S. Egbert	80,063
Ice pick and meat pounder	G. Murray, jr	77,752
Ice planing machine	S. Lewis	75,029
Ice preserver	J. W. D. Patten	82,869
Illuminating railroad cars, steamers, &c	W. Foster, jr., and G. P. Ganster	84,814
Implement	E. R. Meeker	74,568
Implement	T. C. Comstock	74,992
Implement	E. F. Wilder	78,248

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Invention or Discovery.	Name of Patentee.	No.
Implement	A. Thayer	79, 027
Implement	W. K. Rairigh	83, 997
Implement	B. F. Bean	79, 100
Index	H. H. Hall	83, 378
Indexing books and ledgers	J. H. Swindell	77, 126
Index for records, System of	A. Campbell	74, 299
India rubber, &c., Lining flexible and other hose and tubes with	J. B. Forsyth	79, 220
India rubber balls, Vulcanized	H. A. Alden	79, 535
India rubber base ball	H. A. Alden	79, 719
India rubber in hubs of carriages, Inserting	G. F. Wilson	84, 329
Indicator and alarm, Leakage measure	T. P. Akers	75, 235
Indicator and alarm, Water	T. Flinn	77, 809
Indicator, Door	A. Hadley	78, 278
Indicator for boilers, Water	J. D. Lynde	74, 389
Indicator for steam boiler	A. J. Maris	82, 856
Indicator for steam generator	R. Berryman	80, 328
Indicator for street railway car	J. Knight	79, 480
Indicator for the bending or springing of railway axles	L. E. Osborn	76, 803
Indicator, Fuel-size	J. Gibson, jr	81, 490
Indicator, Low-water	T. C. Hargrave and W. B. Charlton	77, 978
Indicator, Low-water	J. C. Raymond and F. T. Allyn	78, 481
Indicator, Low-water	C. S. Watson	79, 708
Indicator, Low-water	T. G. Eiswald	80, 399
Indicator, Low-water	T. G. Eiswald	80, 400
Indicator, Low-water	T. G. Eiswald and J. Barbour	81, 483
Indicator, Low-water	G. M. Hopkins	82, 222
Indicator, Low-water	W. Moore	82, 974
Indicator, Low-water	E. Joyce	83, 638
Indicator, Low-water	J. W. Richards	84, 646
Indicator, Low-water and high steam	L. F. Smith	84, 444
Indicator, Low-water, and steam pressure alarm	D. McFarland	79, 672
Indicator, Low-water, for steam generator	L. H. Colborn	76, 893
Indicator, Low-water, for steam generator	L. Fulton	80, 162
Indicator, Meridian time	E. Prevear	82, 984
Indicator, Power	N. P. Bowsher	77, 864
Indicator, Pressure	F. T. Riegel	81, 006
Indicator, Railroad station	J. F, Zacharias	78, 349
Indicator, Railroad station	T. Payne	80, 005
Indicator, Station	C. K. Marshall	81, 097
Indicator, Station	E. B. Marshall	83, 190
Indicator, Station	E. Spencer	83, 563
Indicator, Steam and water, for boilers	T. P. Akers	78, 781
Indicator, Water, for steam boilers	A. F. W. Neynaber	84, 298
Induction coil apparatus and circuit breaker	C. G. Page	76, 654
Injector for boilers	J. Gresham	74, 345
Injector for boilers	J. Gresham	74, 346
Injector for feeding boilers	W. Sellers	75, 059
Injector for steam generator	S. Rue, jr	73, 757
Injector for steam generator	E. Ferguson	74, 067
Injector for steam generator	S. Rue, jr	81, 622
Injector, Oil, for steam and other engineery	R. Brayton	84, 853
Injector, Vagina	G. W. King	81, 278
Ink, Copying	A. G. Buzby	78, 258
Ink, Printers'	C. Wulsten	79, 045
Ink, Sympathetic	D. C. McNeil	79, 374
Inking apparatus for color printing	L. B. Waterman	75, 499
Inking apparatus for color printing	G. W. Wood	79, 043
Inkstand	N. G. Bartlett	73, 284
Inkstand	J. Barwick	73, 946
Inkstand	O. Dean	74, 671
Inkstand	H. L. Andrews	76, 138
Inkstand	S. Darling	76, 409
Inkstand	S. Darling and J. E. Hall	76, 719
Inkstand	G. Merritt	76, 792
Inkstand	C. T. Chase	79, 444
Inkstand	H. P. Andrews and M. E. Rawson	83, 126
Inkstand	W. G. Shattuck	83, 328
Inkstand, Revolving	J. M. Kennedy	84, 950
Inkstand and paper clamp combined	E. J. Toof	77, 131
Insects, Compound for destroying	M. Haas	83, 280
Insects, Compound for destroying	W. R. Fairbairn	84, 867
Insect destroyer	A. McKenzie	75, 560
Insect guard for horses	B. Treadwell	73, 851
Insects on plants, Compound for destroying	W. A. Phillips	80, 660
Insects on the potato plant, Composition for destroying	J. P. Wilson	82, 468
Insects in fruit trees, Composition for destroying	B. Best	78, 569
Insects in trees and plants, Destroying	H. A. Graef	83, 279
Insects in trees, Destroying	D. Daniels	74, 317
Insects in wheat, Destroying	J. Newcomer	80, 655
Insects on trees, plants, &c., Compound for destroying	G. W. Spots	83, 737

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Instep stretcher	C. C. Pease	73, 546
Insulator	A. H. Castle	75, 365
Insulator	A. H. Castle	79, 951
Intestines of slaughtered animals, Cleaning	J. A. Thompson	79, 031
Iodine, Manufacture of	J. Fougerat	78, 078
Iodine, Manufacture of	J. Fougerat and L. A. Tartiere	83, 372
Iron and steel, Carbonizing and hardening	F. E. Sessions	75, 986
Iron and steel, Compound for welding and refining	J. Lehmann	76, 037
Iron and steel for the manufacture of plows, &c., Compound for hardening and uniting	W. Howell and N. W. Browning	84, 420
Iron and steel, Manufacture of	J. Jameson	76, 196
Iron and steel, Manufacture of	J. A. Jones	78, 806
Iron and steel, Manufacture of	L. Sibert	79, 152
Iron and steel, Manufacture of	J, A. Jones	81, 908
Iron and steel, Manufacture of	R. Yeilding	83, 119
Iron and steel, Manufacture of	F. Ellershausen, A. E. Stayner and A. Guzman.	84, 053
Iron and steel, Mixing	J. Cartwright	73, 163
Iron and steel, Purifying	J. F. Bennett	75, 240
Iron and steel, Working	H. J. Dickerson	84, 480
Iron, cast, Converting into east steel and malleable iron	F. Ellershausen	77, 469
Iron, east, Converting into wrought iron and steel	A. Lisk	78, 297
Iron, cast, Refining	H. M. Baker	82, 194
Iron, cast, Refining	H. S. Osborn	82, 435
Iron, cast, Treating, for the manufacture of car wheels.	H. M. Woodward	84, 041
Iron, Composition for refining and toughening	J. H. Nolf	77, 904
Iron, Decarbonizing	J. F. Allen	76, 581
Irons, Fore-part	J. Blease	77, 246
Iron from sugar, Separating	J. Meyer	79, 849
Iron from titaniferous iron ore, Manufacture of	J. Player	79, 681
Iron in rolling mills, Handling	E. Sanford	77, 922
Iron, Making	A. Hamar	81, 775
Iron, malleable, Manufacture of balls, blooms, and slabs of.	J. Player	77, 210
Iron on moulds, &c., Galvano-plastic process for precipitating.	M. H. Jacobi and E. Klein	82, 525
Iron post for rail fence	H. S. Brooks and J. S. Lehman	78, 572
Iron, Preparing, finely divided, and the separation of copper, silver, &c., from their solutions.	G. Bischof, jr	74, 791
Iron and steel, Refining, and making	J. Absterdam	84, 333
Iron, Refining, and making steel	J. Absterdam	84, 334
Iron, Refining, and making steel	J. Absterdam	84, 335
Iron, refining, and making steel, Introducing gas fuel into a converter for.	J. Absterdam	84, 336
Iron roll	S. J. Seely	73, 467
Iron, Sheet	I. E. Craig	74, 314
Iron, Sheet	E. B. Nock	81, 528
Iron, sheet, Cutting	J. B. Osier	78, 319
Iron, sheet, and metal plate, Surfacing	T. Shaw	77, 111
Iron, sheet and plate, Manufacture of	C. C. Hinsdale	81, 903
Iron, Steelifying	T. Sheehan	76, 256
Iron, Working	J. Reese	82, 876
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Ironing stand and clothes drier	B. S. Boydston	75, 120
Irregular forms, Turning	H. Flint and G. P. Smith	80, 467
Ivory, Artificial	W. M. Welling	77, 938
Ivory, Artificial	A. Starr and W. M. Welling	78, 842
Ivory, artificial, Composition for	A. Starr	75, 067
J.		
Jack or last holder	G. M. Wells	77, 425
Jack-bands, Twisting	J. Collier	83, 465
Jack, Boot	J. Darden	84, 862
Jack, Boot, and blacking brush	H. J. Miller	75, 181
Jack, Carriage	C. H. Paine	73, 992
Jack, Carriage	A. Myers	74, 576
Jack, Carriage	O. Churchill	74, 894
Jack, Carriage	H. L. Hammond	83, 773
Jack, Carriage	J. B. White	84, 665
Jack for knitting needle	H. J. Wickham	81, 235
Jack for railroad car, Pushing	E. Hutson	73, 101
Jack for turning shafting	A. Sims	83, 558
Jack, Lever	J. Bernheisel, sr	81, 467
Jack, Lifting	E. Shopbell	73, 657
Jack, Lifting	L. B. Prindle	73, 833
Jack, Lifting	J. Coulter, sr	73, 954
Jack, Lifting	J. W. Bemis	74, 040
Jack, Lifting	A. M. Culver	74, 512
Jack, Lifting	J. Kohler	76, 927
Jack, Lifting	G. H. Alger	76, 967

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Jack, Lifting	E. S. Robertson and A. B. Collins	77, 406
Jack, Lifting	S. Perry	77, 756
Jack, Lifting	R. M. Thompson	77, 678
Jack, Lifting	J. Wilkinson	78, 167
Jack, Lifting	C. A. Smith	81, 424
Jack, Lifting	W. Green	82, 111
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Jack, Lifting	F. Krick	84, 285
Jack, Lifting	J. Q. Crosby	84, 536
Jack, Lifting	W. F. Arnold	85, 264
Jack, Lifting, and cant hook	D. Fasig	83, 947
Jack, Lifting, and spike extractor	J. Douglass	75, 134
Jack, car, Railroad	E. C. Patterson	78, 994
Jack scale	H. M. Hervey	76, 628
Jack, Shackle	J. Whitlock	78, 848
Jack, Shifting, for carriage thills	A. W. Ham	84, 545
Jack, Spinning	J. Sands	84, 218
Jack, Wagon	N. W. Hess and J. H. Fry	73, 229
Jack, Wagon	M. Biglin and D. W. Bennett	74, 491
Jack, Wagon	T. L. Goble	76, 075
Jack, Wagon	A. Ross	76, 662
Jack, Wagon	F. Arnold	79, 430
Jack, Wagon	S. Rice	80, 768
Jack, Wagon	E. R. Baldwin	82, 069
Jack, Wagon	W. Clifford	82, 384
Jack, Wagon	H. W. Long	83, 778
Jack, Wagon	J. Moody	84, 567
Jar and can, Sealing	J. Bellerjeau	76, 149
Jar, can, &c., Closing the mouth of	E. T. Jenkins	76, 772
Jar cover, Fastening	J. F. Johnson	73, 014
Jar, Fruit	J. M. W. Kitchen	73, 187
Jar, Fruit	E. B. Whitmore	73, 271
Jar, Fruit	C. F. Spencer	73, 846
Jar, Fruit	A. D. McMaster	75, 639
Jar, Fruit	C. S. Siddons	75, 993
Jar, Fruit	D. Stone	76, 846
Jar, Fruit	J. Weidig	77, 555
Jar, Fruit	L. Worcester and J. S. Brown	77, 559
Jar, Fruit	T. E. Batterson	77, 570
Jar, Fruit	H. B. Norton	78, 474
Jar, Fruit	W. A. Loder	79, 843
Jar, Fruit	H. Stone	80, 234
Jar, Fruit	W. W. Lyman	80, 296
Jar, Fruit	T. Gibson	80, 472
Jar, Fruit	J. B. Lyon	80, 554
Jar, Fruit	C. F. Spencer	81, 116
Jar, Fruit	F. Rohrbacher and F. Hormann	81, 296
Jar, Fruit	E. R. Williams	81, 856
Jar, Fruit	E. M. Davis	83, 367
Jar, Fruit	N. Raymer	84, 214
Jar, Fruit	G. H. Myers	85, 236
Jar, Fruit and clamp	A. J. H. Hilton	76, 915
Jar, Fruit, and preserving vessel	A. Warner	76, 008
Jar, fruit, Closing	W. L. Imlay	73, 724
Jar, fruit, Closing	W. L. Imlay	75, 275
Jar, fruit, Cover for	J. Siddons	82, 884
Jar, fruit, Locking ring for closing	L. R. Boyd	73, 571
Jar, Preserve	F. J. Shefferly	73, 202
Jar, preserve, Cap for	S. B. Rowley	74, 249
Jewelry, &c., Production of ornamental surfaces for	W. B. Woodbury	77, 231
Jewelry, cluster, Imitating	W. O. Draper, A. C. Sweetland, and G. H. Draper.	75, 393
Jib-boom	W. E. Beman	77, 348
Joints of steel or iron plates, Formation of	E. T. Ligon	76, 088
Joints, sheet-metal, Fastening for	H. Everett	85, 438
Joint, Universal	J. J. Butts and A. S. Stone	75, 361
Joint, Universal	A. Duvall	84, 417
Journal bearing for railroad cars	I. P. Wendell	84, 326
Journal box	I. D. Mathews	76, 092
Journal box	J. T. Robinett	78, 832
Journal box	W. Sherburne	79, 867
Journal box	R. Colburn and G. W. Gould	79, 900
Journal box	H. M. Preston	81, 002
Journal box	A. B. Caldwell	81, 748
Journal box	J. E. Atwood	82, 066
Journal box	G. L. Weaver	82, 665
Journal box	G. H. Henfield	83, 961
Journal box for railroad car	M. Thornton	78, 244
Journal box, Material for	P. S. Devlan	77, 012
Journal of axle or shaft	C. D. Smith	73, 055
Journal of car shaft, Lubricating	I. P. Wendell	78, 704

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Jug top	P. Lauster	82,010
Jute fiber, Treating	J. Monaeh	74,113
Jute yarn, Preparing	J. Monach	77,073
K.		
Keel and bilge bloek	J. T. Parlour	73,376
Keg, Powder	J. B. and D. J. Fleming	82,818
Kettle, Boiling	H. H. Pember	78,823
Kettle, Dinner	J. Wagner	76,121
Kettle, evaporating, Areh of furnace for	E. Laass	78,527
Kettle, evaporating, Shielding arch for	J. English	84,101
Kettle for culinary purposes	J. Burns	85,429
Kettle, Tea	C. Anthony	74,787
Kettle, Tea	E. Ripley	79,860
Kettle, Tea, eoffee-pot, &e	W. Wagstaff	80,576
Key, Door	F. Greene	79,466
Key, door, Safety guard for	W. K. Marvin	77,633
Key for hydrant eock	P. H. Griffin	82,827
Key-hole guard	A. Huffnagle	80,959
Key-hole guard	C. Read	82,551
Key-hole guard	C. B. Davies	83,837
Key-hole guard for door lock	A. T. Brooks	77,165
Key seats, Cutting	W. H. Smith and R. S. Eddy	77,225
Key, Wateh	G. B. St. John	75,214
Key, Watch	R. H. Dilley	75,740
Key, Wateh	H. Ganney	77,028
Key, Watch	W. Lindon	78,382
Key, Watch	W. Lindon	84,558
Key, Watch, elock, and loek	E. C. Ryer	78,120
Key, wateh, Protector for	A. J. Chase	73,077
Key, watch, tweezers, &c., Combined	D. A. Jones	77,621
Key, Wire-fenee	S. B. Hewett, jr	75,759
Kiln, Brick	H. D. Whittemore	75,096
Kiln, Brick	S. H. Clapp	75,730
Kiln, Brick	R. Robson	76,946
Kiln, Brick	F. Power	79,595
Kiln, Brick	H. W. Adams	80,046
Kiln, Brick	S. D. Rader	82,248
Kiln, Brick	W. Gilbert	82,511
Kiln, Brick	J. MeDonald	83,394
Kiln, Brick drying	E. W. Bingham	79,192
Kiln, Burning	B. Kreischer	81,793
Kiln, Burning	G. A. Wedekind and H. Dueberg	85,042
Kiln, Drying	B. R. Hawley	84,117
Kiln, Drying and burning	J. Bührer	82,488
Kiln drying machine	A. B. Winegar	79,425
Kiln for drying malt	C. Oefinger and S. Grupp	76,508
Kiln, Lime	W. W. Potts	76,998
Kiln, Lime	M. Verhoeven	73,563
Kiln, Lime	C. D. Page	82,023
Kiln, Lime	W. C. Pettijohn	82,242
Kitehen implement	C. S. Westland and J. B. Allen	82,187
Kitchen implement	J. Friseh	82,615
Kite	A. Yorns and E. J. Smith	76,028
Knapsaek, Carrying	W. Clifford	83,762
Knee or ankle guard	H. A. Hall	77,728
Knife	R. H. Fisher	85,296
Knife and fork	C. A, Moore	85,020
Knife and fork handle	C. A. Moore	81,399
Knife and fork holder	J. W. Patten	83,538
Knife and fork scourer	M. Merrill	74,763
Knife and fork scourer	D. S. Marvin	77,632
Knife and shears, Pruning	J. Spear and J. A. Hull	78,615
Knife, Belt	H. Blake	80,899
Knife, Bread	J. Frisch	78,586
Knife cleaner	I. F. Thompson	73,673
Knife cleaner	A. C. Kaiser	84,552
Knife cleaner	W. Miller	84,960
Knife for boots and shoes, Paring	W. De Camp	78,363
Knife for cutting green corn from the cob	J. Harrington	82,403
Knife for cutting green corn from the cob	W. L. Gilroy	82,306
Knife for eutting straw bands	F. Coulon	76,055
Knife for removing skins from animals	S. J. Patterson	77,086
Knife for removing the skins from animals	G. W. Myers	78,002
Knife for splitting leather	A. E. Van Gieson	78,701
Knife, Harness round	J. H. Quackenbush	80,765
Knife, Hay	C. A. Fisher	73,177
Knife, Hay	G. Fenton	75,255
Knife, Hay	J. Offineer	82,152
Knife, Hay	C. A. Fisher	82,505

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Knife, Hay	J. L. Ripley	82, 642
Knife, Oyster	G. W. Huffnagle	75, 917
Knife, Paper-sack	L. H. Mealey	80, 197
Knife, Pocket	J. Mosley	75, 955
Knife, Pocket	J. E. McBeth	79, 139
Knife, Pocket, and rule combined	O. B. Steele	77, 121
Knife, reaper, Grinding	C. Richardson	74, 942
Knife ring	C. B. and W. A. N. Long	80, 553
Knife ring	J. C. Wilmarth and A. Fobes	82, 912
Knife sharpener	C. H. Reynolds	78, 010
Knife sharpener and carving fork combined	E. S. Scofield	80, 226
Knife sharpener, Mower and reaper	W. B. Deuel	83, 767
Knife, Shoe	N. M. Ray	75, 975
Knife, Shoemakers' trimming	J. Reist	73, 462
Knife, Silk cleaning	G. Singleton	76, 109
Knife, Solid steel	J. W. Gardner	74, 907
Knife, Splint	S. Friend and J. McCollom	83, 148
Knitting and sewing machine, Lever power for	G. Stackpole	84, 144
Knitting machine	J. Chantrell	73, 164
Knitting machine	T. Crane	73, 697
Knitting machine	W. H. Abel	74, 266
Knitting machine	J. C. Welsch	74, 460
Knitting machine	G. P. Fuller	75, 260
Knitting machine	H. Bogel	75, 353
Knitting machine	B. Ward	76, 854
Knitting machine	J. Dalton	77, 363
Knitting machine	W. W. Burson and J. Nelson	79, 202
Knitting machine	O. Twombly and W. Noyes, jr	79, 789
Knitting machine	C. W. Blakeslee, E. B. Beecher, and A. G. Davis.	79, 897
Knitting machine	A. J. Wale	80, 099
Knitting machine	D. Bickford	80, 121
Knitting machine	C. W. Blakeslee, A. G. Davis, and E. B. Beecher.	80, 853
Knitting machine	S. Larkin	80, 866
Knitting machine	J. Waldie	80, 887
Knitting machine	G. Johnstone	80, 965
Knitting machine	E. K. Pray	81, 683
Knitting machine	B. Bollinger and G. G. Nodle	82, 281
Knitting machine	J. W. Rist	82, 348
Knitting machine	D. Kidder	83, 390
Knitting machine	W. H. Abel	83, 583
Knitting machine	W. H. Abel	83, 584
Knitting machines, &c., Reciprocating motion in	S. Haslam, jr	80, 283
Knitting machine indicator	J. W. Rist	82, 554
Knitting machine indicator	J. C. Potter	75, 194
Knitting machine register	J. W. Rist	82, 555
Knitting machines, Stop motion and indicator for	E. Wilder	83, 116
Knitting pile fabric	D. Bickford	84, 473
Knob, Atmospheric	O. H. Needham	82, 629
Knob, door, Attaching to spindle	W. H. Andrews	77, 344
Knob, door, Attaching to spindle	T. Marvin	77, 745
Knobs, door, Attaching to their spindles	S. S. Putnam	79, 597
Knob, door, Rose for	W. H. Andrews	79 936
Knob, Picture and curtain	J. Gardner	73, 088
Knobs to screws, Attaching	C. H. Thurston	77, 550
Knobs to their spindles, Attaching	W. A. Fenn	84, 868
L.		
Labels, Apothecaries'	G. G. Percival	82, 028
Label, Bale	N. C. Jones	80, 967
Label, Cask	E. A. Locke	75, 934
Label holder	G. S. True	80, 683
Label holder	C. A. Dickerman	84, 804
Label on glassware, Securing	E. M. Davis	74, 804
Labels, Pasting	W. E. Booraem	83, 825
Labels, show-cards, &c., Manufacturing	A. J. Connell	83, 763
Label to newspapers, &c., Attaching	J. F. Zacharias	77, 430
Label, Trunk	S. W. Downey	74, 322
Lacing device	J. Nealey, jr	76, 234
Ladder	A. and J. S. Simmerman	73, 468
Ladder	T. B. Luzier and G. A. Haas	74, 102
Ladder	A. C. McKendree	78, 988
Ladder	C. C. T. Thomas and F. A. S. Raymond	79, 520
Ladder	W. L. Burlingame	79, 727
Ladder	E. P. H. Capron	82, 594
Ladder	P. M. Papin	83, 084
Ladder and scaffold	R. Rowan	79, 399
Ladder and scuttle cover	J. Steger	78, 152
Ladder, Extension	J. Kerns	74, 548

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Ladder, Extension	B. Pine	75,052
Ladder, Extension	J. F. Morse	77,640
Ladder, Extension	T. F. Mantey	78,302
Ladder, Extension	J. A. Smith	80,361
Ladder, Extension	M. M. Knowles	81,279
Ladder, Extension	W. Morehead	84,839
Ladder, Extension and step	S. E. Hewes	75,906
Ladder, extension, Fireman's	R. H. Jones	79,763
Ladder, Fire-escape	D. Hays and W. Free	74,821
Ladder, Fire-escape	G. Skinner	82,358
Ladder or step for street lamp lighter	M. M. Smith	81,954
Ladder, Step	M. C. Longacre	83,291
Ladder, Step	C. S. Rouse	83,795
Ladder, Step	J. Charleville	84,260
Ladder, step, Extension	G. S. Walker	74,177
Ladder, step, Extension	L. B. Covert	77,463
Ladder, step, Extension	G. W. Packer	78,476
Ladder, step, Joint for	S. E. Hewes	82,221
Lamp	H. B. Wellman	73,145
Lamp	J. Allen	73,278
Lamp	J. Neilson	73,372
Lamp	H. Tilden	73,409
Lamp	S. W. Fowler	73,443
Lamp	L. J. Atwood	73,488
Lamp	O. Boynton	73,495
Lamp	E. A. Locke and W. N. Weeden	73,538
Lamp	H. W. Hayden	73,599
Lamp	H. W. Hayden	73,600
Lamp	C. F. Spencer	73,663
Lamp	S. Spoor	73,664
Lamp	J. A. Frey	73,710
Lamp	A. W. Browne	73,870
Lamp	R. S. Merrill and W. Carleton	73,912
Lamp	M. H. Collins	74,049
Lamp	A. C. Arnold and E. Blackman	74,271
Lamp	W. Mullally	74,403
Lamp	J. Ingersoll	74,542
Lamp	S. T. McDougall	74,563
Lamp	E. E. Dailey, W. H. Johnson, and C. C. DuBois.	74,670
Lamp	L. L. Sagendorph	74,767
Lamp	A. Taplin	74,863
Lamp	S. R. Ayers	74,972
Lamp	W. H. Smith	75,479
Lamp	S. Shea and E. W. Gillman	75,587
Lamp	H. M. Clark	75,731
Lamp	M. W. House	76,764
Lamp	J. H. Smith	76,836
Lamp	F. Adt	79,887
Lamp	D. M. Smith	79,924
Lamp	L. J. Atwood	80,111
Lamp	C. W. Cahoon	80,133
Lamp	L. Chandor	80,137
Lamp	P. Noyes	80,302
Lamp	W. Totheroh	80,519
Lamp	S. C. Brockinton	80,590
Lamp	H. H. Boucher	80,705
Lamp	J. Barson, E. Daniels, and J. Farrell	80,851
Lamp	J. E. Hendricks	81,370
Lamp	A. Judson	81,645
Lamp	J. Calkins	81,749
Lamp	A. Whitlock	82,051
Lamp	J. E. Noyes	82,150
Lamp	J. Bellerjean	82,196
Lamp	C. Webber and H. Reimann	82,458
Lamp	J. S. and T. B. Atterbury	82,579
Lamp	B. S. Boydston	82,590
Lamp	T. Clough	83,462
Lamp	T. A. Hunter and J. Blewitt	83,711
Lamp	S. C. Moore	83,874
Lamp	G. Gibbs	84,623
Lamp	W. W. Jacobs	85,099
Lamp, Argand, for burning petroleum	A. K. Murray and A. B. Howland	73,455
Lamp black	M. Matlack	75,943
Lamp black, Manufacture of	A. Millochau	84,131
Lamp boiler, Kerosene	W. F. Ross	80,508
Lamp bracket	E. L. Ferguson	75,256
Lamp, Carburetted air	J. D. Jenkins	73,900
Lamp chimney	S. R. Wilmot	85,047
Lamp chimney attachment	F. N. Gisborne and H. Allman	79,823
Lamp chimney cleaner	A. G. Newkirk	73,745

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Invention or Discovery.	Name of Patentee.	No.
Lamp chimney cleaner	N. A. Vurgason	81, 710
Lamp chimney cleaner	M. N. Lovell	81, 917
Lamp chimney cleaner	M. J. Lourrentz	83, 391
Lamp, Döberiner self-lighting	G. Müller	78, 755
Lamp, Electric fan for	C. T. Mason	78, 674
Lamp extinguisher	E. J. Toof	75, 317
Lamp extinguisher	J. W. Fowle	76, 319
Lamp extinguisher	S. J. Batchelder	79, 187
Lamp extinguisher	J. H. Prentice	80, 088
Lamp extinguisher	C. E. Abbott	80, 796
Lamp feeder	T. P. Gibbons	82, 219
Lamp for destroying insects in trees	F. M. Briggs	80, 446
Lamp, Fountain	M. Samuels	85, 029
Lamp, Glass	D. C. Ripley	73, 122
Lamp lighter	A. Assman	74, 033
Lamp lighting device	N. L. Cole	75, 529
Lamp, Miners'	G. W. Tremble	75, 603
Lamp, Raising and adjusting wicks in	J. B. Alexander	84, 045
Lamp, Safety	A. H. Emery	85, 373
Lamp, Safety apparatus for	C. Applebee	84, 078
Lamp shade	J. Emery	75, 136
Lamp shade	T. B. Doolittle	75, 390
Lamp shade	H. M. Hartshorn	75, 418
Lamp shade	N. F. Leete	75, 932
Lamp shade	W. H. Horton	74, 537
Lamp shade	S. W. Huntington	76, 462
Lamp shade	S. W. Huntington	76, 921
Lamp shade	A. A. Smith	77, 115
Lamp shade	G. Wedekind	77, 936
Lamp shade	E. K. Haynes	78, 084
Lamp shade	D. W. Wilson	78, 413
Lamp shade	A. M. Weeks	79, 039
Lamp shade	G. Wedekind	79, 526
Lamp shade	E. A. Locke and W. N. Weeden	81, 915
Lamp shades, Packing	E. A. Locke and W. N. Weeden	84, 289
Lamp shade supporter	J. W. Lyon	77, 059
Lamp, Street	T. T. Markland	76, 335
Lamp, Street	W. O. Wheeler	79, 169
Lamp, Street	F. Lange	84, 952
Lamp, Street	O. Case and B. D. Evans	84, 535
Lamp, street, Name plate for	T. T. Markland	76, 334
Lamp, street, Name plate for	C. J. O'Hara	82, 544
Lamp, Suspension for	J. A. Evarts	76, 317
Lamp, Train	G. A. Jones	74, 695
Lamp tube, Forming	W. Wallace	79, 036
Lamp tube, Forming	T. B. Doolittle	80, 464
Lamp, Vehicle	C. F. Waldron	76, 552
Lamp wick trimmer	D. Warner	80, 577
Lamp wick tube	F. H. Fuller and O. S. Severance	84, 542
Lance, Bomb for killing whales	Z. Kelley	78, 673
Land marker	W. L. Bower	82, 282
Land tiller	G. W. Ziegler	76, 687
Lantern	J. H. Irwin	73, 012
Lantern	G. Wheeler	73, 415
Lantern	H. Wentworth and V. B. Clark	73, 481
Lantern	A. G. Smith	73, 934
Lantern	J. Caldwell	74, 988
Lantern	W. H. Bonnell	75, 354
Lantern	E. S. Archer	75, 510
Lantern	W. Westlake	76, 366
Lantern	A. S. Jackson	76, 767
Lantern	P. J. Clark	78, 058
Lantern	T. H. Brady	78, 180
Lantern	T. Langston	78, 378
Lantern	E. J. Heale	79, 569
Lantern	A. Whelden	80, 040
Lantern	L. F. Betts	81, 584
Lantern	A. M. Duburn	82, 297
Lantern	G. W. Putnam	82, 750
Lantern	N. Thompson	83, 799
Lantern	T. Langston	84, 556
Lantern, Magic	L. J. Marcy	77, 300
Lantern, Pocket	G. W. Putnam	84, 213
Lantern, Portable and stationary	L. W. Leary	85, 014
Lantern, Signal	J. Graham	85, 004
Lantern, Street car	A. A. Young	81, 124
Lantern, Submarine	M. V. Weide	81, 231
Lanyard, Elastic	J. E. Jones	85, 388
Lard, oils, &c., Rendering and refining	A. Broadnax	81, 744
Lard, stirring and cooling	J. N. Meriam	85, 117
Lard, tallow, &c., Rendering	A. Broadnax	81, 743

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Last	G. M. Wells	74,180
Last	G. M. Wells	74,181
Last	B. Hitchings	82,951
Last and shoe holder	A. J. Rock	77,764
Last, Application of an inner sole to a	C. Buffum	76,048
Last block elevator and instep stretcher	S. Richmond	84,647
Last, Boot and shoe	C. F. Carr and G. F. Holbrook	74,890
Last, Boot and shoe	J. H. Swain	77,931
Last fastener	H. Brown	84,677
Last holder or jack	G. M. Wells	77,425
Last, Metal	G. G. Townsend	84,720
Last, Shoe	J. Schmitt	81,014
Last, Side block	P. A. Newhall	74,580
Latch	A. Spangler	84,227
Latch and bolt combined	P. P. Child	73,078
Latch and lock combined	S. A. Green	81,625
Latch and lock combined	N. Edwards	81,990
Latch and lock combined	L. F. Johnson	82,418
Latch and lock combined	A. Sprague	84,391
Latch, Bolt	H. Baker	73,491
Latch catch and stopper	E. P. McCeney	73,358
Latch, Door	F. Babcock	82,581
Latch, Furnace door	J. L. Reilly	75,053
Latch, Gate	C. E. Merrifield	73,624
Latch, Gate	S. Ingersoll	74,915
Latch, Gate	G. B. Howland	76,918
Latch, Gate	P. Rasar and D. J. Mayes	81,209
Latch, Gate	J. C. Rogers	84,711
Latch, Gate	B. Hendrickson	84,945
Latch, Grate and door	C. C. Holcomb	77,040
Latch, Knob	A. Bingham	74,746
Latch, Knob	T. C. Ball	82,070
Latch, Knob	W. T. Munger	83,652
Latch, knob, and door lock combined	H. W. Busse	75,360
Latch, knob, and lock combined	C. Brown	73,498
Latch, knob, and lock combined	G. Schumaker	75,204
Latch, knob, and lock combined	J. H. Vickers	77,552
Latch, knob, Locking	W. L. Imlay	73,334
Latch, knob, Locking	H. C. Stoor	73,666
Latch, knob, Locking	S. W. Brown	75,879
Latch, knob, Reversible	W. T. Munger	75,184
Latch, knob, Reversible	H. H. Ellwell	77,264
Latch, knob, Reversible	J. E. Parker	77,650
Latch, knob, Reversible	J. E. Parker	77,909
Latch, knob, Reversible	B. Erbe	77,966
Latch, knob, Reversible	W. A. C. Oaks	81,529
Latch, Locking	J. Hardy and B. B. Floyd	81,779
Latch, Metallic	I. V. Holmes	84,881
Latch, Reversible	C. R. Fisher	80,539
Latch, Reversible	J. Kinzer	80,974
Latch, Reversible	W. T. Munger	81,931
Latch, Reversible	G. H. Seaver	84,382
Latch, Reversible	W. T. Munger	84,704
Latch, Reversible	E. Whitney	85,497
Lath, Sawing	E. T. Wheeler and W. H. Vaughan	73,214
Lath, Sawing	T. Bruno	77,449
Lath, Sawing	I. A. Hedges and J. M. Story	77,484
Lath, Sawing	W. G. Bulgin	81,475
Lathe	L. F. Munger	73,027
Lathe	L. Griscom	77,812
Lathe, Adjustable gearing for	J. Humphreys	83,774
Lathe carriage	G. W. Lewin	75,933
Lathe, Centering	B. F. Bee	80,327
Lathe chuck	F. Davison	75,872
Lathe chuck	J. S. Dotrick	80,928
Lathe chuck	J. S. Moody	81,523
Lathe chuck	J. R. Washburn	82,571
Lathe chuck	D. E. Whiton	83,349
Lathe chuck	A. Judson	84,698
Lathe dog	R. H. Lecky	79,134
Lathe dog	J. W. Russell	80,770
Lathe dog	W. Emmett	81,264
Lathe, Engine	S. Teal	81,309
Lathe, Engine, for turning shafting	A. Wood	76,130
Lathe, engine, Tool rest for	C. Newhall	79,381
Lathe, Eye protector and chip arrester for	C. T. Lamphere	79,766
Lathe for cutting irregular forms	P. Barker	77,158
Lathe for screw cutting	T. D. Bassett	79,721
Lathe for turning buttons	D. C. Robie	75,462
Lathe for turning iron	W. Sellers	74,609
Lathe for turning irregular curved forms	W. Payton	73,830

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Invention or Discovery.	Name of Patentee.	No.
Lathe head	H. F. Shaw	81, 952
Lathe or planing machine, Tool post for	W. H. Leach	77, 742
Lathe planer, Holder for	J. P. Manton	78, 387
Lathe rest	H. K. Smith	74, 621
Lathe rest	E. Stahlbrodt	77, 672
Lathe rest	W. Thompson	79, 877
Lathe, Rose engine	T. Lippiatt	80, 292
Lathe, Screw cutting	C. Ellis	76, 612
Lathe, Screw cutting	J. P. T. Lang	79, 767
Lathe, Screw cutting	H. F. Shaw	83, 554
Lathe for turning balls	J. B. West	81, 315
Lathe tool	T. Shaw	75, 060
Lathe tool holder	J. Baillie	74, 877
Lathe tool holder	C. H. Fowler	78, 520
Lathe tool holder	W. O. Hickok and G. W. Reisinger	83, 963
Lathe, Turning	F. Zibell	75, 822
Lathe, Turning	S. R. Lewis	83, 181
Lathe, turning, Wood	E. K. Warren	73, 423
Lathe, turning, Wood	G. Lewis	73, 985
Lathe, turning, Wood	M. F. Connett	75, 736
Lathe, turning, Wood	E. Williams	76, 022
Lathe, turning, Wood	W. J. Watson	76, 363
Lathe, turning, Wood	S. U. King	77, 495
Lathe, turning, Wood	D. Dick	77, 596
Lathe, turning, Wood	A. J. Van Ornum	78, 341
Lathe, turning, Wood	A. P. C. Bonte	78, 919
Lathe, Wood	J. W. Felter	76, 733
Lathing machine	T. Hill	73, 604
Lathing machine	O. C. Macklett	79, 366
Lathing, Metallic	J. F. Walter jr	73, 765
Laundry bluing, Preparing	E. L. Molineux	76, 935
Lead and slate pencil case	T. B. McCaughan	76, 488
Lead, sheet and lead pipe, Manufacture of	A. Dow	73, 585
Lead, White	O. Jacobi	77, 818
Lead, White	H. S. Hannen	80, 168
Leather and hides, Softening	J. Tidd	73, 408
Leather and skins, Finishing	G. T. Woodbury and T. Burch	77, 792
Leather, Artificial	L. Montier	73, 991
Leather, Artificial	B. Meech	75, 690
Leather belting, Artificial	S. M. Allen	73, 427
Leather belting	W. Stoevell, G. B. Kerper and S. B. Wells	73, 848
Leather, blacking, Composition for	J. N. Englehardt	76, 897
Leather, Bronze dressing for	M. S. Cahill	83, 925
Leather, cloth, &c., to render them water and fire-proof, Treating.	R. O. Lowrey	77, 990
Leather cloth, floor cloth, &c., Producing	R. O. Lowrey	77, 993
Leather, Composition for stuffing	J. Haseltine	75, 264
Leather, Composition to be applied to	W. Lehman	78, 295
Leather, Compound for treating	A. Doepp	84, 096
Leather, Cutting	C. S. Sterns	78, 696
Leather cutting machine	S. H. King	85, 102
Leather, Dressing and scouring	E. Fitzhenry	76, 619
Leather, Finishing	L. B. Fox	77, 025
Leather, Finishing	A. Bertram	77, 863
Leather felting and for other purposes, Machine for cutting.	R. C. Turner	80, 098
Leather, Manufacture of	W. Adamson	79, 177
Leather, Oiling, preserving and strengthening	L. S. Robbins	75, 795
Leather, Oil or polish for	S. M. Farnham	77, 021
Leather peg strip, Continuous	C. R. Quincy	74, 148
Leather, Polish for	J. Herold and M. Brown	78, 372
Leather polishing machine	J. W. Hildreth	76, 914
Leather, Reducing	W. C. Joslin	84, 631
Leather, Restoring old	B. Schmidt	66, 824
Leather, Rolling	W. H. Leach	79, 360
Leather, Scalloping	A. Goodyear	73, 243
Leather, Scarfing	C. H. Helms	80, 952
Leather, Scouring, blacking and finishing	F. W. Rust	84, 091
Leather, Splitting	J. Taggart	83, 888
Leather, Splitting and rolling	C. S. Stearns	78, 697
Leather splitting machine	F. J. Vittum	74, 734
Leather splitting machine	J. H. Abbott and J. A. Marden	75, 823
Leather strap and tube, Seamless	A. Eschenlohr	77, 724
Leather straps for fly nets, Punching	J. Matheis	80, 081
Leather stretching machine	M. R. Andrews and R. Dingwell	82, 063
Leather, Stuffing	F. Fischer	75, 890
Leather, Stuffing	H. Muller	78, 815
Leather, Stuffing	S. W. Schayer	78, 835
Leather, Tanning	H. Lucas	80, 981
Leather, Tanning process and composition for	G. Zippe	83, 433
Leather trimmer	L. P. Curtis	76, 608

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Leather, Washing	A. and G. F. Howard	79, 832
Leather-work ornament	L. E. Sallee	79, 148
Leg, Artificial	E. Elliott and C. E. Newton	73, 787
Leg, Artificial	A. Strasser	76, 267
Leg, Artificial	L. Tassius	81, 033
Leg, Artificial	G. B. Head	83, 496
Legs, crooked, and club feet, Straightening	H. R. Allen	73, 768
Lemon squeezer	T. C. Smith	76, 539
Lemon squeezer	J. Klepzig	84, 125
Lens for photographic use, Compound	J. H. Dallmeyer	79, 323
Letter balance	B. Chambers jr	75, 244
Letter file	A. E. Taylor	81, 559
Letter game	J. E. Wheat	74, 022
Letter package	J. W. Burns	83, 600
Letter pouch	P. Davis	79, 324
Letters, Stamping	C. W. Maas and C. Fischer	75, 638
Level	H. G. Loomis	79, 582
Level	W. P. Cutter	80, 337
Level and square combined	H. G. Taylor	78, 770
Level, Spirit	L. L. Davis	75, 553
Level, Spirit	J. D. Sibley	79, 226
Level, Spirit	H. Lewis	79, 363
Level, Spirit	C. F. Hill	84, 880
Level, spirit, Adjustable	W. J. Tate	73, 670
Level, spirit, Adjustable	L. L. Davis	75, 534
Level, spirit, Adjusting	J. A. Traut	82, 769
Leveler marker and pulverizer	L. Jones	85, 010
Lever grapnel	E. B. Dewey	84, 683
Lever power, Vibrating	N. Tripp	74, 732
Lever purchase	J. B. Case	76, 050
Lid for tea kettle	J. De Haven	74, 057
Life line for sea bathing	W. T. Street	84, 592
Life preserver	G. M. Allerton	79, 934
Life-preserving and swimming apparatus, Combination of.	H. Olsen	74, 931
Life-preserving apparatus	J. B. Stoner	74, 168
Lifting apparatus	T. W. Reilly	76, 944
Lifting machine	A. Kriebel	82, 128
Lightning rod	D. Munson	74, 406
Lightning rod	W. Hall	77, 729
Lightning rod	G. Kirkland	78, 459
Lightning rod	G. W. Otis	80, 205
Lightning rod	D. Munson	84, 210
Lighting apparatus, System of flambeau-like	E. A. L. D'Argy	74, 513
Limb and basket holder	W. Richardson	76, 248
Limb, Artificial	B. Briody	78, 048
Lime, Acid phosphate of	E. N. Horsford	76, 763
Lime, acid phosphate of, Preparation of	E. N. Horsford	75, 271
Lime, plaster, &c., Spreading	G. U. Relyea	83, 816
Line, Check and driving	C. M. Alexander	79, 932
Line fastener	W. P. W. Dana	74, 203
Line holder	J. H. Zinn	79, 228
Line holder	D. W. C. McMaster	83, 075
Liniment	W. P. Hamlin	77, 814
Liniment	A. J. Creel	78, 068
Liniment	H. Fedder	82, 212
Liniment for horses and other animals	W. Christman	75, 722
Liniment for rheumatism	A. M. Dennen	82, 692
Liniment, Mammalial	S. Rueger	84, 580
Liniment or medieal compound	D. C. Randall	85, 242
Lining for carpets, ehests, drawers, wardrobes, &c	J. M. Perkins	76, 342
Link	A. Goodhart	78, 275
Link and eyebolt without welding, Making	G. H. Sellers	82, 559
Link, Boring	C. Kellogg	74, 376
Link, Chain	S. Vanstone	76, 562
Link, Connecting	W. N. Pelton	76, 517
Link for endless ehains for horse powers	J. Casho	81, 251
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Liquids, ærated, Preparing	P. H. Vander Weyde	74, 175
Liquids, Atomizing	A. M. Shurtleff	75, 208
Liquids, Atomizing	H. Kraut	79, 764
Liquid cooler	E. and M. A. F. Haas	80, 914
Liquids, Cooling	H. C. Fowler	76, 181
Liquids, Cooling and filtering	D. E. Somes	82, 651
Liquids, Diffusing	C. H. Hudson	77, 286
Liquids, Evaporating	J. P. Dake	80, 149
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Liquid from paint and other solid substanees, Separating.	D. M. Weston	74, 021
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Liquid measure	W. Sprague	80, 370

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Liquid sampler	A. Barbarin	83, 024
Liquids, spirituous, Distilling	J. F. Collins	73, 539
Liquor, Distilling spirituous	W. Shilling	74, 770
Liquor, malt, Brewing	P. Conday	82, 208
Liquors, Purifying and ageing	A. J. Gibson	85, 225
Liquor, Refining	J. S. Oliver	82, 633
Liquor, Refining and purifying spirituous	W. P. Valentine	79, 616
Litharge, paint, &c., Separating light from heavy particles of.	W. Atwood	79, 802
Lock and alarm, Till	J. J. Wagenhorst	74, 639
Lock and door bolt	C. Sulzman	76, 671
Lock and knob latch, Combined	C. Brown	73, 498
Lock and knob latch, Combined	G. Schumacher	75, 204
Lock and knob latch, Combined	J. H. Vickers	77, 552
Lock and latch, Combined	S. A. Green	81, 625
Lock and latch, Combined	N. Edwards	81, 990
Lock and latch, Combined	F. L. Johnson	82, 418
Lock and latch, Combined	A. Sprague	84, 391
Lock, Bottle	L. Lehman	78, 976
Lock, Bottle	W. A. Ludden	85, 111
Lock, Burglar alarm	S. T. Heminway	73, 182
Lock, Burglar alarm	A. Isensee	73, 897
Lock, Burglar alarm	N. Check	80, 599
Lock, Car seat	G. W. B. Bailey and J. McClusky	73, 155
Lock, Combination	A. B. Vandemark	84, 659
Lock, Combination	J. B. White	84, 664
Lock, Door	H. Norton	75, 569
Lock, Door	F. H. Bartholomew	75, 838
Lock, Door	P. S. Felter	76, 066
Lock, Door	W. D. Field	77, 367
Lock, Door	L. L. Woolley	78, 038
Lock, Door	J. E. A. Gibbs	78, 449
Lock, Door	R. C. Harrington	78, 962
Lock, Door	J. G. Spathlef	80, 369
Lock, Door	M. B. Foote	84, 484
Lock, Door	C. Fleischel and W. C. Bussey	84, 737
Lock, door, Alarm	A. Iske	73, 013
Lock, Door, and knob latch combined	H. W. Busse	75, 360
Lock, Door and safe	J. Dillingham	81, 988
Lock, door, Combination	W. C. Bussey	76, 300
Lock for barrel hoops	J. Chase	74, 305
Lock for doors, &c., Cross bar	J. E. Hanger	78, 960
Lock for drawers, &c	A. G. Burton	75, 854
Lock for fruit boxes, &c	C. Colby	75, 372
Lock for trunks, pianos, &c	C. N. Cutter	83, 137
Lock. Hasp	M. G. Imbach	83, 500
Lock, Hasp	J. S. Elliott	77, 723
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Lock, Indicator	T. Lalor	80, 637
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Lock, Pad	M. P. Thatcher	73, 136
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Lock, Pad	A. P. Barlow	74, 484
Lock, Pad	J. E. Kohout	76, 780
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Lock, Pad	A. F. Smith and J. H. Vickers	79, 694
Lock, Pad	D. F. Randall	79, 859
Lock, Pad	G. W. Dana	82, 694
Lock, Pad	A. S. Blake	84, 162
Lock, pad, Combination	E. E. Stubbs	75, 216
Lock, pad, Combination	J. L. Hall	81, 630
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Lock, Permutation	L. H. Miller	73, 742
Lock, Permutation	O. E. Pillard	73, 831
Lock, Permutation	A. Wetzel	74, 781
Lock, Permutation	O. E. Pillard	75, 967
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Lock, Permutation	T. J. Sullivan	81, 430
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Lock, permutation, Indicator for	A. Hardy	85,227
Lock, Piano	J. Thielemann	81,226
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Lock, Row	C. L. Dayton	79,459
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Lock, Safe door	J. G. Kriechbaum	78,101
Lock, Safety guard for	W. C. Sinclair	82,444
Lock, Safety switch	H. C. Cotter and G. G. Green	83,834
Lock, Sash	E. H. Tobey	83,112
Lock, Sash	J. U. Gerow	84,107
Lock, Seal	O. S. Pease	81,203
Lock, Seal	O. S. Pease	81,204
Lock, Trunk	G. Ruppel	73,841
Lock, Wagon	C. Noethlich	77,754
Lock, Wagon	F. A. Kington	80,973
Lock, Whip	T. M. Gifford	75,409
Locomotive cow catcher	J. Noble	76,938
Locomotive crank pins from true center, Determining deviation of.	C. J. Clifford	73,233
Locomotive crank pins, Turning	W. Blythe and N. Haynes	76,702
Locomotive, Petticoat pipe for	W. G. Freeman	78,658
Locomotive, Smoke stack for	J. Atkins	80,437
Locomotive, Smoke stack for	J. A. W. Justi	83,506
Locomotive spark arrester	I. Choate	81,602
Locomotive tender, Loader for	A. D. Smith	78,122
Locomotive, with spading apparatus, Agricultural	C. Locher	82,963
Loom	J. Deakin	73,237
Loom	B. and E. Oldfield	73,374
Loom	M. J. Quinn	74,938
Loom	J. Silbermann and G. Unger	75,062
Loom	J. Shaw	75,305
Loom	G. Crompton	75,530
Loom	G. Cliff	77,169
Loom	G. Crompton	77,361
Loom	W. H. Jackson and G. Merrill	77,619
Loom	W. F. Draper	78,941
Loom	J. P. Humaston	79,908
Loom	G. Crompton	80,608
Loom	G. Crompton	80,810
Loom	J. Lyall	80,982
Loom	G. Crompton	81,070
Loom	J. Salsbury	81,113
Loom	G. Crompton	81,347
Loom	A. W. Silvis	83,557
Loom	J. G. Garretson	83,621
Loom	B. H. Jenks	84,423
Loom	W. T. Flinn	84,872
Loom	G. Crompton	85,432
Loom, Belt shipper for	L. J. Knowles	79,986
Loom, Brake for yarn beam of	J. J. and E. Harrison	82,220
Loom, Filling fork for	W. G. Duce and A. C. Eddy	83,267
Loom, Finger for shuttle stop rod in	E. S. Laney	77,820
Loom for circular weaving	A. Wagner	81,438
Loom for weaving fringe	L. D. Valetton	80,786
Loom for weaving garments	S. Leather	77,498
Loom for weaving palm leaf	J. C. Smith	79,923
Loom for weaving pile fabric	L. Ferguson	81,487
Loom for weaving pile fabric	W. Webster	82,773
Loom, Hand	J. E. Nute and G. H. Hathorn	73,256
Loom, Hand	O. Strong	73,266
Loom, Hand	C. Unvezagt	73,852
Loom, Hand	G. Harsin and T. M. Kirkpatrick	74,351
Loom, Hand	J. L. Bransom	79,946
Loom, Hand	J. Albertson and S. C. Byers	80,047
Loom, Hand	W. S. Freeman	80,717
Loom, Hand	E. Lowe	81,656
Loom, Harness for	D. C. Brown	72,967
Loom, Harness for	J. Sladdin	80,774
Loom, Harness frame for	D. C. Brown	77,446
Loom, Harness mechanism for	J. Greenhalgh	74,819
Loom, Harness operating mechanism for	J. Bachelder and W. A. Bliss	76,036
Loom, Harness operating mechanism for	G. Crompton	76,406
Loom harness, Wire heddles for	D. C. Brown and J. Ashworth	77,713
Loom indicator	A. Fellows and T. B. Harrison	73,962
Loom, Jacquard for	M. Wolf	78,779
Loom, Lappet or embroidering	F. W. Newton	84,753
Loom, Let-off and take-up for	J. Pender	73,993
Loom, Let-off for	J. A. Marden	73,353
Loom, Let-off for	T. S. Smith	73,470

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Loom, Let-off for	L. C. Briggs	81, 113
Loom, Let-off mechanism for	G. Draper	72, 987
Loom, Let-off mechanism for	T. S. Smith and A. B. Ely	73, 399
Loom, Let-off mechanism for	D. Hussey	76, 636
Loom, Let-off mechanism for	W. Hall	80, 625
Loom, Let-off mechanism for	B. F. Carter	81, 342
Loom, Let-off mechanism for	C. H. Young	81, 453
Loom, Let-off mechanism for	P. McGee	82, 625
Loom, Let-off mechanism for	T. Booth and C. C. Sanderson	84, 253
Loom, Let-off mechanism for	T. S. Smith	84, 515
Loom, Operating harness in	F. Traub	77, 335
Loom, Operating harness in	O. Plummer	80, 876
Loom, Operating shuttle boxes in	N. Andover	81, 865
Loom, Operating shuttle boxes in	J. Brierly	80, 385
Loom, Operating pile wires in	W. Weild	81, 443
Loom, Picker for	R. Leach	73, 818
Loom, Picker for	R. Joslin	74, 545
Loom, Picker motion	J. Pilkington	73, 037
Loom, picker staff check for	E. and H. C. Phillips	74, 124
Loom, Shuttle for	E. Cross	73, 955
Loom, Shuttle for	L. Scofield	74, 013
Loom, Shuttle for	D. G. Chase	75, 522
Loom, Shuttle for	S. E. Chase	76, 604
Loom, Shuttle for	A. D. Clark	81, 344
Loom, Shuttle for	E. Baggett	81, 578
Loom, Shuttle for	C. E. Smith and F. Jacques	83, 559
Loom, Stop motion for	J. J. Surtzer	80, 885
Loom temple	W. W. Dutcher	78, 441
Loom temple	L. Briggs	82, 684
Loom, Weft stop motion for	J. C. Fifield	75, 888
Loom, Yarn beam for	B. A. Bailey	80, 529
Lounge	W. C. Hart	78, 204
Lounge	L. H. Baker	79, 050
Lounge and chair	G. Knell	76, 202
Lounge and chair	T. Winter	77, 697
Lounge, Bed	J. L. Cox	81, 880
Lounge, Bed	J. D. Pratt	83, 554
Lounge, bureau, and table	A. Faller	80, 159
Lounge, Extension	C. Streit	84, 147
Lounge, Folding	D. Folding	83, 949
Lounge, Folding	W. H. Lotz	85, 391
Lozenge, Cathartic	W. M. Du Bois	79, 641
Lubricating bearings for machinery	L. H. Olmstead	73, 459
Lubricating composition	J. Corduan	76, 165
Lubricating compound	E. J. Gerdom and C. W. Schindler	73, 089
Lubricating compound	T. Hull and A. H. Vail	74, 366
Lubricating compound	T. E. Curtis	78, 189
Lubricating compound	E. J. Gerdom and C. W. Schindler	80, 471
Lubricating device	M. Senior	75, 584
Lubricating device	B. H. Reynolds and J. Bachel	78, 895
Lubricating device	F. Colligon	80, 457
Lubricating hubs and axles	T. Wilson	81, 449
Lubricating material	C. Carpenter	82, 083
Lubricator	E. Johnson	76, 774
Lubricator	H. Taylor	77, 851
Lubricator	E. F. Gerdom and C. W. Schindler	77, 974
Lubricator	T. Holland and J. T. Cody	78, 594
Lubricator	G. Watres	79, 167
Lubricator	H. Taylor	79, 279
Lubricator	J. Richey	79, 501
Lubricator	H. Crossley	80, 923
Lubricator	R. H. Tradenick	82, 182
Lubricator	G. Waters	82, 368
Lubricator	J. Harlin	82, 522
Lubricator	J. B. Wickersham	82, 667
Lubricator	D. M. Reynolds	82, 878
Lubricator	T. Holland	83, 965
Lubricator	W. M. Runnyson	84, 135
Lubricator and water conductor combined	T. A. Shock	73, 262
Lubricator for axle, and attaching the same	L. Adams	74, 476
Lubricator for loose pulley	G. M. Morris and J. McCreary	74, 116
Lubricator, Journal	C. M. Ried	84, 765
Lubricator, Steam engine	J. Nation	75, 958
Lubricator, Steam engine	J. Ross	78, 540
Lubricator, Steam engines	G. Girty	83, 275
Lugs and dovetails, Casting	G. W. Herrick	82, 715
Lumber drier	J. Brakeley	76, 591
Lumber drier	J. H. Rae	78, 692
Lumber drier	R. P. Johnson and J. Sumner	79, 661
Lumber drier	J. Du Bois	81, 074
Lumber, Measuring	E. Littlefield	80, 077

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Machinery, Anti-friction bearing for	J. Hardin	73,245
Machinery, Changing the speed of	T. C. Hargrave	82,941
Machinery, Feed attachment for	S. Brown	85,064
Machinery, Lubricating bearings for	L. H. Olmstead	73,459
Machinery, Stationary, Operating	G. Maranville	74,838
Magnet, Railway	C. Durant	78,076
Magnet, Relay	C. Durant	79,330
Mail bag receiver and mail car	W. G. Sanford	78,331
Mails, Receiving and delivering	F. K. Sibley and L. C. Wade	85,183
Mallet and hammer	W. S. McNeil	82,017
Malt and other liquids, Treating	G. Storey	76,266
Malt extracts, Concentrated	T. Hawks	78,875
Malt, Extract of barley	M. Wesselhoeft	82,909
Malt, Extracting saccharine matter from	W. Anheuser	75,509
Malt, Extracting saccharine matter from	W. Anheuser	83,589
Malt, Sprouting	J. Geemen	76,624
Malting, brewing, &c., Apparatus for	A. B. Walker	76,853
Mandrel, Bending	C. French	76,432
Mandrel, Expanding	D. L. Allen	76,372
Mandrel, Expanding	M. Gardner, sr	77,369
Mandrel, Expanding	J. Brewer	79,198
Mandrel, Expanding	A. F. Nagle	80,560
Mandrel, Expanding or boring tool	J. C. Millerd	81,664
Manganates and permanganates, Preparation of	B. Schmidt	76,825
Manger	W. F. Stanley	83,738
Mangle	J. Beaumont	79,188
Mangle and ironing machine	J. Seaman	80,019
Mangler and cutter, Beefsteak	De Witt C. Thompson	84,718
Manure, Deodorizing, desiccating and mixing	H. S. Firman	84,686
Manure distributer and planter, Combined	B. F. Whitner	76,865
Manure drag	U. Hummer	73,894
Manuring and seeding, System of	A. F. Eckhardt	82,503
Map and chart holder	E. A. and A. C. Apgar	75,343
Map to teach geography, &c., Outline	E. F. Anderson	83,236
Marble, &c., Composition for grinding and polishing	J. C. McAfee	81,520
Marble cutting machine	W. Wickersham	75,230
Marble, Lettering	J. Turel	77,781
Marble, Sawing	P. J. Torney	84,518
Marble sawing machine	D. M. Campbell and J. Stevens	85,280
Marine foundation	E. Manica	73,617
Marine propulsion	A. J. Reynolds	75,648
Marsh and other gases, Collecting	C. S. Hunt and J. B. Knight	77,982
Marshes, Filling	G. Howell	76,194
Marshes, Filling	G. Howell and W. Smith	82,224
Marshes, Filling	J. B. Wood and J. T. Chapman	83,895
Martingale	W. B. Perrie	82,029
Martingale	P. J. McGuiness	84,643
Mast of vessels, Securing	D. S. Stevens and L. Snedecor	80,884
Mat	J. M. Groh	82,308
Mat, Door	W. Young, jr	80,379
Mat, Rubber	F. M. Shepard	82,647
Match and cigar box combined	G. Graetz	85,170
Match box	J. H. Wheeler	73,855
Match box	J. Kirchfield and F. Heyl	76,084
Match box	A. Martin	76,786
Match composition	W. H. Rogers	83,412
Match for lighting cigars, &c	G. Graetz	84,821
Match, Friction	B. F. Woodside	73,275
Matches, Friction, Placing in frames for dipping	G. Sebold	78,837
Match machine	E. Andrews and W. Tucker	84,464
Match, Making and dipping	J. F. Cranston	73,507
Match safe	J. A. Evarts	73,706
Match safe	M. Jincks	77,984
Match safe	A. Hoyt	79,353
Match safe	H. M. Woodford	79,426
Match safe	H. Richmond	82,752
Match, Safety	R. H. Martin	77,744
Matches, Safety and other friction, Composition for the manufacture of.	W. Austin	83,683
Match stand	G. G. Taylor	76,549
Matting, Floor, Woven fabric for	I. Lindsley	76,783
Mattress	G. Schott	73,466
Mattress	A. G. Morey	82,975
Mattress, Spring	A. Gebhard	74,528
Mattress, Spring	J. W. H. Scott	76,663
Mattress, Wire spring	F. R. Wegman	79,040
Measure and weigher combined	A. B. Hurd	82,842
Measure for cutting dresses	S. R. Windle	76,128
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Measuring and laying out	H. Mengel	77, 704
Measuring distances, Instrument for	G. Achelis and H. Poppenhusen	75, 824
Measuring heights and distances	C. Wilson	82, 669
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Meat chopper	N. L. Hateh	76, 187
Meat chopper	C. L. Gilpatrie	79, 465
Meat chopper	A. J. Curtis	80, 811
Meat chopper	J. G. Hirzel	80, 955
Meat chopper	T. Payne	81, 939
Meat chopping machine	S. Rutsehman	81, 624
Meat, Curing and preserving	M. B. Sherwood	85, 485
Meat, &c., Cutting	P. Vande Sande	83, 676
Meat, fish, &c., Preserving and freezing	P. Nuna	83, 533
Meat, fruits, vegetables, &c., Preserving	J. Burrows	82, 719
Meat mincer	J. M. Drouyer	78, 942
Meat pounder and ice pick	G. Murray, jr	77, 752
Meat, Preserving	M. Perl	82, 871
Meat, Preserving	J. E. Doteh	84, 481
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Meat, Preserving, and other perishable articles	T. Sim	85, 184
Meat, Preserving	W. Davis	78, 932
Meat, Preserving and packing	C. E. Richardson	74, 247
Meat, Roasting, Spit for	E. W. Bigelow	77, 349
Mechanical movement	H. C. Burk	72, 972
Mechanical movement	E. Soper	73, 401
Mechanical movement	W. R. Swinnerton	74, 952
Mechanical movement	M. Boekman	74, 979
Mechanical movement	W. F. Goodwin	75, 676
Mechanical movement	G. Rich	77, 322
Mechanical movement	J. P. Davis	77, 464
Mechanical movement	E. W. Sargent	79, 013
Mechanical movement	J. See	79, 503
Mechanical movement	A. W. Brown and W. F. Goodwin	81, 248
Mechanical movement	W. F. Good	81, 271
Mechanical movement	D. S. Merritt	81, 393
Mechanical movement	E. O. Rood	81, 619
Mechanical movement	I. E. Palmer	82, 436
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Mechanical movement	J. A. Shanner	84, 007
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Mechanical movement	M. Laemmel	84, 632
Mechanical movement	A. R. Buffington	84, 678
Mechanical movement, Regulating and dispensing	S. Scholfield	77, 923
Medals, &c., Producing reduced copies of	J. Hill	76, 631
Medical compound	D. W. Taylor	73, 135
Medical compound	J. T. Stewart	73, 552
Medical compound	J. M. Thompson	73, 939
Medical compound	T. Rasbrough	74, 147
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Medical compound	G. W. C. Gamble	74, 680
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Medical compound	O. G. Ditmars	75, 537
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Medical compound	L. Rogers	78, 017
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Medical compound	J. Ramsburg, sr	82, 873
Medical compound	S. Bass	83, 755
Medical compound	E. M. and L. M. Berry	83, 823
Medical compound	J. H. Hughes	85, 385
Medical compound for cattle, &c	D. P. Mathews	81, 920
Medical compound for treating horses, cattle, &c	G. Van Wagenen	81, 711
Medical compound or bitters	G. V. Rambaut	74, 940
Medical compound or liniment	D. C. Randall	85, 242
Medical plaster	S. I. Merrill	83, 872
Medical preparation	T. A. Barry and B. A Patten	75, 837
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Medicine	B. W. Donaldson	76, 308
Medicine	L. P. Sedgwick	76, 832

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Medicine	E. Trese	80, 718
Medicine	M. Cary	84, 796
Medicine dropper	P. McElroy	79, 487
Medicine, Eye	D. R. Morgan	73, 369
Medicine, Eye	H. M. Sanderson	74, 151
Medicine, Fever and ague	J. Mabrey	79, 241
Medicine, Fever and ague	A. V. Lee	81, 181
Medicine, Hog cholera	A. J. Carver and E. P. Horn	82, 205
Medicine, Hog cholera	J. P. Ball	79, 098
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Melodeon	W. Cooper	73, 080
Melodeon, &c	E. Hamlin	80, 167
Melodeon reed	R. A. Abbott	82, 268
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Meter, Fluid	J. Powers and J. B. Van Deusen	75, 644
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Meter, Fluid	E. A. Chameroy	84, 476
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Meter, Gas	J. W. Mahlon	77, 298
Meter, gas, Dry	W. W. Goodwin	76, 908
Meter, gas, Dry	T. C. Hopper	73, 332
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Meter, Liquid	C. A. Geissenhainer	82, 105
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Meter, Spirit	J. C. Horton	73, 099
Meter, Water	W. Payton	73, 194
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Meter, Water	F. Wagner and L. Sexauer	75, 225
Meter, Water	E. Spencer	75, 655
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Meter, Water	A. Heaton	80, 409
Meter, Water	G. L. Jaeger	80, 488
Meter, Water	A. B. Edmonds	80, 714
Meter, Water	L. Sexauer	81, 015
Meter, Water	G. R. Moore	82, 737
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Milk stirrer	J. H. Soule	76, 260
Milk to obtain useful products, Treating	A. E. Baldwin	78, 640
Milk, Treating	G. D. Greenleaf and D. C. Larkins	76, 749
Milk, Treating	J. A. Otis and T. Baker	82, 866
Mill and press, Cider	E. Waugaman	80, 253
Mill and press, Fruit	H. A. Holderman	74, 361
Mill brush	J. M. Evril	77, 265
Mill, Cane	B. F. Cauffman	73, 779
Mill, Cane, and steam engine combined	J. Moore	74, 574
Mill, Cider	W. N. Whiteley, J. Fassler, and O. S. Kelley.	73, 417
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Mill, Cider	W. S. Oborn	79, 771
Mill, Cider	C. Wilson	82, 261
Mill, Cider and wine	J. Walton	78, 558
Mill, Clay	N. F. Potter	80, 008
Mill, Clay	L. Moore	80, 652
Mill, Coffee	W. J. Lane	73, 347
Mill, Coffee	C. and E. Parker	77, 649
Mill, Coffee	I. F. Colby	78, 648
Mill, Coffee	E. Watrous	80, 317
Mill, Coffee	W. H. Barns	81, 869
Mill, Combined clay grinding and separating	F. B. Norton and F. Hancock	76, 505
Mill, Corn and cob	T. Ucker and A. Hutchins	80, 244
Mill, Curd	J. Macadam	79, 365
Mill, Curd	W. Ralph	80, 089
Mill, Fanning	A. W. Smith	73, 469
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Mill, Feed regulator for	J. Ross	78, 541
Mill for pulverizing bone, &c	A. Newell	81, 933
Mill for tempering clay	G. Carnell, S. Williams, and W. Ellis	83, 361
Mill, Fruit	G. S. Hull	74, 365
Mill, Fulling	E. Gessner	78, 660
Mill, grain and grist, Taking the toll from	C. F. Keller	78, 099
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Mill, Grinding	J. Snyder	74, 161
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Mill, Grinding	E. Harrison	81, 780
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Mill, Grinding	B. Whitney	83, 574
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Mill, Malt	J. Gardiner	81, 994
Mill, Paint	C. Belcher	76, 386
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Mill, Quartz	A. Lewis	79, 581
Mill, Quartz	W. W. Hubbell	79, 762
Mill, Quartz	R. Plummer	81, 680
Mill, Quartz	S. Swesey	82, 362
Mill, quartz, Quicksilver feeder for	J. Pattison	82, 745
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Mill, Saw	C. D. Olmstead	73, 031
Mill, Saw	J. Baillie	74, 277
Mill, Saw	H. H. Gridley	75, 678
Mill, Saw	A. P. Barlow	75, 834
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Mill, Saw	D. B. Bartholomew	76, 384
Mill, Saw	J. L. Knowlton	76, 471
Mill, Saw	L. B. Walker	76, 677
Mill, Saw	J. W. Cherry	77, 079
Mill, Saw	C. R. Tompkins and J. Wright	77, 129
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Mill step	C. Corbit	75, 865
Millstone balance	W. C. Benn	82, 278
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Millstone exhaust	D. Baird	76, 972
Millstone, Face tester	J. Kuhn	81, 912
Millstone, Hanging	P. Zimmerman	79, 717
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Mill, Wind	W. Peck	81,816
Mill, Wind	J. Frazee	83,620
Mill, Wind	C. Goodwin	84,182
Mill, Wind	S. H. Halstead	84,614
Mill, Wind	H. R. Macomber	85,114
Mill, Wine or cider	H. B. Goucher	83,844
Mill, Winnowing	S. Adams	73,485
Milling and planing machine, Cutting tool for	E. T. Prindle	77,211
Mineing elever	S. J. Tongue	80,242
Mineral and metallic substances, Collecting and separating.	W. T. Duvall	80,393
Minerals and ores, Concentrating	S. K. Krow	80,747
Mineral, grindstone, &c., Dressing	P. Leonard	79,990
Mining shaft, Safety guard for	E. O. Leermo	79,076
Mirror	S. R. Scottron	76,253
Mirror	U. A. Woodbury	77,229
Mirror support	W. H. Gray	84,944
Miter and square, Combined	W. S. Winterbottom	79,175
Miter box	C. Robinson	77,217
Miter box	W. H. Herbert	81,782
Miter box	C. Robinson	82,351
Miter gauge	G. W. La Baw, A. T. Hutchinson, and I. W. Fleming.	77,053
Miter machine	J. H. Estes	82,504
Mitering machine	J. J. Sanders, jr	78,330
Mitering machine	J. M. Seymour	79,783
Mitering machine	F. A. Howard	81,373
Mitering machine	R. T. Thompson and H. T. Williams	83,891
Mittens	G. Topping	83,800
Models, dental, Obtaining	L. Stuck	82,563
Molasses cup of sheet metal, Constructing	G. B. Halsted	74,081
Money, Counting	J. P. Meaker	73,911
Mop	J. A. Wright	82,055
Mop and clothes wringer	E. Young	80,794
Mop and scrubbing brush	J. F. Mason	84,129
Mop and scrubbing-brush holder	P. O. Brian	78,121
Mop and wringer combined	J. A. Wright	79,428
Mop head	R. W. English	75,253
Mop head	W. A. Robinson	75,796
Mop head	L. H. Emmons	78,444
Mop head	J. D. Brown	82,286
Mop head	C. B. Clark and E. L. Ferguson	82,383
Mop head	O. Root	84,000
Mop head and brush holder	H. P. Gregg	81,626
Mop head and scrubbing brush combined	W. S. Van Hoesen	83,806
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Mortar	J. A. Fremon	85,223
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Mortising machine	C. Baggeman	73,428
Mortising machine	J. Richards	81,407
Mortising machine	L. W. Wolfe	74,739
Mortising machine	G. B. Phillips	76,808
Mortising machine	D. L. Gibbs	77,877
Mortising machine	G. V. Orton and J. Richards	79,249
Mortising machine	J. A. Peabody	81,286
Mortising machine	J. M. Johnson and J. Herig	82,004
Mortising machine	C. Carter	82,692
Mortising machine	F. A. Deland and L. Phillips	82,926
Mortising machine	F. Parker	83,306
Mortising machine	W. L. Epperson	84,620
Mortising machine	D. L. Gibbs	84,817
Mortising, slotting, and dovetailing machine	J. Felber	82,816
Mosquito bar	E. Steinel	78,124
Mosquito bar for window	A. C. Flint	78,948
Mosquito bar for window	C. T. Warren	79,419
Mosquito bar frame, Adjustable	L. J. Parsons	83,202
Mosquito frame, Folding	S. D. Maine	80,830
Mosquito killer	H. D. Forbes	78,950
Moth roof bee-hive portal	E. Beard	75,349
Motion by means of friction, Obtaining	S. Marden	74,234
Motion, Converting	W. H. Abel	74,265
Motion, Converting	M. M. Follett	76,429
Motion, Converting	K. J. Winlow	79,092
Motion, Converting reciprocating into rotary	D. Morrison	73,631
Motion, Converting reciprocating into rotary	J. G. Deshler	82,296
Motion, Converting rotary into reciprocating	E. Walker	75,495
Motion, Converting rotary into reciprocating	C. C. Welsh	82,907
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Motion, Transmitting	M. M. Ammidown	82,674
Motive power	S. G. Monce	79,289
Motor or meter, Water	C. Turner	76,274
Mold blacking machine	B. S. Benson	83,448
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Mold, Bottle	L. Thomas	79,162
Mold, Brick	W. Sangston and J. Bretz	82,037
Mold, Clay, for casting metals	J. J. C. Smith	85,349
Mold for artificial teeth	A. A. Knowlton	75,027
Mold for artificial teeth	J. A. McClelland	76,221
Mold for building blocks	T. J. Lowry	30,358
Mold for casting letters, &c	G. F. Sack	80,567
Mold for casting sleigh shoe	N. W. Russell	82,353
Mold for casting sleigh shoe	C. Sthore	81,554
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Mold for forming hats	J. E. Ward	85,191
Mold for forming roofing tiles	P. A. Brown	85,362
Mold for making acupuncture instruments	A. R. Brown	82,686
Mold for making drain tiles	H. Felthoff and L. D. Tingley	77,969
Mold for making strawberry ripener	C. Jillson	79,660
Mold, Glass	D. Turpin	75,604
Mold, Glass	E. W. Cooper	84,412
Mold, Glass ware	H. Dillaway	79,737
Mold, Glass ware, Cooling	H. Dillaway	79,738
Mold, Sugar	J. S. Inskeep	73,810
Molded and coated articles, Composition for forming	S. Whitemarsh	79,794
Molded articles, Manufacture of	W. B. Gleason	75,149
Moldings, &c., Composition for ornamental	C. E. Bonnet	85,055
Molding and planing, Machine for	J. P. Grosvenor	82,113
Molding, Composition for gilding	D. Wright	78,780
Molding designs	L. V. Hae and C. Roziere	77,042
Molding, Enameling	J. Johnson	78,747
Molding, Forming sheet metal	V. Fischer	74,068
Molding machine	H. A. Lee	79,663
Molding machine	C. H. Mellor	80,648
Molding machine	J. P. Grosvenor	81,997
Molding machinery	W. T. Horrobin	84,279
Moldings, Planing	E. H. Ripley	79,006
Moldings, Screw	W. Potts	83,791
Moldings, Tool for cutting	D. W. Perry	84,964
Moldings, Tool for turning	W. W. Carey	81,338
Movement, Mechanical	H. C. Burk	72,972
Movement, Mechanical	E. Soper	73,401
Movement, Mechanical	W. R. Swinnerton	74,952
Movement, Mechanical	M. F. Spore	75,591
Movement, Mechanical	W. F. Goodwin	75,676
Movement, Mechanical	G. Rich	77,322
Movement, Mechanical	J. T. Davis	77,464
Movement, Mechanical	M. Bockman	74,979
Movement, Mechanical	E. W. Sargent	79,013
Movement, Mechanical	J. Lee	79,503
Movement, Mechanical	A. W. Browne and W. F. Goodwin	81,248
Movement, Mechanical	W. F. Goodwin	81,271
Movement, Mechanical	J. S. Barden	81,329
Movement, Mechanical	D. S. Merritt	81,393
Movement, Mechanical	E. O. Rood	81,619
Movement, Mechanical	J. E. Palmer	82,436
Movement, Mechanical	G. R. Melton	82,860
Movement, Mechanical	J. A. Shannon	84,007
Movement, Mechanical	M. Webb	84,451
Movement, Mechanical	M. Laemmel	84,632
Movement, Mechanical	A. R. Buffington	84,678
Mower and reaper knife sharpener	W. B. Deuel	83,767
Mower, Lawn	A. M. Hill	73,807
Mower, Lawn	S. W. Sears	76,831
Mower, Lawn	J. Shaw	83,101
Mowing machine	M. F. Mathewson	77,634
Mowing machine	G. E. Burt	74,986
Mowing machine	J. W. Pierce	75,573
Mowing machine	W. Allen	75,720
Mowing machine	H. J. Ruggles	77,407
Mowing machine	M. V. Cummings	77,719
Mowing machine	G. W. N. Yost	78,712
Mowing machine	L. D. Bidwell	84,790
Mowing machine	F. A. Geisler	85,378
Mowing machine, Grinding cutters of	W. H. Laubach	74,701
Mowing machine, Clamping knives and cutters of, while being ground.	H. J. Case	80,597
Mowing machine, Grinding cutters of	B. B. Snow and J. Dickerson	80,571
Mowing machine, Grinding cutters of	C. B. Curtis	82,808

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Mowing machine, Grinding cutters of	D. W. Jameson	83,067
Mowing machine, Grinding cutters of	A. P. Thayers	78,401
Mowing machine, Grinding cutters of	A. French	78,448
Mowing machine, Grinding cutters of	S. D. Wackman	78,623
Mowing machine, Grinding cutters of	G. P. York and W. H. Wilson	78,909
Mowing machine, Grinding cutters of	S. W. and J. F. Palmer	80,761
Mowing machine, Grinding cutters of	H. F. Phillips and H. W. Leonard	81,105
Mowing machine, Holding cutters of, while being ground.	D. W. Jameson	84,191
Mowing machine knives, Grinding	M. C. Cronk	78,863
Mowing machine knives, Grinding	J. A. Thompson	79,030
Mowing machine, Sharpening cutters of	G. Sanford	83,222
Muff	M. R. King	77,051
Muffs, Forming blocks for	E. W. L. Bellander	74,286
Musical instrument	W. Vogel	84,027
Musical instrument and school desk	W. O. Trowbridge	83,008
Musical instrument, Key coupling for	J. Berger	73,072
Musical instrument, Metallic reed for	C. N. Cutter	79,321
Musical instrument, Metallic reed for	C. N. Cutter	79,322
Musical instrument, Reed	E. P. Needham	78,536
Musical instrument, Reed for	L. K. Fuller and H. K. White	84,486
Musical instrument, Stringed	G. Schleicker	81,012
Musical instrument, Wind	W. Fischer	85,222
Musical motion	P. Phillips	75,572
Musical return ball	J. Burke	76,393
Music stand, Portable	D. M. White	77,940
Music, Turning the leaves of	T. Goodrum	73,970
Muslin for sweat linings, &c., for hats, Treating	W. P. Wright	76,685
Mustard plaster	B. I. Crew	79,811
Muzzle for shot guns	J. Fry	84,942
Muzzle for shot guns, Detachable	S. H. Roper	79,861
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Nails, Cut	E. Sweet and J. B. Elliott	85,145
Nail cutting machine	W. H. Battelle	82,679
Nail cutting machine	C. P. Hunt	84,189
Nails, Cutting off	M. Gormby	80,063
Nails, Drawing	H. W. Holly	73,330
Nails, Drawing	E. P. Whitney	77,427
Nail-driver for boots and shoes, Hand	E. Hale	80,477
Nails, Extracting	D. Morris	74,401
Nail extractor	J. Edson	73,587
Nail extractor	J. A. Pinnell	78,479
Nail extractor	J. Tyzick	78,699
Nail extractor	J. Q. Breathitt	79,307
Nail extractor	J. Tyzick and H. W. Eskildson	82,568
Nail holder and hammer, Combined	R. W. Green	84,351
Nail, Horseshoe	S. E. Chase	78,644
Nail, Horseshoe	G. D. Walcott	79,417
Nails, horseshoe, Pointing	D. Armstrong	82,476
Nail machine	G. W. Sargent	76,104
Nail machine	F. Davidson	77,262
Nail machine	R. C. Grant	77,604
Nail machine	E. Davidson	80,150
Nail machine, Lubricator for	L. A. Dodge	79,326
Nail, Picture	B. H. Bradley	83,913
Nail-plate feeder	C. D. Hunt	74,094
Nail-plate feeder	D. Reed	85,478
Nail plates, Feeding	F. E. Boyd	75,620
Nail plates, Feeding	W. Sherman and J. Russell	81,830
Nail, Shoe	J. M. Bent	74,745
Nails while being headed, Holding cut	D. Savory	82,354
Nailing machine	L. R. Blake	76,150
Nailing or pegging machine	J. F. Sargent	77,104
Name plate and letter chute, Combination of	A. M. Damon and S. G. Lyford	85,218
Name plate for coffins, &c	G. Brabrook	75,726
Name plate for street lamp	C. J. O'Hara	82,544
Napkin ring and salt cup combined	G. Pine	75,968
Nasal irrigator	M. Mattson	75,285
Neckties and collars, Fastening for	E. Rau	83,318
Necktie and watch-guard combined	F. J. Flagg	79,063
Necktie fastening	R. A. Goodyear	73,244
Necktie fastening	E. Woodward	79,796
Necktie fastening	D. H. Tierney	84,874
Necktie holder	F. H. Brown	74,294
Necktie, Retainer for	W. J. Ketcham	76,468
Necktie supporter	G. R. Eagar	76,312
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Neck-yoke	T. J. Jones	74,544
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Needle, Knitting-machine	D. Bickford	84, 472
Needle, Knitting-machine	R. Allen	80, 264
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Needle, Sewing-machine	G. M. Isbell	79, 983
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Nest, Hens'	B. F. Hayward	82, 312
Net, Fish	T. Cartwright	82, 490
Net, Fishing	B. Arnold	78, 716
Net, Fishing	S. Harper	83, 493
Net, Fly	C. H. Burkholder	74, 664
Net, Fly, for horses	D. W. Hurst	80, 182
Net, Gill	D. Wills	76, 284
Net, Insect	C. B. Seaman	84, 381
Net, Trap	W. S. Wilcox	83, 429
Newspapers, Printing addresses on	J. C. Gaither	76, 433
Nickel and cobalt from other ores, Separating	A. Monnier	78, 001
Nipple, Nursing	S. H. Holton	78, 741
Nipper, Clinching	J. B. Wilder	79, 928
Nipper, Cutting	N. Thompson	80, 031
Nipper, Fishermen's	E. F. Stacy	78, 546
Nipper, Friction	D. Thomas	80, 575
Nozzle for cans	F. W. Devoe	83, 140
Nozzle for steam engines, Exhaust	J. Sanders	84, 371
Nozzle, Hose	J. B. Mitchell	81, 396
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Nozzle, Hose-pipe	J. A. Cushman	81, 257
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Numbers, Instrument for adding and registering	N. Spofford and C. Corliss	79, 272
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Nut	B. D. Sanders	83, 214
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Nut, Clamp	W. Pearson	80, 997
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Nut cracker	C. Hayden	83, 959
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Nut, Lock	S. W. Kirk	76, 201
Nut, Lock	A. D. Smith	78, 899
Nut, Lock	J. Rogers	79, 397
Nut, Lock	S. Garber	79, 649
Nut, Lock	A. Towne	80, 034
Nut, Lock	W. J. Stowell	81, 030
Nut, Lock, for axle skein and boxes	J. R. Smith	77, 411
Nuts, Locking	W. Mullins	76, 500
Nuts, Locking	D. Cumming	78, 864
Nut-locking device	W. Morehouse	83, 081
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Nut machine	A. B. Glover	79, 749
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Nuts, Making	E. R. Addison	80, 108
Nuts, Making	J. H. Sternberg	81, 224
Nuts, Making	O. W. Yale	82, 470
Nuts, Making	S. Vanstone	83, 745
Nuts, Making	E. Kaylor	84, 494
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Nut planer	J. F. Campbell	84, 410
Nuts, Roaster for	D. A. T. Gale	81, 159
Nut, Safety, and spring washer	A. V. B. Orr	75, 643
Nut-squaring chuck	H. F. Wheeler	80, 792
Nuts, Turning	B. Boardman	76, 983
O.		
Oat-dusting machine	R. Exelby and G. W. Marshall	83, 054
Odometer	W. H. Prescott and W. Judson	75, 789
Offal, Treating	J. P. Charoweth and E. P. Baugh	78, 261
Oil and fat, Purifying	R. C. Barton	76, 974
Oil-burning apparatus	A. J. White	74, 648
Oils, Compound	F. L. De Gerbeth	81, 071
Oil cup	N. B. Williams	75, 100
Oil cup	T. Carr	75, 937
Oil cup	C. Ferger	76, 616

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Oil cup	N. B. Williams	81, 051
Oil cup	E. Hurd	82, 321
Oil cup	H. Stanley	82, 888
Oil cup for lubricating shafts	E. J. Gerdom and C. W. Schindler	73, 795
Oil cup for steam-engines	J. C. Carroll	80, 911
Oil cup for steam-engines	E. H. Ashcroft	83, 587
Oil cup for steam pressure	F. P. McCullon and W. Woodcock	77, 900
Oiler for machinery	N. Tallman	81, 705
Oiler, Gib and self	C. B. White	80, 376
Oil for paint, &c	H. Ward	75, 497
Oil for wool	W. H. Moss	80, 559
Oil, Illuminating	D. W. Fowler	75, 147
Oil, Illuminating	J. E. Noyes	82, 151
Oils, lard, &c., Rendering and refining	A. Broadnax	81, 744
Oil, Lubricating	G. O. Spence	76, 838
Oil, Lubricating	R. A. Chesebrough	77, 959
Oil, Lubricating	J. A. Kestler	81, 093
Oil or polish for leather	S. M. Farnham	77, 021
Oil, Paint	D. R. P. Hill	82, 523
Oil, Paint	V. Cordier	82, 604
Oils, pigments and gums from cloths used by engravers, Recovering.	H. M. Baker	84, 404
Oils, Preparing	S. Gwynn	81, 495
Oils, Purification of	S. Gwynn and S. M. Clark	81, 496
Ointment	L. H. Moseley	74, 118
Ointment	H. R. Wood	78, 409
Ointment	J. Bogan and J. B. McGray	80, 854
Ointment for horses, cattle, &c	R. Jonas	80, 353
Ordnance	P. R. Beaupré	76, 586
Ordnance and other fire-arms	O. Abbruzzo	84, 525
Ordnance, Breech-loading	L. M. Lull and J. T. Starr	74, 557
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Ordnance, Reversible	J. D. Murphy	79, 377
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Ore and bone crusher	A. Newell	81, 932
Ore and mineral, Concentrating	S. R. Krom	80, 747
Ore and minerals, Separating	S. R. Krom	76, 331
Ore and minerals, Separating	S. T. Pearce	80, 763
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Ore concentrator	H. Donnelly	73, 306
Ore concentrator for dressing	W. Weston and G. C. Langtry	83, 231
Ore crusher	J. Reese	76, 100
Ore crusher and grinder	S. Hughes	76, 461
Ore crusher, grinder, and amalgamator	J. A. Collins	79, 954
Ore, Desulphurizing	J. F. Alexander	80, 798
Ore, Disintegrating	J. B. Cox	77, 259
Ore, Extracting precious metal from	A. Ott	75, 293
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Ore, iron, Reduction of refractory	C. Martin	74, 397
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Ore, iron, Smelting, &c	A. Hamer	74, 217
Ore, iron, Treating	H. Aitken	82, 576
Ore, iron, Treatment and reduction of titaniferous	C. Martin, W. Barrett, and T. Stammers.	82, 539
Ore, lead, Reducing	C. F. Carpenter	73, 874
Ore, lead, Smelting	D. P. Webster	76, 679
Ores, metals, and minerals, Treating	C. A. Stevens	79, 701
Ore of gold and silver, Amalgamating	L. E. Rivot	73, 839
Ore of gold and silver, Treating	L. E. Rivot	73, 838
Ore of gold and silver, Working	G. Knotel	84, 497
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Ore of gold, Washing	S. L. Beckwith	74, 281
Ore, Refining and smelting	J. P. McLean	79, 848
Ore, Roasting and chloridizing	H. Tindall	83, 121
Ores, Roasting metallic	F. W. Crosby	72, 980
Ores, Separating	S. R. Krom	81, 794
Ore separator	R. C. Morton	78, 468
Ore separator and concentrator	R. D. Symons, J. T. Harry, and S. Stephens.	83, 221
Ore with super-heated steam, Treating	L. E. Rivot	73, 840
Organ	J. Roush and J. W. Truby	79, 082
Organs, &c., Coupler for	R. W. Carpenter	76, 159
Organ, &c., Enharmonic key-board for	H. W. Poole	73, 753
Organ pipe	J. Lorenz	78, 107
Organ pipe	G. H. Brock	81, 591
Organ, pipe, Portable	A. B. Felgemaker and S. L. Derrick	77, 703
Organ, Producing a vibratory swell in	A. Hitchcock	73, 719
Organ, Reed	F. A. Wells	76, 013
Organ, Reed	F. Hoddick	76, 759
Organ, Valve arrangement	M. Baumgarten, jr	83, 241
Orthography, System of pronouncing	E. Leigh	78, 296

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Ottoman lounge	G. H. C. Williams	80,322
Oven	E. Bussey	77,581
Oven and bath combined	J. Perry	78,231
Oven and stove, Camp	D. C. McNeill	80,987
Oven, Bake	J. Vale	79,615
Oven, bake, Attachment for door of	S. Morton	78,754
Oven of cooking stove	D. A. Paris	78,687
Oven, Portable	F. C. Miller	78,226
Oven, Stove	O. M. W. Long	80,751
Oven, Stove	R. C. Whitehouse	85,194
Oven, stove pipe, and water heater, Combined	H. Herrick	79,348
Ox-bow pin	H. P. Judson	84,831
Oxide of zinc from sulphureted ores, Manufacture of	D. Lees	83,643
Oxygen and chlorine, Producing	J. T. A. Mallett	73,540
Ox-yoke	J. Langenbach	73,613
Ox-yoke	J. W. Little	76,332
Ox-yoke	W. Cooper	82,922
Ox-yoke, Adjustable	S. G. Walker	80,788
Oyster dredge	C. R. Belbin	78,509
Oyster dredging machine	T. P. Sink	74,857
Oyster winder	S. S. Shaw	77,110
P.		
Packer for packing sand in molders' flasks	B. S. Benson	83,029
Packing for car axles and boxes	S. R. Duncan	80,465
Packing for carriage shackle	F. B. Morse	77,399
Packing for engines, pumps, &c	W. H. Miller	77,204
Packing for hose-coupling	R. J. Gould	75,151
Packing for joints	J. E. Wootten	76,286
Packing for joints of steam and water pipes	H. Brocard	77,954
Packing for joints of steam-engines	W. J. Towne	84,022
Packing for piston head	J. U. Adams	78,911
Packing for steam and other enginery, Gasket	B. Dinsmore	84,864
Packing for steam-engines	J. Glanding	77,275
Packing for steam-engines	W. H. Miller	77,902
Packing, Piston	F. J. Roth	77,532
Packing, Piston	F. J. Roth	77,533
Packing, Piston rod	S. Lockhard	82,331
Packing, piston, Steam	W. Wilson	81,052
Packing, Steam and water	W. C. Selden	75,301
Packing, Stuffing box	F. J. Roth	77,534
Pad, Attaching pad hook to	G. D. Gillett	79,822
Pad billet	L. Hays	78,736
Bad, Bosom	H. W. Libbey	75,030
Pad, Bosom	H. W. Libbey	75,031
Pad, Bosom	J. C. Cook	76,894
Pad, Bosom	A. H. Johnson	77,493
Pad for horses' hoofs	J. Hascltine	77,979
Pad for horses' hoofs	J. L. Wethcrell	80,319
Pad for horses' hoofs	H. W. Southworth	81,025
Pad, Hernia	W. Pomeroy	81,533
Pail, Bale-ear for	J. Walton	77,853
Pail, Dinner	J. H. Foote	76,905
Pail, Dinner	M. Saulson	83,323
Pail ear	G. E. Eastman	80,341
Pail holder and milking stool	L. B. Hoit	77,376
Pail, Milk	S. Oppenheimer	84,572
Pail, Milking	R. A. Fish	84,179
Paint, &c., Separating liquid from	D. M. Weston	74,021
Paint, &c., water-proof, Composition for	D. M. Cummings	85,216
Paint composition	R. P. Hinds	85,308
Paint compound	J. D. Mills	73,627
Paint compound	H. W. Bradley	79,196
Paint compound	H. T. Wilson	81,721
Paint for buildings, roofs, &c	J. H. and G. O. Smith	84,011
Paint for liquid compasses, &c	E. S. Ritchie	77,763
Paint, litharge, &c., Separating light from heavy particles of.	W. Atwood	79,802
Paint, Manufacture of	W. C. Hurd	82,416
Paint, Marine	G. Hook	75,915
Paint, Metallic	F. G. Holland	80,177
Paint or mastic, Spreading	J. W. Wheeler	84,074
Paint, Stone	B. V. Betterson	76,882
Paint, Water-proof	J. A. Moffitt	84,702
Painted surfaces, Finish for	H. T. Payne and W. Ayres	73,377
Painting and roofing compound	N. Irish	84,421
Pallet for timepiece	C. E. Mason	77,827
Pamphlet cover, Self-sealing	W. H. Nichols	74,121
Pan, Bake	J. Chase, jr	75,524

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Pan, Baking	R. G. Elder	73, 703
Pan, Baking	S. W. Rogers	84, 908
Pan, bread, Forming	M. L. Best	79, 438
Pan, Dust	S. E. Condon	74, 801
Pan, Dust	D. C. Colby	77, 358
Pan, Dust	L. F. Wheaton	78, 406
Pan folding machine	W. Hamilton	81, 498
Pan for concentrating sulphuric acid	P. Marcelin and J. Saunders	77, 202
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Pan, Forming sheet metal	S. H. Kennedy	83, 712
Pan, Frying	R. C. Whitehouse	75, 095
Pan litter	M. A. Shepard	74, 855
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Pan, Wiring	J. Shepard	78, 121
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Pantaloon protecting guard	E. Lindsley	73, 106
Pantaloons, Drying and pressing	J. Braun	85, 059
Pantaloons stretching device	S. C. Wells	82, 666
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Paper bag machine	G. H. Mallory	83, 648
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Paper boxes, Making	W. Gates, D. J. Lloyd, and S. Miller	85, 301
Paper boxes, Manufacture of	R. Smith	84, 246
Paper cap	N. Waterman and A. T. Perkins	79, 420
Paper cap	M. G. Imbach and I. Weidenmann	80, 352
Paper cask	J. W. Jarboe	76, 771
Paper clasp	J. C. Arms	81, 727
Paper clip	A. H. Fatizinger	82, 271
Paper clip	C. E. Candee	74, 301
Paper, cloth, &c., Water-proofing	R. O. Lowrey	80, 640
Paper, Coloring	C. K. Brown	85, 426
Paper cutter and ruler	S. W. Wilcox	83, 115
Paper, Cutting	H. Skidmore	81, 021
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Paper cutting machine	G. H. Sanborn	84, 307
Paper dampener	J. A. Lynch	76, 479
Paper, Enameling	M. H. Gardner	78, 079
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Paper file	W. W. Clough	81, 253
Paper file	B. Ney and H. Hofheimer	83, 531
Paper file	E. H. Craige	84, 172
Paper file	L. H. Olmstead	84, 505
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Paper file	J. D. Field	85, 078
Paper, Folding and cording the edge of	J. E. Coffin	84, 091
Paper for collars, Manufacture of	J. M. Wilcox	80, 105
Paper for the manufacture of floor coverings, belting, &c.	J. J. Ott	81, 199
Paper for transferring stamps and other printed matter, Preparing.	M. Rosenthal	78, 610
Paper for various purposes, Treating	C. F. Crehore	74, 996
Paper for wrapping tobacco, snuff, &c., Preparing	M. W. Brown	74, 195
Paper machine, Elastic apron for	A. B. Lovell	82, 854
Paper making machine	J. Jennings	79, 659
Paper making machine	J. Viney	84, 235
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Paper, Manufacture of	E. T. Ford	83, 616
Paper, Manufacture of	E. T. Ford	83, 617
Paper, Medicated	G. W. Thompson	85, 188
Paper, Molding cornice and the like from	L. W. Kimball	85, 312
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Paper, printed, Removing ink and colors from	J. O. Veazie	74, 260
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Paper pulp	W. Miller	77, 829
Paper pulp	C. C. Fitzgerald	85, 079
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Paper ruling machine	C. F. West	79, 927
Paper ruling machine	W. C. Smith	84, 390
Paper stock and other fibers, Recovering waste alkalies from.	C. D. J. Seitz	83, 733
Paper stock, Bleaching	S. T. Merrill	75, 691
Paper stock, Preparing	J. Tiffany	73, 138
Paper stock, Washing	J. E. Andrews	79, 935
Paper tubes, &c., Making	J. Arkell	74, 190
Paper, wall, Edging	W. T. Yeoman	78, 707
Paper, wall, Printing	P. H. Bowers	76, 152
Paper, wall, Trimming	W. H. Guthrie	83, 709
Paper, Water and damp proof, for covering walls	C. Goessling	80, 620
Paper, Water-proof or damp-proof	S. C. Bishop	73, 287
Papier maché, Producing an extra surface on	E. S. Judge	75, 766
Parasol and umbrella	J. A. Simpson	78, 839
Parcelling, Manufacturing	J. R. Raynard	84, 578
Paste, Dentfrice	G. F. J. Colburn	85, 166
Paste, Making	G. G. Noah	73, 115
Pastry jigger	J. Redding and J. B. Coe	76, 813
Pattern for cutting shirts	J. W. Rand	78, 325
Pattern for draughting sleigh bodies	D. Pierce	74, 126
Pattern for stoves and hollow ware	J. Owen	84, 438
Pattern for trimming hat brim	C. M. Hawes	80, 732
Pattern square	N. W. Burnett	74, 297
Pavement	H. G. McGonigle	74, 110
Pavement	C. W. Stafford	75, 309
Pavement	C. Williams	75, 504
Pavement	C. Williams	76, 021
Pavement	W. W. Boyington	78, 046
Pavement	A. Wyckoff	78, 635
Pavement	B. F. Miller	79, 770
Pavement	C. Williams	80, 260
Pavement	C. Williams	80, 261
Pavement	R. Foley	82, 102
Pavement, Asphalt	C. P. Alsing	77, 565
Pavement, Composition for	E. Wenger	81, 564
Pavement, Composition for	G. Dubellé	84, 272
Pavement, Composition for	H. F. Snow and J. H. Davis	81, 698
Pavement, Compound for	J. C. and M. V. Campbell	73, 434
Pavement, Concrete	W. H. White	74, 963
Pavement, Railway	J. T. Parson	77, 208
Pavement, Street	H. M. Stow	74, 862
Pavement, Street	P. Cadue and W. H. De Valin	80, 856
Pavement, Street, and walks	A. Hoyt	78, 455
Pavement, street, Composition for	J. W. Byrnes	75, 055
Pavement, Wood	A. Miller and C. Mason	76, 227
Pavement, Wood	D. McKenzie	79, 674
Pavement, Wood	D. W. Hunt	82, 320
Pavement, Wooden	H. McDougall	75, 780
Pavement, Wooden	W. D. Richardson	81, 540
Pawl and ratchet mechanism	J. Garfield	82, 935
Peach parer	J. H. Brown	82, 794
Peanuts, Picking and cleaning	J. C. Underwood	81, 562
Pearl-barley machine	W. Rickard	74, 595
Pea sheller	S. Ustick	77, 683
Peat crib	M. S. Roberts	74, 141
Peat machine	J. Tisdale	74, 635
Peat machine	M. S. Roberts	80, 309
Peat machine	N. Aubin	83, 441
Peat machine	Z. Luddington	85, 178
Peat, Molding	J. L. Lyons	73, 616
Peat, Preparing	C. W. Inglis	75, 763
Peg float	W. Miller, J. J. Becker, and A. Simcox	78, 227
Pegs, Making	J. S. L. Babbs	77, 241
Pegging machine	J. W. Soule	82, 448
Pegging machine, Hand	F. I. Vittum	84, 025
Pegging machinery, Peg-feed-top for	S. A. Holt and C. H. Williams	81, 275
Pegging or nailing machine	J. F. Sargent	77, 104
Pelt punch	J. T. Carson	74, 197
Pen	W. A. Morse	73, 255
Pen	E. Wiley	73, 419
Pen	R. Hirst	75, 909
Pen	J. H. Holland	76, 454
Pen and pencil case	L. F. Standish	80, 780
Pen and pencil holder	A. Tower	78, 698
Pen and worm fence	J. Will	73, 420
Pen, Fountain	R. H. Chinn	82, 598
Pen, Fountain	G. Kneip	82, 850
Pen-holder	C. M. H. Warren	74, 179
Pen-holder	A. Warth	77, 422

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Pen-holder	H. G. Eastman	78,655
Pen-holder for ruling machine	I. W. Henderson	75,546
Pen rest	R. B. Hugunin	75,164
Penstock for underground drains	D. A. Parks	75,295
Pen wiper	S. Darling	73,956
Pencil and pen case	S. F. Standish	80,780
Pencil and pen holder	A. Tower	78,698
Pencil case	W. Maginn	77,062
Pencil holder	E. J. Toof	78,158
Pencil, Lead	E. Taber	73,883
Pencil, Rubber head for	S. D. Hovey	80,485
Pencil sharpener	O. C. Squyer	74,728
Pencil sharpener	J. L. and D. H. Cole	80,145
Pencil sheath	J. Darmer	78,931
Pencil sheath	S. Ayers	82,272
Pendents for sheets of fore and aft sails	N. Woodbury	80,325
Pepper box top fastener	J. Bounds	78,858
Perambulator	C. Lyne	81,387
Perambulator, Folding	A. Christian	83,363
Percussion cap, Feeding	A. J. French	85,224
Permanganates and manganates, Preparation of	B. Schmidt	76,825
Pessary	B. Atkinson	74,482
Pessary	B. Joseph	79,231
Pessary	C. R. Gorgas	80,163
Pessary	W. T. Chrisman	81,877
Petroleum, crude, Burning	H. Baldwin	75,238
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Petroleum, Distilling	A. Kirk	78,878
Petroleum, Purifying and decoloring	J. Ellis	77,470
Petroleum, Storing	I. Mathei	83,192
Petroleum to remove the more volatile portions, Treating.	R. G. Loftus	81,654
Petroleum, Treating, for the manufacture of oils	G. O. Spence	78,545
Phosphate of lime, acid, Concentrating	G. F. Wilson and E. N. Horsford	75,339
Phosphate of lime and farinaceous matters in order to granulate them, Treating the mixture of acid.	G. F. Wilson and E. N. Horsford	75,337
Phosphate acid, and other liquids, Conveying	G. F. Wilson	75,335
Phosphates, acid, Drying	G. F. Wilson	75,330
Phosphates, acid, Granulating	G. E. Wilson	75,334
Phosphates, acid, Grinding and pulverizing	G. F. Wilson	75,333
Phosphates, acid, Manufacture of	G. F. Wilson	75,328
Phosphates, acid, Process and apparatus for the manufacture of.	G. F. Wilson	75,331
Phosphates, acid, Treating, in the manufacture of yeast powders, &c.	G. F. Wilson and E. N. Horsford	75,338
Phosphates for agricultural purposes	G. F. Wilson	75,327
Phosphates for the manufacture of fertilizers, Treating mineral.	J. Commins	74,799
Phosphates for the manufacture of fertilizers, Treating mineral.	J. Commins	78,061
Phosphates, Manufacture of, and extracting phosphoric acid from bones.	G. F. Wilson and E. N. Horsford	75,336
Photograph and engravings, Mounting	J. L. Duffee	78,195
Photograph, Cutting and pasting	J. Franke	74,336
Photograph, Printing	A. L. Kilby	81,277
Photograph, Producing surfaces for printing from	W. Bentley	77,232
Photographers, Posing apparatus for	G. Crammer and J. Gross	83,835
Photographic negative, Vignetting	F. Wolf	74,654
Photographic pictures, Printing	I. Rehu	76,660
Photographic printing apparatus	E. and E. W. Brown	73,948
Photographic printing apparatus	J. Stellman	75,482
Photographic printing, Contact pad for	J. Buchtell	84,168
Photographic printing frame	S. F. Conant and H. A. Manley	74,311
Photographic printing frame	B. Reed	83,548
Photographic rest	N. Sarony	74,604
Photographic rest	C. E. Krüger	83,714
Photographic room	G. K. Proctor	83,545
Photographic transfer	O. P. Howe	76,458
Photometer	H. Vogel	75,493
Piano	F. B. McGregor	82,428
Piano, &c., Child's pedal for	C. A. Class	83,039
Piano, &c., Hand supporter for	C. Sangalli	84,844
Piano, Sounding-board for	G. M. Guild	78,276
Piano, &c., Key-board for	J. S. Allen and A. P. Williams	79,295
Piano-forte	L. Caldera and L. Montii	75,362
Piano-forte	G. W. Neill	79,591
Piano-forte	H. Herrick	80,073
Piano-forte	T. Steinway	81,306
Piano-forte action	H. Seidell	77,845
Piano-forte bridge	C. H. DeVine	82,928
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Pick-axe	J. C. Conklin	80, 146
Pick-axe	M. Gale	83, 274
Pick-axe, Forming eye of	H. L. Lowman	79, 364
Pick handle	W. Blay	78, 718
Pick, Ice	S. G. Hoyt	73, 809
Piek, Mill	H. H. Gillett	82, 107
Pick, Attaching handle to	P. J. Hogan	83, 710
Picker staff, Check for	E. Robbins	73, 045
Pieker shaft, Mounting	W. Mason	78, 463
Picket, Pointing	W. W. Johnson	73, 339
Picture and other frames, Hanging	C. B. Davis	84, 266
Picture frames	J. T. Schmitt	83, 797
Picture frame-supporter	L. L. Hodges	73, 808
Pieture, Hook and cornice for suspending	W. Potts	84, 645
Picture galleries, Lighting up	E. M. South	80, 570
Picture knob	E. D. Ives	74, 692
Picture transparent, Compound for making	S. D. MePherson	76, 225
Pier, Iron	W. B. Porter	81, 682
Pie-tube	N. M. Selden	83, 327
Pigments from the sulphurets of zinc and lead, Manufacture of.	N. Bartlett	83, 357
Pigments, oils and gums from cloths used by engravers, Recovering.	H. M. Baker	84, 404
Pile driver	J. A. Borgert	83, 687
Pile driver	T. Shaw	84, 383
Pile for grider iron	A. Kloman	75, 769
Pile for grider iron beam	A. Kloman	75, 770
Pile for railroad rails	T. B. Taylor	84, 779
Piles, Compound for treating	M. Rinchart	84, 441
Piles, Implement for treating	H. Schevenell and S. S. Rensbert	77, 539
Pill-making machine	T. Bushby	85, 277
Pillow block	W. R. Manley	85, 115
Pillow support	E. T. Annis	74, 786
Pin book	T. Piper	76, 809
Pins, Manufaeturing	S. F. Seymour	75, 540
Pin, Shawl	W. Knowles	80, 187
Pins, Stieking	T. Piper and E. H. Bradley	77, 912
Pinking tool	J. L. McIntosh	82, 335
Pintle or butt hinge	L. Maichauer and W. Frankfurth	83, 393
Pipe and cylinder, Drilling and boring the flange of	H. S. Fairbanks	85, 293
Pipe and hose, Transporting, extending and elevating.	L. Day	82, 475
Pipe, Bending	T. J. Harrison	80, 069
Pipe, Branch cement	E. Loekhart, F. Roberts and H. Knight.	80, 357
Pipe, Cigar	H. E. Doster	81, 610
Pipe, Cigar	A. A. Pathi	82, 743
Pipe, Clay	G. D. Goodrich	72, 997
Pipe, Clay	H. A. Goodrich and J. Amos	74, 078
Pipe, Cleaning	W. Young	77, 857
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Pipe for buildings, Service	E. Hagan	81, 895
Pipe, Forming tin-lined lead	A. Hanson	84, 114
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Pipe lead, and sheet lead, Manufacture of	O. Dow	73, 585
Pipe lead, Tin-lined	W. A. Shaw	74, 611
Pipe lead, Tin-lined	W. A. Shaw	74, 612
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Pipe lead, Tin-lined	J. Farrell	74, 755
Pipe lead, Tin-lined	S. E. Chubbuek	79, 548
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Pipe machine, Clay	C. Stotz and G. Smith	85, 490
Pipe molding	J. Aston	82, 065
Pipe molding	W. Smith	83, 668
Pipe molding	G. H. Garrett	85, 440
Pipe-molding machine	B. S. Benson	83, 028
Pipe, Sewer	P. Meyercordt	82, 020
Pipe, Sewer	C. Birkenshaw	81, 977
Pipe, Sheet-metal	C. Recht	73, 929
Pipe, Sheet-metal eonduetor	W. Austin	78, 564
Pipe, sheet-metal, Threading	C. Recht	73, 928
Pipe, Smoking	F. Saunders	75, 799
Pipe, Smoking	C. Tollner	81, 844
Pipe, Soft metal	I. Davis	79, 055
Pipe stem	T. S. Seranton	76, 827
Pipe, Stove	J. C. Loup	79, 993
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Pipe, Tobacco	H. G. Dayton	77, 803
Pipe, Tobacco	O. Sjöborg	81, 020
Pipe, tobacco, Glazing and cooling	J. H. Stark	77, 673
Pipe, Wash basin overflow and discharge	B. Kavanagh	79, 117
Pipe, Water, and drain	W. P. Kirkland	76, 778
Pipe, water, Cement	E. Dayton	77, 465
Pipe, water or gas, Stop boxes for cocks of valves of	J. Smith	80, 776
Pipe, water, Preventing from bursting	R. H. Smith	75, 315
Pipe, water, Waste	A. C. Smith	84, 443
Pipe wrench and cutter	J. L. Brierly	78, 047
Pisciculture	W. H. Furman	78, 952
Pistol and sword combined	C. E. Billings	82, 279
Pistol, Breech-loading	D. Werner	82, 903
Pistol gallery, Portable	F. A. Spofford and M. G. Raffington	74, 163
Pistol, Toy	R. Frisbio	74, 904
Piston	S. F. and I. Y. Chubbuck	74, 750
Piston	J. Whelock	75, 714
Piston	W. Swayno	76, 268
Piston, engine, Steam	A. Nadow	73, 456
Piston, engine, Steam	H. Hinds and G. H. Lodge	76, 448
Piston, engine, Steam	C. Bollinger	78, 179
Piston for deep well pump	C. Jarecki	83, 968
Piston packing	J. King	75, 927
Piston packing	T. A. Bisboo	76, 295
Piston, Pump	S. P. Gilbert	73, 969
Piston, Pump	S. R. Mason	76, 643
Piston, Pump	O. Salgeo	77, 538
Piston, Pump	J. Wood	81, 451
Piston, Pump	J. D. Westcott	81, 565
Piston-rod adjuster	D. Bly	78, 045
Piston-rod packing	W. H. Miller	73, 454
Piston-rod packing	O. Collier	83, 123
Piston, Steam-engine	H. N. J. Mansfield	83, 188
Piston valve for steam-hammer	D. Davy	78, 933
Pitcher, Double-walled	G. Jepson	83, 969
Pitcher, Ice	W. Bellamy	74, 285
Pitcher, Ice	J. B. Bailey	76, 378
Pitcher, Ice	G. Lano	76, 638
Pitcher, Ice	R. Holmes	76, 761
Pitcher, Ice	F. J. Miller	76, 934
Pitcher, Ice	T. Leach	80, 748
Pitcher, Ice	W. C. Wood	84, 458
Pitcher, ice, Double-wall	D. C. Wilcox	83, 747
Pitcher, ice, Enameled metallic	C. C. Foote	79, 335
Pitcher, Sirup	H. Bullard	74, 663
Pitman	E. C. Baker	85, 266
Plane	G. Buckel	81, 335
Plane	F. Smith and J. Carpenter	81, 425
Plane	A. H. Camp	81, 879
Plane	V. Bitsch	82, 074
Plane, Carpenters'	E. M. Chapin and S. Rust	76, 031
Plane, Carpenters'	J. P. Tarr	82, 450
Plane, Edge	C. D. McAuley	74, 561
Plane for boots, &c., Edge	F. Buxton and G. Crosby	79, 203
Plane for cutting blind slats	C. Kupper	81, 795
Plane for cutting blind slats	J. H. Miller	81, 929
Plane for cutting blind slats	R. E. Lowe	82, 424
Plane-plane	D. E. and A. A. Aiken	77, 434
Plane, Sole edge	M. Packard	78, 758
Planer-chuck	R. N. Bruce	74, 982
Planer-chuck	C. H. Riggs	78, 132
Planing	H. D. Stover	84, 847
Planing and milling machines, Cutting tool for	E. T. Prindle	77, 211
Planing and molding, Machine for	J. P. Grosvenor	82, 113
Planing and turning tool	J. P. Smith	83, 560
Planing machine	M. P. Fletcher	74, 333
Planing machine	H. G. McDuffe	77, 067
Planing machine	S. M. Hamilton	81, 776
Planing machine	A. Whitcomb	81, 854
Planing machine	S. M. Hamilton	81, 898
Planing machine	F. K. Plumbly	83, 089
Planing machine, Chuck for	J. S. Hoar	74, 360
Planing machine, Cutter head for	A. T. Stearns	78, 616
Planing machine, Operating the bed of	H. F. Shaw	81, 953
Planing machine or lathe, Tool post for	W. H. Leach	77, 742
Planing machine, Wood	D. A. Harris	74, 218
Planing machine, Wood	R. N. Meriam	76, 791
Planing machine, Wood	F. Douglass	77, 013
Planing mill, Wood	F. Douglass	78, 728
Planing machine, Wood, Cutter head for	T. Tostevin	76, 556

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Plank, &c., Protecting	J. Shepard	81,693
Plant from a hoe, Implement for shielding	A. Kirkpatrick	79,133
Plants, House, Propagation and treatment of	W. Lilley	75,555
Plants, madder and other, Separating coloring matter from.	A. Parof	74,935
Plants, Potting and packing	B. L. Ryder	84,002
Plants to prevent approach of worms, Trenching around.	W. H. Halleck	84,692
Plant protector	R. M. Bartlett	74,879
Plant protector	J. M. Watson	79,422
Plant protector	J. N. Hunt	83,386
Planter	Z. T. Clagett	80,058
Planter and cultivator	C. Rubbles	77,535
Planter and cultivator, Combined	C. L. Lee	79,236
Planter and cultivator, Combined	G. W. Kinger	81,177
Planter and manure distributer, Combined	B. F. Whitney	76,865
Planter and plow	G. A. Avery	78,638
Planter and plow, Combined	I. H. Walker	80,686
Planter, Corn	W. Rayhill	73,649
Planter, Corn	J. Gilbert	73,797
Planter, Corn	N. G. Hughes	74,092
Planter, Corn	W. McLucas	74,112
Planter, Corn	E. M. Butz	74,298
Planter, Corn	P. Eidmann	74,326
Planter, Corn	C. W. Henkle	74,357
Planter, Corn	J. Moore	74,710
Planter, Corn	W. H. Moore	74,711
Planrer, Corn	J. T. Lowrey and J. A. Case	75,174
Planter, Corn	W. Doggett	75,380
Planter, Corn	N. and M. Liddell	75,435
Planter, Corn	H. P. Gregg	75,749
Planter, Corn	D. S. Ames	75,825
Planter, Corn	R. S. Edwards	75,883
Planter, Corn	T. H. Wible	76,282
Planter, Corn	B. Randall	76,658
Planter, Corn	E. W. Allen	76,689
Planter, Corn	D. A. Kershner	77,050
Planter, Corn	H. C. Loeke	77,057
Planter, Corn	J. Elbertson	77,807
Planter, Corn	W. H. Fish, jr	77,808
Planter, Corn	A. J. Going	77,811
Planter, Corn	J. M. Blessing	77,351
Planter, Corn	J. M. Allison	78,039
Planter, Corn	J. J. Wright and J. H. Penny	78,171
Planter, Corn	O. Sampson	78,237
Planter, Corn	W. R. Clark	78,262
Planter, Corn	W. N., and J. J. Harrison	78,664
Planter, Corn	J. H. Hill and J. T. Hammond	79,120
Planter, Corn	H. Keeney and C. H. See	79,576
Planter, Corn	H. Mitchell	79,588
Planter, Corn	G. Dickerson	79,814
Planter, Corn	H. Aekerman	80,892
Planter, Corn	J. Case	81,066
Planter, Corn	A. E. Herrington and J. D. Richards	81,502
Planter, Corn	S. O. Campbell	81,597
Planter, Corn	I. J. Kidd	81,911
Planter, Corn	G. F. Partridge	82,155
Planter, Corn	J. Selby	82,162
Planter, Corn	J. L. Leas	82,422
Planter, Corn	W. B. Goodwin	82,515
Planter, Corn	S. W. Jones	82,531
Planter, Corn	J. N. Arvin and J. M. Whitmore	82,578
Planter, Corn	S. B. Reader	82,875
Planter, Corn	J. A. Burehard	82,918
Planter, Corn	S. L. Sweeney	83,105
Planter, Corn	D. F. Taft	83,333
Planter, Corn	W. Thiessen	83,567
Planter, Corn	J. F. Walker	83,677
Planter, Corn	E. B. Lawrence and C. Quiek	83,979
Planter, Corn	L. D. Wyatt	84,075
Planter, Corn	S. D. Filsom and W. E. Kinert	84,178
Planter, Corn	C. A. Kellogg	84,426
Planter, Corn	Q. R. and P. Moor and E. L. Patriek	84,563
Planter, Corn	F. Van Doven	84,594
Planter, Corn	J. M. Allison	84,604
Planter, Corn	A. Windeck	84,666
Planter, Corn	J. D. Chambers	84,936
Planter, Corn	E. Thrall	85,346
Planter, Corn, and cultivator	A. Edmister	83,943
Planter, Corn, and cultivator combined	J. S. Mason	82,137

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Planter, Corn, and cultivator combined	C. Dyer	83,478
Planter, Corn, and plow	J. H. Frampton	76,738
Planter, Corn, and plow combined	P. McIsaac	73,022
Planter, Corn and seed	E. C. Brown	75,850
Planter, Corn and seed	F. W. Marriott	78,303
Planter, Corn and seed	N. Mendenhall	85,466
Planter, Corn and seed drill	J. Weaver, jr	79,038
Planter, Corn, and shovel plow combined	A. M. Franklin, W. J. Hastings and J. A. Holford.	83,271
Planter, corn, Double	W. McLucas	79,998
Planter, corn, Hand	J. S. Lawson	74,231
Planter, corn, Hand	D. Broy	76,709
Planter, corn, Hand	J. F. Kinglesmith	80,747
Planter, corn, Hand	J. H. Norris and T. B. Harrison	84,435
Planter, corn, Shield for	R. T. Taylor	83,340
Planter, corn, sower, revolving harrow, and cultivator, Combined.	W. P. Tyler	74,496
Planter, Cotton	C. Richmond	77,761
Planter, Cotton	E. L. Barnett	79,433
Planter, Cotton seed	Z. Doolittle and A. M. Crowder	74,518
Planter, Cotton seed	N. B. Sherwood	75,207
Planter, Cotton seed	A. J. Going	75,410
Planter, Cotton seed	B. Smith	78,614
Planter, Cotton seed	G. Jessup	81,906
Planter, Cotton seed	A. J. Going	85,379
Planter, Cotton seed and corn	N. Foster	74,334
Planter, Guide for corn and seed	E. C. Brown	75,851
Planter, harrow, and cultivator combined	J. G. S. Garwood	73,593
Planter, Hedge	W. Young	85,195
Planter, Potato	H. Farmer	73,086
Planter, Potato	N. B. Sherwood	84,309
Planter, Potato, and cultivator combined	C. F. Hoofman	81,371
Planter, Rice	E. Wagoner	74,957
Planter, Seed	S. C. Wilder	75,613
Planter, Seed	R. B. Wright	75,616
Planter, Seed	E. P. Harrls	78,281
Planter, Seed	A. Hays	78,666
Planter, Seed	M. Atwood	80,585
Planter, Seed	T. H. Smith	81,548
Planter, Seed	R. F. Osgood	82,153
Planter, Seed	A. J. Holt	82,524
Planter, Seed	J. M. Gitchell	83,151
Planter, Seed	J. Musgrave	84,751
Planter, Seed	I. Rexford	84,762
Planter, Seed	B. Kuhns	85,455
Planter, seed, Hand	H. Koeller, and W. Uecke	74,383
Planting machine	S. L. Allen	84,247
Planting machine, Seed	H. Bundel and J. Williams	72,971
Planting, Marking ground for	W. R. McKinley	75,288
Plaster, Adhesive	J. Linch	81,657
Plaster and seed sower	D. Dick and O. Preston, jr	74,320
Plaster casts, Preparing	T. Taylor	82,891
Plaster, lime, &c., Spreading	G. U. Relyea	83,816
Plastic composition	H. C. Gaskin	83,149
Plate, Anti-slipping	W. B. Gould	81,890
Plate, metallic, Bending	J. W. Bean	74,880
Plate lifter	D. E. Roe	73,199
Plate lifter	G. O. Roe	74,598
Plate lifter	S. J. Talbot	76,849
Plate or salver	H. McManus and J. B. Hatting	84,894
Plates of combined steel and iron, Manufacture of	J. Park, jr	78,477
Platform, Dumping	S. C. Kenaga	83,288
Platform for rock drills	T. Sweeney and J. Bradburn	79,158
Plier	J. Bounds	73,289
Pliers for bending sheet metal	M. Rothschild	74,601
Plow	J. Urie	73,209
Plow	S. T. Skinner	73,264
Plow	W. S. Colwell	73,504
Plow	G. K. Smith and J. Strasser	73,550
Plow	W. T. Howell	73,606
Plow	D. W. Hughes	73,607
Plow	A. Wright	73,685
Plow	C. White	74,183
Plow	W. P. Everdon	74,327
Plow	W. B. Young	74,474
Plow	S. W. Standard	74,729
Plow	J. Bradley	74,885
Plow	J. D. Peck	75,455
Plow	W. E. Hardin	75,901
Plow	J. Lane	76,208
Plow	W. Penning	76,243

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Plow	G. W. Cole	76, 714
Plow	J. S. Hall	77, 188
Plow	W. Gallagher	77, 272
Plow	P. H. Starke	77, 547
Plow	T. P. Warren	77, 855
Plow	E. G. Matthews	77, 996
Plow	J. Koffend	78, 293
Plow	G. Utley	78, 339
Plow	H. W. Neal	78, 390
Plow	S. Hulbert	78, 457
Plow	C. P. Steinmetz	78, 492
Plow	W. Whiteley	78, 501
Plow	C. Brown and L. Gerth	78, 785
Plow	L. W. Beal	78, 856
Plow	C. M. French	78, 869
Plow	J. M. Wilson	79, 091
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Plow	W. D. Burgess and G. W. Zeigler	79, 547
Plow	A. C. Jacques	79, 834
Plow	G. Wharton	80, 039
Plow	H. T. Bean	80, 118
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Plow	J. Fisher	80, 715
Plow	J. G. Fetzer	80, 859
Plow	J. H. Dickson	81, 148
Plow	A. Vail	81, 571
Plow	J. Ball	81, 730
Plow	C. T. Grimes	81, 996
Plow	E. Peck	82, 157
Plow	S. T. Demise	82, 809
Plow	D. Moter	82, 858
Plow	A. Friberg	82, 934
Plow	G. W. Keeler	82, 959
Plow	F. Reese	82, 990
Plow	M. Berdan	83, 030
Plow	J. Campbell	83, 036
Plow	R. S. Higgins	83, 061
Plow	Y. Rakestrow	83, 206
Plow	L. Fosdick	83, 703
Plow	J. H. Elwood	83, 768
Plow	V. C. Duclos	84, 097
Plow	E. D. Benjamin	84, 252
Plow	G. W. Marsh	84, 563
Plow	W. U. Hoover	84, 946
Plow	J. L. Stearns	84, 970
Plow	E. Wiard	85, 152
Plow	P. H. Starke	85, 342
Plow	M. Johnson	85, 451
Plow and corn planter	J. H. Frampton	76, 738
Plow and corn planter combined	P. McIsaac	73, 022
Plow and cultivator	W. H. Damron, R. H. and L. F. Whitman.	73, 081
Plow and cultivator	A. Runsteller and A. Windeck	74, 005
Plow and cultivator	J. Lane	82, 130
Plow and cultivator	S. F. Seely	84, 911
Plow and cultivator combined	L. R. Wright	81, 054
Plow and cultivator, Convertible	J. Orr and H. H. Martin	83, 404
Plow and cultivator, Corn	I. B. Arthur	74, 032
Plow and cultivator, Steam propeller	J. Marquis	82, 538
Plow and harrow combined	J. Harsha	73, 002
Plow and harrow combined	P. Wonsey	74, 024
Plow and harrow combined	J. Haessel	83, 154
Plow and planter	G. C. Avery	78, 638
Plow and planter, Combined	I. H. Walker	80, 686
Plow and roller, Combined	J. A. Alley	74, 267
Plow, Attaching handle to mold-board of	C. Williams	79, 532
Plow attachment	W. Bennett	73, 158
Plow attachment	W. J. Martin	74, 398
Plow attachment	C. E. Wilson	82, 189
Plow attachment, (double-tree)	L. F. Morey	84, 750
Plow, Automatic spading	F. L. Cagwin	83, 456
Plow beams, Attaching colters to	J. H. Hall	75, 414
Plow carriage	G. F. Willey	76, 283
Plow clevis	R. Sandiford	78, 542
Plow clevis	J. Ball	81, 731
Plow clevis	D. Stewart	82, 764
Plow clevises, Making	T. Meikle	75, 179
Plow, Corn	S. H. Cox and W. H. Pence	73, 166
Plow, Corn	J. Wolf	76, 964

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Plow, Corn	A. McCreight	81, 660
Plow, Corn	A. J. Paine	83, 537
Plow, Corn	T. Dillon	84, 094
Plow, Corn	W. C. Rhinehart and R. Gaston	84, 763
Plow, Corn	S. I. Miller and L. Wright	85, 118
Plow, Corn	J. W. Milroy	85, 324
Plow, Corn and cotton	W. Notman	84, 437
Plow, Corn and potato	I. B. Arthur	77, 238
Plow, Corn, planter, and cultivator, Combined	T. A. Wainwright	79, 706
Plow, Cotton	H. S. Hoxie	77, 616
Plow coiter	B. F. and J. V. Guy	82, 938
Plow, Cultivator	S. C. Thornton	83, 675
Plow, cultivator, harrow, and roller combined	T. E. Marable	81, 187
Plow, Cutter attachment for	J. L. Wilson and J. R. Haworth	73, 858
Plow, Ditching	M. R. Shalters and S. Ray	75, 988
Plow, Double shovel	J. G. Flisher and E. M. Bates	76, 736
Plow, Double shovel	A. J. Craig	77, 260
Plow, Double shovel	P. Ballard	80, 113
Plow, Drain	S. J. Reed	83, 999
Plow fender	N. B. Norton	82, 241
Plow, Four wheel	S. Mareh	77, 203
Plow frame	S. Way	73, 480
Plow, Gang	A. Farrow	73, 707
Plow, Gang	W. W. Mathews	74, 238
Plow, Gang	G. Steinegger	75, 069
Plow, Gang	C. Hess	75, 268
Plow, Gang	W. Nelson	75, 567
Plow, Gang	G. J. Dahl	75, 871
Plow, Gang	W. S. Gatlin and B. R. Hubbard	75, 895
Plow, Gang	J. L. Kesson	75, 925
Plow, Gang	W. F. Higgins and J. Perry	76, 447
Plow, Gang	M. Flinn	76, 735
Plow, Gang	G. W. Manuel	78, 111
Plow, Gang	D. C. Matterson	78, 464
Plow, Gang	G. A. Davison	79, 639
Plow, Gang	J. T. Watkins	79, 880
Plow, Gang	J. F. Porter and A. Norton	79, 917
Plow, Gang	S. Graham	80, 405
Plow, Gang	A. Walker	80, 521
Plow, Gang	A. Smith and W. P. Watson	80, 338
Plow, Gang	P. H. Standish	81, 700
Plow, Gang	J. H. Andrews	81, 724
Plow, Gang	F. P. Smith	82, 165
Plow, Gang	F. P. Smith	82, 166
Plow, Gang	C. L. Horn, jr., and L. Mancey	82, 223
Plow, Gang	H. R. Huie	83, 283
Plow, Gang	J. D. Kneedler	83, 641
Plow, Gang	J. N. Davidson and N. Spencer	83, 698
Plow, Gang	J. B. Logan	84, 634
Plow, Gang	A. Smith	84, 652
Plow, Gang	F. McFarnahan	84, 748
Plow, Gang	T. U. Webb	85, 496
Plow, Gang, and cultivator	I. B. Mahon	75, 941
Plow, Gang, Seed sower and harrow attachment to	J. B. Webster	77, 141
Plow, Garden	D. Pettigrew	73, 644
Plow, Garden hand	J. Starr	80, 842
Plow, Gauge wheel for	G. S. Deane	78, 934
Plow, Hand	W. B. Winton	81, 857
Plow, Hand	J. Winecoff	84, 331
Plow, Hillside	H. B. Abbott	75, 104
Plow land side	J. Bacon	77, 242
Plow lays, Forming	J. Lane	73, 983
Plow mold board	R. Gaines and M. Scott	74, 679
Plow, Mold board for	J. Seymour	75, 987
Plow, Mold board for	J. Oliver	76, 652
Plow point	L. D. Burch	83, 130
Plow, Potato	M. Stoll	82, 043
Plow, Potato and corn	C. F. Noftz	83, 992
Plow, Revolving colter for	M. Sattley	84, 380
Plow, Rotary cutter for	J. C. Pfeil	76, 343
Plow, Rotary, Mounting the cutters of	P. H. Standish	78, 400
Plowshare	G. W. Cooper	84, 798
Plowshare, Casting	J. Hackensack	75, 919
Plow, Shield	M. Kirkham	78, 100
Plow, Shovel	H. C. Chandler	73, 231
Plow, Shovel	T. Donely and J. B. Cressler	73, 699
Plow, Shovel	A. Jennings	81, 173
Plow, Shovel	B. F. McCollester	81, 188
Plow, Shovel	J. Meyer	81, 189
Plow, Shovel	W. B. Evans	83, 481
Plow, Shovel, Adjustable	G. W. Morter and E. Berry	85, 469

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Plow, Shovel and cultivator	B. F. Ream	74,720
Plow, Side-hill	H. Sloop	73,933
Plow, Side-hill	D. A. Manuel	77,630
Plow, Snow	C. Lusted	73,189
Plow, Snow	G. Place	74,844
Plow, Snow	W. R. Warner	78,161
Plow, Snow	S. Lewis	79,913
Plow, Snow	N. S. Green	81,681
Plow, Snow	H. Harris	84,357
Plow, snow, Railroad	J. Jones and T. G. Eiswald	82,226
Plow, snow, Railroad	J. R. Adams	73,276
Plow, snow, Railway	E. Robbins	75,979
Plow, spade, Revolving	J. W. Milroy	77,830
Plow, Steam	J. C. Delavigne	76,060
Plow, Steam	N. A. Gray	77,031
Plow, Steam, and cultivator	P. H. Standish	75,310
Plow, Subsoil	S. D. Tuttle	76,275
Plow, Subsoil	C. R. Hartmann	76,627
Plow, Subsoil	J. Vaughn and E. Chamness	78,031
Plow, Subsoil	J. Custer	83,472
Plow, Subsoil attachment for	C. Hayden	75,419
Plow, Subsoil attachment for	J. C. Leonard and J. J. Gobar	80,356
Plow, Sulky	J. Warwick	73,143
Plow, Sulky	A. Q. Allis	74,268
Plow, Sulky	E. Levee	74,554
Plow, Sulky	W. B. Sutherlen	76,848
Plow, Sulky	L. Hunt	77,617
Plow, Sulky	S. J. Reed	80,221
Plow, Sulky	B. Slosser	80,427
Plow, Sulky	A. C. Stanley and H. W. Ensign	81,701
Plow, Sulky	J. B. Lewis and J. E. Udall	81,799
Plow, Sulky	J. R. McConnell	82,140
Plow, Sulky, and cultivator combined	W. G. Crossley	72,981
Plow, Sulky, and harrow	C. N. Bakewell	75,032
Plow, Welding together the lay and land-side of a	J. Lane	80,552
Plow, Wheel	J. Kay	83,507
Plumb, square, and level combined	A. F. Ward	80,252
Plunger and die	H. G. Williams	80,042
Pocket-book and fan combined	O. Brüch	76,928
Pocket-books, &c., Fastening for	J. C. Arms	78,914
Pocket-book fastening	J. C. Arms	82,577
Pocket for billet strap	H. H. Smith	74,859
Pocket of apparel, Safety attachment for	A. Arnemann	81,862
Pocket, Safety	A. Q. Ross	73,655
Pocket, Safety	C. Sanborn	74,008
Pocket, Safety	J. C. Iden	77,192
Pocket, Safety, Attachment for	J. Brosius	76,297
Poke, Extension	D. C. Brewster	84,164
Poke, Horse and cattle	G. W. Bebb and G. W. Fulmer	76,881
Poker	J. F. Brewer	85,425
Pole attachment	G. N. Compton	73,234
Polishing and burnishing apparatus, Hand	W. H. Willson	82,465
Polishing fabric and flexible abrader	J. H. Crane	81,986
Polishing machine	J. Stackhouse	77,546
Polishing wooden handles	E. Quinlan	80,564
Portfolio	G. and E. Ashworth	81,864
Porte-monnaie, Armlet	A. W. Pratt	75,458
Post, Boring	B. F. Mohr	75,041
Post cap, Hitching	R. N. Roberts	74,596
Post driver	A. B. Clark	80,600
Post driver	A. McClara	83,692
Post driver	J. Ellenberger	84,100
Post, Gate	W. F. Veber	75,224
Post, Hitching	B. and P. Walther	77,686
Post-hole borer	J. K. Miller	75,947
Post-hole borer	A. F. Summers	81,555
Post-hole borer	J. M. Walter and S. Shank	82,185
Post-hole borer	J. Cothron	82,293
Post holes, Boring	A. Q. Allis	74,785
Post, timber, &c., Composition for setting	A. D. Purinton	78,691
Pot and crucible, Molding	R. Taylor and F. Strow	84,593
Pot and saucer, Annealing	J. Hibbell	79,759
Pot bails, &c., Forming the hook or eye on	J. Miller	83,522
Pot, Coffee	J. G. Dyer	78,943
Pot, Coffee	B. Boardman	79,943
Pot, Coffee	N. Hotz	81,169
Pot, Coffee	E. Blunt, jr	83,686
Pot, Coffee	H. Thall and J. Schlothnan	84,020
Pot, Coffee	W. M. Williams	84,456

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Pot, Coffee	J. B. Smith	85, 339
Pot, Coffee and tea	S. McGuffin	77, 507
Pot, Coffee, tea kettle, &c	W. Wagstaff	80, 576
Pot, Flower	E. Whitman	82, 052
Pot, Glue	J. Bragdon	79, 945
Pot, kettle, &c., Cover for	G. Reuben	85, 398
Pot, Salinometer	H. Wauklin	74, 958
Pot, Tea	W. W. Stevens	78, 901
Pot, Tea and coffee	M. Simonds	75, 651
Pot, Tea and coffee	A. C. Kasson	77, 291
Pot, Tea and coffee	E. B. Manning	81, 186
Pot, Tea and coffee	R. Strickland	84, 018
Pot, tea and coffee, Handle for	H. Bullard	79, 726
Pot, tea and coffee, Sheet metal	J. H. Stone	75, 706
Potash and soda	A. G. Hunter	78, 375
Potash and soda, Carbonate of	A. G. Hunter	77, 381
Potash and soda, Manufacture of	A. G. Hunter	73, 722
Potato, Article of food from	C. K. Marshall	77, 995
Potato baker	C. H. Beeman	74, 282
Potato bug cleaner	J. Corbeil	80, 458
Potato digger	J. H. Gray and C. W. Calhoun	73, 319
Potato digger	E. Smith	74, 438
Potato digger	G. Koenig and G. Otto	74, 699
Potato digger	W. H. Chamberlin	74, 991
Potato digger	J. C. Clark	75, 123
Potato digger	A. Hadwen	75, 543
Potato digger	G. W. Kintz	76, 200
Potato digger	B. P. Wright	76, 371
Potato digger	L. Finch	76, 427
Potato digger	A. Graves	76, 438
Potato digger	A. Graves	77, 279
Potato digger	J. W. Burnham and W. Conlon	78, 257
Potato digger	G. Vowles	78, 345
Potato digger	H. B. Norton	78, 473
Potato digger	E. Bennett	78, 641
Potato digger	J. W. Blodgett	79, 439
Potato digger	M. Johnson	79, 473
Potato digger	M. Henderson	80, 070
Potato digger	A. Van Norman	80, 247
Potato digger	J. P. Davison	80, 611
Potato digger	W. Stark	80, 841
Potato digger	B. D. Vanderveer and D. Riddel	81, 230
Potato digger	H. P. King	81, 636
Potato digger	E. T. Ford	81, 765
Potato digger	A. Burhaus	81, 980
Potato digger	J. Burt	82, 592
Potato digger	W. J. Cowan	82, 806
Potato digger	J. Stewart	83, 670
Potato digger	A. M. Hall	83, 847
Potato digger	V. P. Corbett	83, 833
Potato digger	H. France	84, 056
Potato digger	F. A. Morley	84, 297
Potato digger	J. E. Giles and W. Fesry	84, 741
Potato digger	M. Jacobs	84, 828
Potato digger	F. A. Roberts	85, 182
Potato digger	L. Annis	85, 418
Potato digger and separator	W. Green	84, 772
Potato digger and vine puller	J. W. Newton	83, 785
Potato digger, hoe, and potato planter combined	F. B. Mordey	73, 618
Potato digging machine	M. H. Wiley	76, 127
Potatoes, Harvesting	O. S. and T. C. St. John	76, 953
Potato masher	M. H. Monroe	73, 743
Potatoes, Preserving	J. Mumford	83, 299
Potatoes, Raking	D. J. Tittle	76, 851
Potato slicer	C. B. King	81, 570
Potatoes, Sacking	E. Seely	84, 713
Potato washer	E. N. Porter and P. P. Roberts	74, 420
Potato washer	O. H. Cooke	77, 461
Potato washer	S. H. Tift	77, 679
Potato washer	D. K. Hickok	82, 850
Potato washer	L. B. Sherwin	85, 495
Potato washer and pan combined	J. M. Chaplin	76, 399
Poultice cloth	M. L. J. Chollet and C. H. E. Hamilton	84, 731
Pounce holder	R. Cushman and J. R. Deemis	84, 346
Powder, Blasting	P. A. Oliver	80, 004
Powder, Explosive	G. Desiguoble and J. Casthelaz	76, 173
Powder, Explosive	F. M. Ruschhaupt	79, 010
Powder, Gun and blasting	G. A. Neumeyer	81, 670
Powder, Preserving	G. A. Mariner	78, 112
Power, Animal	J. J. Adgate	77, 236
Power, Animal	T. Starr	84, 590

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Power, Double ratchet lever	J. S. Williams	81, 967
Power, Horse	P. Geiser	82, 617
Power, Mechanical	C. P. Carter	77, 167
Power, Motive	I. W. Brown	74, 295
Power, motive, Obtaining	R. Side	81, 302
Power, motive, Producing	E. Stocton and W. O. St. John	77, 674
Preserving vessel and fruit jar	A. Warner	76, 008
Preserving vessel, Closing	A. Warner	76, 009
Press	C. O. and J. H. Ritchie	76, 101
Press	B. S. Norris	78, 318
Press	H. Henly	78, 738
Press	J. E. Connor	79, 637
Press	G. Matthewman	82, 139
Press, Adjustable	N. C. Stiles	84, 313
Press and mill, Cider	E. Wangaman	80, 253
Press and strainer, Combined	J. H. Littlefield	78, 981
Press, Baling	D. Cummings, jr	76, 407
Press. Baling	E. Taylor	76, 418
Press, Baling	G. W. Serrin	77, 108
Press, Baling	D. Dunn	81, 612
Press, Baling	C. Brown and D. L. Miller	81, 745
Press, Baling	J. F. Milligan	83, 079
Press, Baling	J. M. Albertson	84, 982
Press, Baling	M. D. Cheek	85, 365
Press board, Tailors'	H. M. Thompson and C. W. Burbank	81, 959
Press, Brick	J. M. Enos	76, 613
Press, Brick	L. B. Crittenden	78, 434
Press, Brick	W. O. Leslie	80, 977
Press, Brick	A. A. Torpey	81, 560
Press, Brick and concrete	G. A. Frear	84, 485
Press, brick, Concrete	T. J. Burke	73, 576
Press, brick, Concrete	J. H. Wirt	77, 153
Press, Cheese	P. Wilson	79, 286
Press, Cheese	M. B. Fraser	80, 158
Press, Cheese	S. Y. Ives	81, 509
Press, Cheese	J. Erdle	81, 614
Press, Cheese	J. D. Stratton and T. Wilson	82, 174
Press, Cider	A. W. Shidler	75, 589
Press, Clothes	J. S. Nicholson	82, 341
Press, Compressing, and beater	G. Ertel	76, 063
Press, Concrete block	L. R. Warner	77, 854
Press, Concrete building block	O. L. Jordan	73, 610
Press, Copying	T. P. How	76, 457
Press, copying, Damping apparatus for	A. Pearl	83, 088
Press, Cotton	P. Williams	73, 683
Press, Cotton	R. M. Brooks	76, 593
Press, Cotton	W. H. Tappey, W. C. Lamsden, and A. Steel.	82, 178
Press, Cotton and hay	W. Russell	74, 603
Press, Cotton or hay	J. Wentz	76, 860
Press, Cylindrical filtering	P. Du Rieux and E. Roettger	80, 157
Press, Die	J. Hayes and E. W. Bliss	73, 823
Press, Drill	J. M. Culden and A. J. Baird	83, 366
Press, Drop	J. Duff	78, 867
Press, embossing, Gauge for	W. Richards, jr	78, 130
Press for packing fruit	T. J. Jones	74, 543
Press frisket, Printing	T. W. M. Castle and J. B. Conner	79, 053
Press, Harness pad	G. W. Lawbaugh	74, 921
Press, Hay	G. W. D. Culp	74, 054
Press, Hay	M. P. Molleur	74, 571
Press, Hay	G. W. Lockhart	76, 478
Press, Hay and cotton	L. J. Maxey	73, 542
Press, Hay and cotton	C. Lent	74, 703
Press, Hay and cotton	G. Utley	77, 852
Press, Hay and cotton	B. F. Toft	80, 681
Press, Hay and cotton	J. Robertson	82, 036
Press, Hay and cotton	S. Q. Carey	83, 926
Press, Hop	J. Hutchinson	75, 166
Press, Hop	H. Taylor	79, 413
Press, Hydraulic	C. W. Holbrook	75, 015
Press, Hydraulic	W. Ettenger and H. P. Edmond	76, 732
Press, Hydraulic	G. W. Rawson	80, 877
Press, Hydraulic	J. B. Tunstall	83, 424
Press, Lard	S. S. Avis	77, 239
Press, Lard, and sausage stuffer	A. G. Tuxell	80, 035
Press, Lard, and sausage stuffer	J. B. Cassel	81, 751
Press, Lard, and sausage stuffer	N. S. Underkuffler	82, 453
Press, Lithographic	C. Maurice	74, 840
Press, Lithographic	G. Cooper	78, 930
Press, Lithographic	A. J. Shackford	80, 771
Press, Mop	L. R. Covey and J. Duffy	75, 247

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Press, Oil, tobacco, and other	E. Thomas	79, 875
Press, Pad crimp	G. Kennedy	73, 186
Press power, Hop	N. Carpenter	73, 500
Press, Printing	C. Potter, jr	73, 195
Press, Printing	E. Allen	73, 943
Press, Printing	A. A. Dunkle	75, 394
Press, Printing	W. Braidwood	77, 577
Press, Printing	L. T. Wells	79, 617
Press, Printing	W. Braidwood	80, 444
Press, Printing	J. M. Jones	80, 865
Press, Printing	R. Cummings	83, 471
Press, Printing	S. J. Baird	84, 403
Press, Printing	L. and H. Reese	84, 440
Press, Printing	R. M. Hoe and S. D. Tucker	84, 627
Press, Printing	S. D. Tucker	85, 493
Press, printing, Color	G. W. Wood	74, 741
Press, printing, Feed gauge for	C. Potter, jr	73, 196
Press, printing, Guide gauge for	O. H. Reed	77, 527
Press, printing, Inking apparatus for	T. L. Baylies	78, 358
Press, printing, Inking apparatus for	T. L. Baylies	79, 722
Press, Rotary embossing	I. M. Wilbur	82, 461
Press, Screw	J. S. and W. B. Buell	84, 408
Press spindle adjustment	A. H. Merriman	78, 225
Press, Stamping	A. G. Mead and C. J. Addy	76, 647
Press, Tobacco	D. C. Mayo	75, 038
Pressing machine, Tailors'	J. W. Thorp	77, 934
Priming for needle gun	C. H. F. Thieme	81, 036
Prinkler and dredge	G. Jones	78, 805
Printers' chase	R. Dick	76, 722
Printers' leads	J. M. H. Cheney	81, 476
Printers' leads, Cutting	W. E. Clark	81, 140
Printing apparatus, Elastic	J. McDermott	73, 359
Printing certain textile fabrics and yarns	J. Lightfoot	83, 182
Printing, Etching relief plates for surfaces	C. Henry	84, 187
Printing in colors	H. T. Smart	84, 225
Printing, Inking apparatus for color	T. L. Baylies	79, 888
Printing, Inking apparatus for color	J. Hunt	79, 910
Printing machine, Address	H. Julien	80, 285
Printing machinery, Cylindrical plate	G. F. Lewis and F. D. Stuart	77, 896
Printing machinery, Feeding cloth to	E. O. Potter	85, 475
Printing on fabrics	C. Holliday	78, 288
Printing, Plates for	J. Ramage and F. Nelson	75, 700
Prisons, Construction of	I. Hodgson	78, 966
Privy	J. Ingram	75, 549
Projectile	C. F. Brown	82, 284
Projectile	A. O. H. Hardenstein	82, 714
Projectile, Explosive	J. Long	84, 634
Projectiles, explosive, Igniting	E. Pertuiset, A. Mundel, and J. E. Armide do Fleron.	78, 322
Propeller	C. M. O'Hara	76, 651
Propeller	D. H. Heyer	78, 739
Propeller	R. Aikin	79, 183
Propeller	R. Hunter	79, 657
Propeller	C. Gotthold	80, 421
Propeller	R. Hunter	80, 960
Propeller	H. F. Roberts	85, 403
Propeller, Application of steam to a	W. Spaulding	79, 695
Propeller, Buoyant	E. Matteson	82, 968
Propeller for canal boats	S. D. Gilson	84, 108
Propeller, Screw	J. E. Kennedy	77, 888
Propeller shaft	W. Burtes	83, 601
Propeller, Shifting bucket	J. Brusser	76, 711
Propelling apparatus	E. Offhaus	80, 497
Propelling apparatus	J. Granger	82, 516
Propelling apparatus	E. S. Barnes	82, 787
Protector for the body	J. W. Torry	75, 710
Pulley	F. Hewitt	77, 284
Pulley	J. P. Smith	80, 777
Pulley	J. A. Burnup	81, 860
Pulley and block	S. and J. Roobuck	73, 653
Pulley block	I. W. Norcross	73, 029
Pulley block	H. F. Shaw	79, 264
Pulley, Expanding	T. H. Savery	78, 763
Pulleys, fast and loose, Oiling	W. Hamilton	75, 753
Pulley for braiding machine, Extension	J. Fewkes	72, 991
Pulley for gearing for machinery	S. Wheeler	76, 689
Pulley for hoisting apparatus	D. L. Millor	
Pulley, Friction clutch	D. Harrington	78, 961
Pulley Friction clutch	H. K. Smith	80, 024
Pulley, Friction clutch	C. Wright	80, 045
Pulley, Friction clutch	A. B. Clemons	84, 681

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Pulley, Locking loose	W. J. Linton	81, 384
Pulley, Loose	E. S. Capon	79, 634
Pulley, Loose	D. Harrington	80, 948
Pulley, Lubricating	D. Harrington	79, 752
Pulley, Lubricating	J. H. Gray	82, 110
Pulley, Sash		
Pulley, Sash	A. P. Seymour and W. R. Goodrich	81, 218
Pulley, Sash	J. D. Brown	82, 287
Pulley, Self-detaching	J. E. Gustin	79, 653
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Pulverizer, leveller, and marker	L. Jones	85, 010
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Pump	R. M. Fryer	73, 253
Pump	J. W. Douglas	74, 231
Pump	C. Rogers	74, 431
Pump	T. Chamberlin and T. E. Garrett	74, 500
Pump	J. Vaughan and J. McGee	74, 638
Pump	J. R. Weisiger	75, 088
Pump	J. S. Bardon	75, 112
Pump	P. B. and H. M. C. White	75, 228
Pump	R. Gilliland and R. H. Armstrong	75, 747
Pump	S. White	75, 819
Pump	G. W. Gardner and O. Higgins	76, 072
Pump	A. Fisher	76, 318
Pump	J. Wilcke	77, 694
Pump	C. S. McMahan	78, 602
Pump	W. Adair	78, 854
Pump	G. F. Nutting	79, 143
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Pump	W. H. Keep	81, 648
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Pump	J. F. Brickley	84, 971
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Pump, Artesian	L. Jennings	80, 631
Pump, Breast	W. T. Fry	78, 731
Pump, Breast	M. Mattson	85, 318
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Pump, Centrifugal	E. M. Ivens	73, 898
Pump, Check valve for	W. R. Malone	81, 804
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Pump, Double action	P. Foley	80. 617
Pump, Force, for hydraulic press	W. P. Callahan	79, 949
Pump for compressing air	C. W. Wailey	84, 030
Pump for deep wells	J. T. Whipple	74, 738
Pump, Oil well	M. D. Fenner	79, 333
Pump, Operating	E. Borton	73, 771
Pump piston	H. S. Hopkins	76, 635
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Pump, Return drip for	J. B. Stevenson	83, 887
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Pump, Rotary	C. H. Hersey	82, 833
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Pump, Steam	J. B. Gardiner	74, 075
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Pump, Stock	A. H. Piland and A. H. Turner	81, 287
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Pump, Submerged	B. F. Brown	85, 063
Pump to barrel, Attaching	J. F. Devarro	78, 865
Pump valve cleaner	M. C. Taylor	84, 516
Pump, Water charger for	T. Dutton and T. Maguire	83, 268
Pump, wrecking and fire engine, Combined floating	G. W. Talcott	82, 767
Pumping, &c., Device for	J. Johnson	84, 948
Punch	G. C. Wilder	84, 039
Punches and dies, Holding and adjusting	P. E. Austin	84, 468
Punch, Belt	E. Hester	80, 734
Punch, Belt	D. M. Weston	81, 717
Punch, Conductor's	J. and G. D. Friese	84, 739
Punch for cutting coupons from railroad tickets	H. M. Stow	85, 409
Punch, Gang	B. G. Welch	74, 646
Punch, Hand	J. D. Higgins	80, 349
Punches, Operating	L. W. Holmes	82, 317
Punch, Rotary	A. Bedford	81, 465
Punch, Spring	A. R. Noble	74, 241
Punch, Spring	M. V. Bryant	80, 449
Punch, Ticket	R. J. Kellett	79, 232
Punch, Ticket	W. Hill	79, 470
Punch, Ticket	W. J. Phelps	79, 498
Punching and shearing machine	M. A. Lanagan	79, 912
Punching and tire-bending machine	J. M. Bryan	78, 420
Punching and upsetting apparatus, Compound	S. E. Lockwood	75, 032
Punching apparatus	I. Lamplough	74, 700
Punching machine	C. Steinbach	75, 068
Punching machine	F. Nelson	75, 782
Punching machine	W. T. Richards	82, 993
Punching machine	J. E. Wiggin	83, 014
Punching machine	W. Lyon	83, 981
Punching machine for tin or sheet metal	J. Annear	84, 670
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Quartz crusher	A. Buchanan	76, 989
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Quartz crusher	E. Ford	83, 842
Quartz crusher	H. Ball	85, 354
Quartz, dissolving and for extracting metal, Apparatus for.	A. L. Fleury	79, 744
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Quilting frame	S. H. Nesbit	80, 760
Quilting frame	D. T. Wallace	81, 440
Quilting frame and bedstead	J. Park	81, 937
Quilting frame and table	M. E. Phillips	78, 478
R.		
Rack and bracket	W. A. Middleton	83, 195
Rack and feed trough, Combined	J. Depue	76, 061
Rack and stool, Music	A. N. Towne	83, 801
Rack, Bath room	M. A. H. Saurman	83, 884
Rack, Billiard cue	E. Brunswick	72, 969
Rack, Billiard cue	V. H. Buschmann	77, 452
Rack, Card	M. Lepp	80, 415
Rack, Cheese curd	E. A. Palmer	79, 250
Rack, Cloth	H. C. Smith, D. A. Kelly, and J. E. Murdock.	74, 439
Rack, Clothes	C. K. Breneman	82, 278
Rack, Clothes	I. Hogeland	81, 694
Rack, Coat	J. B. Rumsey	79, 259
Rack, Dish	E. A. Sawyer	83, 413
Rack, double, and trough, for feeding sheep, cattle and horses, Combined.	J. D. McBride	73, 426
Rack, Feed	M. Workman	79, 886
Rack for carding engine	L. Monroe	75, 290
Rack, Hat and dish	W. W. Horton	77, 377
Rack, Hat for seats	P. Sylla	74, 953
Rack, Hay	A. T. Soule	80, 095
Rack, Hay	S. Brownell	82, 288
Rack, Hay	W. Smith	83, 561
Rack, Milk	I. P. Tice	74, 633
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Rack, Pen	W. E. Clarke	80,140
Rack, Pen	C. J. Bouché	82,916
Rack, pen, Spring	J. M. Keep	73,448
Rack, Sheep	J. D. White	73,065
Rack, Sheep	J. Taylor	75,077
Rack, Sheep	J. Elliott and W. Lee	83,840
Rack, sheep, Feeding	J. C. Colflesh	80,603
Rack, Towel	E. E. Everitt	73,517
Rack, Towel and clothes	C. Carrier	82,691
Radiator	J. A. Larkin	79,841
Radiator	W. Steffe	80,883
Radiator	E. S. Blake	84,989
Radiator, Steam	C. Whittier	84,037
Raft	D. Quinn	83,662
Raft dog	C. C. Comstock	77,961
Rags, Cleansing	G. L. Witsil	84,850
Rags, Cutting	J. Collins jr	74,506
Rags, Cutting	A. Allen	75,341
Rags, Cutting	A. T. Bennett and W. O. Anderson	80,531
Rag cutting machine	J. Collins jr., and N. R. Nixon	73,695
Rail chair, Railway	W. V. Arden	85,347
Rail clamp or chair, Railroad	J. E. Watkins	73,679
Rail fastening, Railroad	M. Seaman	75,583
Rail joint, Railway	S. J. Reeves	75,977
Rail joint, Railway	J. S. Schoonover	82,645
Rail joint, Railway	E. G. Patterson	82,744
Rail joint, Railway	G. Palmer	83,303
Rail joint splice, Railroad	E. H. Eberman	74,900
Rail, Railroad	P. Asheroft and G. F. L. Meakin	73,282
Rail, Railroad	L. B. Prindle	76,942
Rail, Railroad	J. H. Herman	77,039
Rail, Railroad	Z. B. Wakeman	78,404
Rail, Railroad	A. G. Buzby	78,422
Rail, Railroad	R. M. Brooks	79,309
Rail, Railroad	R. M. Marchant	80,417
Rail, Railroad	E. R. Shepard	82,881
Rail, railroad, Fagot or pile for manufacturing	W. Haywood and J. Lees	79,904
Rail, railroad, Fastening for	N. Haddington	73,529
Rail, railroad, Splice	S. A. Beers	83,446
Rail, Railway	J. Potter	83,880
Rail, Railway	E. R. Shepard	75,206
Rail, Railway	H. Zahn	84,401
Rail, Railway	R. Anthony	85,198
Rail-set	G. Patterson	73,033
Rails, Sharpening	J. Ayers	85,265
Rail splice, Railway	R. Elliott	77,180
Rail splice, Railway	J. Wixted	83,813
Railroad	J. B. Christain	77,456
Railroad, Arcade	S. B. B. Nowlen	73,635
Railroad, Elevated	C. T. Harvey	73,003
Railroad, Elevated	C. T. Harvey	79,753
Railroad, Elevated	C. T. Harvey	79,754
Railroad frog	H. S. Chapin	78,429
Railroad sill and chair	J. Snell	77,119
Railroad track clearer	C. P. Riley	79,600
Railroad track clearer	R. A. Smith	79,606
Railroad track clearer	J. Callaghan	80,331
Railroad track clearer	S. G. Cabel	80,450
Railroad track, Foundation for	J. E. Halsey	85,304
Railroad track-laying machine	W. D. Robertson	82,350
Railway	E. Robbins	76,348
Railway	C. Margutti	78,462
Railway	J. G. Cross	79,054
Railway, Elevated	R. A. Checsbrough	79,952
Railway, Elevated	E. M. Barnum	80,530
Railway, Elevated	O. Goantner	83,772
Railway, elevated, Propulsion and construction of	C. T. Harvey	79,755
Railway frog	J. H. Dow and D. J. Riker	73,959
Railway frog	W. Wharton jr	74,461
Railway frog	J. Gray	82,937
Railway frog	W. H. Nobles	82,977
Railway joint	L. Behymer	74,037
Railway joint	J. Q. Sweet	79,515
Railway safety attachment	H. S. Blood	82,199
Rain-water cut-off	J. Spear	82,653
Rake	J. H. Butler	74,987
Rake and hoe combined	H. Thacker	84,231
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Rake, Garden, and hoe combined	R. H. Gordon, sr	73,525
Rake, Grain	M. M. Wells	77,556

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Rake, Hand	A. Winters	85, 154
Rake, Harvester	V. H. Felt	72, 990
Rake, Harvester	S. C. Ridgway	73, 388
Rake, Harvester	W. G. Merrell	73, 452
Rake, Harvester	J. S. Marsh	73, 619
Rake, Harvester	J. B. McCormick	73, 623
Rake, Harvester	J. Dick, jr	73, 878
Rake, Harvester	W. N. Whiteley	74, 464
Rake, Harvester	W. N. Whiteley	74, 465
Rake, Harvester	C. Lidren	74, 836
Rake, Harvester	L. Miller	74, 929
Rake, Harvester	R. Bryson	74, 983
Rake, Harvester	A. Quick, W. S. Opie, and A. J. Farrand.	74, 845
Rake, Harvester	T. Harding	75, 263
Rake, Harvester	O. Redmond	75, 297
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Rake, Harvester	W. H. Seymour and A. Palmer	75, 801
Rake, Harvester	J. B. Sweetland	76, 000
Rake, Harvester	D. Mendenhall	76, 339
Rake, Harvester	C. L. Barritt	77, 244
Rake, Harvester	O. O. Storle	77, 675
Rake, Harvester	J. Durborrow	78, 684
Rake, Harvester	J. Underwood	78, 700
Rake, Harvester	H. T. W. Deterding	79, 057
Rake, Harvester	W. N. Whiteley	79, 170
Rake, Harvester	E. M. Smith	79, 507
Rake, Harvester	C. J. Arlington	79, 539
Rake, Harvester	C. Wheeler, jr	79, 881
Rake, Harvester	I. Lancaster	80, 188
Rake, Harvester	F. Schurger and N. Allstatter	80, 879
Rake, Harvester	W. N. Whiteley	81, 045
Rake, Harvester	S. Hull	81, 090
Rake, Harvester	J. B. Bowen, C. A. Reed, and C. A. Whelan.	81, 120
Rake, Harvester	A. Rank	81, 208
Rake, Harvester	T. S. Brown	81, 473
Rake, Harvester	J. C. Hall	81, 628
Rake, Harvester	K. H. C. Preston	81, 685
Rake, Harvester	G. Blake	81, 978
Rake, Harvester	L. J. McCormick, M. R. and L. Erpelding.	84, 141
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Rake, Harvester	P. Ammerman	83, 355
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Rake, Harvester	J. Dick, jr	83, 610
Rake, Harvester	O. H. Burdick	84, 730
Rake, Harvester	M. Gibbs	84, 818
Rake, Harvester	W. A. Kirby	84, 833
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Rake, Harvester	C. Wheeler, jr	85, 044
Rake, Harvester	S. S. and J. G. Sherman	85, 139
Rake, Hay	W. King	81, 791
Rake, Hay, and loader	C. Plaisted	73, 460
Rake, Hay, and loader	S. M. Livingston	73, 731
Rake, Hay, and loader	J. J. Thompson	83, 110
Rake, hay, Horse	E. R. Hall	78, 735
Rake, hay, Horse	W. A. Heath	78, 086
Rake, hay, Horse	C. W. Warner	81, 234
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Rake, hay, Horse	W. Holmes	82, 002
Rake, hay, Horse	P. Prescott	82, 749
Rake, hay, Horse	A. T. Dunbar	84, 999
Rake, head of Attachment for	T. D. Little	76, 477
Rake, Horse	B. F. Horton	73, 248
Rake, Horse	O. Nivison	73, 457
Rake, Horse	C. O. Luce	73, 820
Rake, Horse	A. S. Kendall	73, 904
Rake, Horse	A. Chapman	73, 952
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Rake, Horse	A. T. Barnes	75, 836
Rake, Horse	H. R. Hawkins	75, 905
Rake, Horse	H. L. Beach	76, 040
Rake, Horse	G. Deal	76, 307
Rake, Horse	M. Alden	76, 480
Rake, Horse	C. B. Perkins	76, 518
Rake, Horse	N. H. Brown	76, 597
Rake, Horse	C. B. Holden	76, 760
Rake, Horse	S. P. Mecay	76, 932
Rake, Horse	M. Smith	78, 147
Rake, Horse	J. Seely	78, 239
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Rake, Horse	L. D. Pennington and J. G. Woodfill	78, 824
Rake, Horse	J. Hunsberger	78, 969
Rake, Horse	J. Ginther	79, 065
Rake, Horse	F. Wicks	79, 284
Rake, Horse	C. E. Murray	79, 378
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Rake, Horse	C. Starrett	80, 097
Rake, Horse	W. H. Barton	80, 383
Rake, Horse	T. H. Shreeves	80, 772
Rake, Horse	A. H. Robbins	81, 409
Rake, Horse	F. Smith	82, 040
Rake, Horse	W. H. Cook	82, 292
Rake, Horse	C. H. Poage	82, 345
Rake, Horse	J. W. Aker	82, 474
Rake, Horse	H. B. Noble	82, 631
Rake, Horse	E. Luther	82, 855
Rake, Horse	G. D. Neal	82, 864
Rake, Horse	G. M. L. McMillen	82, 972
Rake, Horse	G. C. Shaler and H. Barlow	83, 003
Rake, Horse	J. B. Smith	83, 002
Rake, Horse	N. Selby	83, 326
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Rake, Horse	L. H. Morrill	83, 875
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Rake, Horse	J. E. Voiles	84, 028
Rake, Horse	H. L. Brown	84, 085
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Rake, Horse	E. J. Toof	84, 917
Rake, Horse	G. E. Burt	85, 275
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Range	D. K. Boswell	74, 291
Range	E. Horsford	80, 484
Range	J. P. Hays	82, 311
Range and cooking stove	B. Nott	75, 046
Range and stove, Cooking	J. Spear	79, 510
Range and stove, Summer attachment for	N. O. Bond	85, 054
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Range, Cooking	W. H. Graham	76, 437
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Range, Cooking	S. Wilks	83, 679
Range, Cooking	E. Monense and L. Duparquet	85, 468
Range, Heater	A. K. Sanders	77, 325
Range, Heating	W. A. Greene	81, 362
Rasp	I. Fisher	76, 618
Rasp and file	F. C. Curie	80, 460
Rasp, Making	M. H. Fisher	79, 461
Rasp, Cutting	W. T. Nicholson	80, 993
Ratchet and pawl mechanism	J. Garfield	82, 935
Ratchet brace	T. A. Weston	75, 091
Ratchet brace	W. F. Cornell	81, 145
Ratchet brace or lever	T. A. Weston	75, 092
Ratchet brace or lever	T. A. Weston	75, 093
Ratchet feed, Reversible	A. B. Bean	84, 527
Ratchet head and lever	T. A. Weston	75, 089
Ratchet head and lever	T. A. Weston	75, 090
Ratchet lever power, Double	J. S. Williams	81, 967
Rattan machine	L. Heywood	74, 913
Rattan machine	S. Sawyer	78, 238
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Razor strap, Holder for	G. Scott	74, 771
Reamer	E. Sullivan	79, 276

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Reaming tool	A. Conklin	85, 628
Reaper knives, Grinding	F. Judson	81, 646
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Receptacle for watch keys and other articles	M. Z. Crane	83, 695
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Rectifying and distilling	C. Gresichna	73, 092
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Reeds for organs, &c	W. Monroe	73, 114
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Reel	J. Brown	77, 353
Reel	A. H. Saunders	81, 825
Reel	J. S. Fenner	83, 270
Reel	E. Baker	84, 156
Reel	W. G. Brown	85, 065
Reel, Angler's	W. H. Bradley	82, 277
Reel, Chalk-line	M. V. B. Knowles	84, 554
Reel, Clothes-line	J. Valentine and H. B. Stevens	84, 919
Reel for grain binders	S. D. Locke	84, 065
Reel for yarn, &c	F. Voegtli	84, 026
Reel, Line	L. Martin	73, 019
Reeling machinery	B. H. Jenks	84, 424
Reflector	W. M. Marshall	73, 355
Reflector	J. A. J. Logan	75, 033
Reflector	W. G. Schmidlin and J. W. Driscoll	77, 408
Reflector	L. Portner	80, 499
Reflector, Dressing-glass	C. Furber	84, 943
Reflector for public halls, &c	O. E. Dodge	84, 270
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Refrigerating and condensing apparatus for preserving animal and vegetable substances.	E. D. Brainard	73, 292
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Refrigerator	H. A. Roberts	77, 098
Refrigerator	J. H. Hollingsworth	77, 980
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Refrigerator	E. Piper	78, 606
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Refrigerator	E. D. Brainard	81, 588
Refrigerator	W. Bray	82, 076
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Refrigerator	T. D. Kellog	84, 196
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Refrigerator and cooler	A. Koch	77, 624
Refrigerator and cooler	L. R. Comstock and J. N. Cherry	83, 167
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Register, air, Hot	W. Highton	79, 226
Register, air, Hot	T. W. Brown	83, 359
Register, air, Hot	J. D. McBride	74, 968
Register, air, Hot, and boiler combined	B. B. Perkins	74, 936
Register, air, hot, Attachment for	H. Sinclair	81, 695
Register, Billiard	I. Kling	79, 233
Register, Car, railroad	P. R. Gerhart	79, 339
Register, Conductor's	W. C. McGill	76, 646
Register, Counting	J. S. Detrick	80, 612
Register for knitting machine	B. B. Bollinger	81, 870
Register for railroad fare	S. F. Covington	77, 593
Register for time and price	K. Smith	84, 226
Register, Grain	M. W. and G. W. Nesmith	75, 187
Register, Grain	P. Taylor	80, 372
Register, Mileage	B. Horn	77, 613
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Register, Passenger	J. Enright	79, 060
Register, Passenger	T. S. Huntington and A. Fulton	79, 911
Register, Passenger	T. Jacobs	80, 741
Register, Perpetual	J. S. and J. H. Hood	78, 967
Register, Steam-engine	G. P. Clark and M. B. Edson	77, 584
Register, Steam-engine	T. Garsed	84, 622
Register, Ticket	S. Sichel and S. Feust	79, 017
Register, Vote	N. A. Patterson	77, 836
Register, Workmen's time	W. A. L. Kirk	74, 381
Registering and calculating machine	T. M. Strode	74, 170
Registering fare receiver	W. G. Smoot	81, 223
Registering scale	D. Wolf	83, 580
Regulator for timepieces	S. F. Estell	73, 240

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Invention or Discovery.	Name of Patentee.	No.
Regulator, Hydraulic pressure	T. J. McGowan	85,322
Regulator, Steam and fire	A. Kipp	81,649
Regulator, Steam exhaust	J. Shackleton	84,586
Regulator, Water supply	G. P. Nutting	85,121
Rein, Check and harness	W. Clark	73,875
Rein, check, Detaching	A. Westbrook and S. O. Doan	74,780
Rein, check, Slide for	W. B. Potter	77,318
Rein holder	C. A. and W. Bradford	73,772
Rein holder	P. Jones	74,373
Rein holder	J. W. Wadsworth	80,434
Rein holder	L. D. Gillette	83,150
Rein holder	I. Hull	84,061
Rein holder	C. Whittaker	84,328
Rein holder	J. Clintock	84,478
Rein holder and dash board	P. Verplank, jr	76,007
Rein holder, Bending the edge of	L. J. Parsons	83,201
Rein shackle	J. and W. Hall	77,608
Rein snap	W. H. Benham	73,432
Rest for grinding harvester cutters	T. Brett	76,883
Rest, Head and shoulder	A. V. W. Van Vetchten	78,702
Rest, Invalid	T. S. Kennard	82,125
Retort for concentrating sulphuric acid	J. D. Perrin and J. Saunders	78,760
Ribbon roll clip	M. B. Westhead	80,375
Rice cultivator	G. W. Cooper	80,604
Rice-hulling machine	J. M. Hendricks	73,716
Rice-pounding machine	J. W. White	81,042
Rigging for jib sails	F. Fellingham	77,875
Rings, Bending	W. H. Peckham	77,312
Ringbone, spavin, &c., in horses, Compound for treating	W. H. Vance	84,322
Ring ferruling machine	J. Siddons	84,311
Ring, Finger	W. H. Peckham	82,546
Ring for fire-arms, Strap	J. Rider	74,427
Ring for ring spinning	C. B. Morse	76,797
Ring, Harness	G. H. Buckins	79,725
Rings, Making	J. Siddons	85,336
Rings on carboys and bottles, Forming	T. Barrett	79,434
Ring, Open	A. H. Boxler	77,441
Ring, open or middle	B. F. Zinn	84,155
Ring, Suspension	H. S. Griffiths	77,482
Rivers, Cleaning	L. Straus	73,938
Rivet	E. S. Wheeler	80,791
Rivet and bolt machine	G. Worstenholm	76,873
Rivet machine	J. H. Swett	79,516
Road grader	J. M. Ragsdale	83,547
Rock crusher and tempering machine	J. Bingham and R. Coward	79,630
Rock crushing machine	E. J. Wilson	85,153
Rock drilling machine	C. Schumann	73,051
Rock drilling machine	W. Weiler	76,279
Rock drilling machine	E. W. Gram	82,109
Rocker for chair	L. B. Yale	75,617
Rocker for child's carriage	A. D. Judson	75,278
Rod, Connecting	E. Brown	82,379
Rods, Turning	F. Douglass	81,761
Rolls and tubes, Elastic	J. Moulton	84,208
Roll, Anti-friction	F. A. Serry	78,153
Rolls, Elastic	J. Moulton	77,518
Rolls of rolling mills, Grinding	H. Disston	74,206
Roller and harrow, Combined	J. Ginther	82,512
Roller and harrow, Revolving	E. K. Harvey	78,283
Roller, harrow, drill, &c., Combined	D. B. Platt	78,998
Roller and plow, Combined	J. A. Alley	74,267
Roller and seed drill	S. Shirley	73,393
Roller, Chart	E. T. Hagar	77,813
Roller, cultivator, and drill combined	T. S. Mills	73,365
Rollers, drawing, Chaver for	D. Crowley	74,202
Roller, drill, and seeder	L. R. Wallace	78,846
Roller, Field	D. R. Prindle	77,523
Roller, Field	A. L. Chubb	79,456
Roller, Field	W. W. Andrews	83,818
Roller, Field	W. Westfall	84,150
Roller for band saw, Friction	T. A. Ballou	73,070
Roller for drawing machine	F. and G. G. Cragne	77,173
Roller, Friction	C. W. Pierce	73,117
Roller, Garden	J. B. Brown	84,167
Roller, Land	E. F. Hutchinson	77,044
Roller, Land	E. O. Jones	77,048
Roller, Land	D. Fuller and D. Swain	84,541
Roller, Land	R. Sandiford	85,333
Roller, land, and clod pulverizer, Combined	J. Brewer	82,793
Roller, Land, fertilizer, and seed sower combined	L. D. Taylor	79,280
Roller, land, Pulverizing	F. Post	83,311

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Invention or Discovery.	Name of Patentee.	No.
Roller, Leather	J. T. Harris	79,070
Roller, Paving	E. W. Kittredge	82,009
Rollers, printers', Recovering the materials of worn-out	J. H. Osgood	83,786
Rollers, Rolling "cots" on drawing	W. C. Joslin	76,199
Rollers, Washing printers' ink	O. H. Reed and A. L. Carrier	84,904
Roller, Wringer	A. Mogowan	83,518
Rolling machine	G. Hastings	73,598
Rolling pin	A. J. Root	78,135
Rolling pin	W. Cook	83,934
Roof	E. Akinson	76,375
Roofs, &c., Compound for covering	C. B. Hutchins	79,472
Roof, composition, Preserving	F. U. Rogers	79,601
Roof, hay and grain, Portable	J. J. Naylon	74,120
Roof hay stack, Portable	T. Munson	80,301
Roofs of buildings, Preserving	I. W. Dean	81,147
Roofs, pavements &c., Composition for covering	J. See	78,544
Roofs, Shingling	B. Flowers	85,082
Roof staging	C. M. Pease	76,576
Roof truss, Wrought iron	G. H. Sellers	77,409
Roofing	M. Ehret, jr	81,078
Roofing and other purposes, Compound for	H. W. Johns	76,773
Roofing and painting compound	N. Irish	84,421
Roofing, &c., Fibrous compound for	R. O. Lowrey	77,992
Roofing, &c., Plastic compound for	R. O. Lowrey	77,991
Roofing buildings	C. De Hass	77,177
Roofing, Cement	L. Rodney	74,430
Roofing composition	D. Harger	74,083
Roofing composition	R. C. Graves	74,343
Roofing composition	C. F. Hinman	84,119
Roofing composition	M. Gould	84,820
Roofing composition	B. Capron	84,856
Roofing composition	A. Cody, J. Bartlett, and H. M. Jones	72,977
Roofing composition	H. K. Schenck	74,606
Roofing composition	J. H. Hood	75,634
Roofing composition	B. Stephens	81,838
Roofing composition, Elastic	T. E. Wood	82,507
Roofing composition for houses, boats, &c	J. J. Wiggins	83,576
Roofing compound	J. A. Jones	73,531
Roofing compound	E. B. Wells	76,012
Roofing compound	W. P. Valentine	76,276
Roofing compound	D. W. Denton	78,269
Roofing compound	L. D. Ferguson	79,645
Roofing compound	H. M. Teasdale	80,029
Roofing compound	J. A. Jones	82,529
Roofing compound	M. Pinner	83,529
Roofing compound	D. Hitchcock	84,120
Roofing compound, Water and fire-proof	F. A. Curtis	79,732
Roofing, Concrete	S. B. and P. Pierce	73,645
Roofing fabric	J. J. Wiggins	83,575
Roofing fabric, Process and apparatus for the manufacture of.	A. Robinson	75,197
Roofing felt	F. Curtis	75,128
Roofing machine	J. H. Cole	77,257
Roofing material	A. Jameson	73,899
Roofing, Metallic	E. P. Vaux	79,522
Roofing, Metallic	W. Ward	82,902
Roofing, pavement, &c., Laying and spreading composition.	J. and G. Rive	85,453
Roofing, Rolling	E. Richardson and J. H. Cole	78,014
Roofing, Sheet-metal	E. Mills	84,205
Rope-bearing attachment in machines for steam culture	M. Eyth	84,621
Rope, hair, Opening	P. Wisdom	76,024
Rope-making machine	C. Clark	81,753
Rope trace	T. Newman	78,757
Rossing machine	C. Gilpin and L. T. Dickinson	82,399
Rossing machine	C. Gilpin and L. T. Dickinson	82,400
Roving frame	W. H. Thompson	73,267
Roving, Making	N. F. Clark	79,899
Row-lock	G. W. Brown	74,296
Rubber and other coated cloth and fabrics	J. W. Cobb and E. A. Hill	80,809
Rubber articles from the molds in which they are vulcanized, Detaching.	J. Moulton	84,209
Rubber cloth, Forming tight seams in	G. M. Allerton	77,859
Rubber enameled cloth for boots and shoes, Compound	E. M. Stevens	76,265
Rubber for washing clothes	J. Charlton	76,603
Rubber goods, Inflated	G. M. Allerton	79,933
Rubber, gutta-percha, &c., Articles of	J. B. Newbrough and E. Fagan	73,916
Rubber, Hard	W. Mullee	76,293
Rubber, hard, Molding watch cases and lockets from	W. H. Halsey	81,082
Rubber or gutta-percha compound	J. B. Newbrough	84,369
Rubber, soft, Articles of	G. W. Martin	80,299

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Rubber tubes, Manufacture of, and machinery therefor	J. Robertson	75,649
Rubbing machine for medical use, Oscillating	G. H. Taylor	77,933
Rudder	T. W. Murray	75,696
Rudder gear	C. T. Rideout	77,095
Rudders, Hanging	H. M. Pember	75,964
Rule, Adjustable measuring	I. Williams	81,720
Rule and pocket knife	O. B. Stale	77,121
Rule and square combined	W. O. Jones	73,532
Rule, printer's, Cutting and mitering	W. Ustic	80,245
Rule, Tailor's	P. W. Dolan	78,726
Ruler, Parallel	D. J. Pratt	80,500
Rules, Graduating	N. Millington	74,239
Ruling machine	J. F. Tapley	73,669
Ruling machine, Paper	W. O. Hickok	82,834
Runner for wheeled vehicles	B. Thompson	75,812
S.		
Sabot	M. Warne	83,229
Saccharine and other fluids, Deodorizing and refining	W. Clough	75,245
Saccharine juices, Clarifying	L. P. Harris	73,091
Sack, Catamenial	A. F. Baum	78,414
Saddle	G. H. Hayden	84,186
Saddle and harness	R. M. La Rue	75,930
Saddle, Cart	F. T. Nichols	78,119
Saddle, Dry	J. O'Mahony	77,310
Saddle, Gig	J. Hughes	82,954
Saddle, Luggage supporter for	W. Cline	79,953
Saddle, side, Tree for	J. B. Gathright	74,909
Saddle, Spring seat for	R. J. Steele	77,849
Saddle-tree	J. T. Smeiser	81,022
Saddle-tree, Side	J. C. Miller	82,337
Sad-iron	R. J. P. Goodwin	75,150
Sad-iron	J. Grüssi	75,156
Sad-iron	J. M. Hall	76,754
Sad-iron	A. Y. Hubbell	77,379
Sad-iron	J. Gray	79,067
Sad-iron	J. Shalkenback	79,262
Sad-iron handle	T. S. Minniss	75,949
Sad-iron handle	S. H. Cummings	79,320
Sad-iron handle	A. Barrows	82,677
Sad-iron, Heating	A. Hallowell	75,631
Sad-iron holder	J. D. Westgate	75,611
Sad-iron holder	J. Humphrey	77,380
Sad-iron holder	D. T. Conde	78,063
Sad-iron holder	G. H. Roth	80,311
Sad-iron support for stove	A. Diekey	80,814
Safe and powder magazine, Compound for use in	E. H. Asheroft	76,133
Safe, Construction of	O. Marland	77,432
Safe, Construction of	T. H. Williams	78,851
Safe, Fire and burglar-proof	D. Fitzgerald	80,936
Safe, Fire-proof	E. D. Draper and E. W. Glover	73,309
Safe, Fire-proof	R. A. Ballou	75,346
Safe, Fire-proof	J. Farrel	76,898
Safe, Fire-proof	A. W. Herr	77,816
Safe, Fire-proof	H. H. Bryant	79,808
Safe, Fire-proof	J. L. Hall	80,728
Safe, Fire-proof	W. McFarland and W. H. Butler	82,016
Safe, Fire-proof, Water vessel for	R. S. Sanborn	76,948
Safe, Liquid	G. D. Anderson	81,723
Safe, Match	P. D. M. Carmichael	72,973
Safe, Water-proof	J. P. Ellis	73,085
Sails, Pendants for sheets of fore-and-aft	N. Woodbury	80,325
Sails, Reefing and furling	F. D. Dunton	83,949
Sails, Reefing fore-and-aft	R. C. Denham	78,267
Sails, Reefing fore-and-aft	W. C. Rogers	84,137
Sails, Stops for fore-and-aft	J. Edson	80,278
Sails, Supporting attachment for	C. S. Brown	80,803
Salt and sugar evaporator	J. M. Thompson	78,028
Salt cup and napkin ring combined	G. Pine	75,968
Salve	T. Eusglin	75,742
Salve	C. Swartout	79,411
Salve for burns and scalds	A. Schmitt	84,770
Salver or plate	H. McMannus and J. B. Hathing	84,894
Sandal	W. Hall	77,976
Sand-throwing machine	W. H. Cox	78,432
Sanitary brace to keep the mouth closed during sleep	F. Pinkard	84,966
Sap and other liquids, Boiling	J. S. Thompson	74,452
Sap spile	W. Conner	76,402
Sap spile	C. C. Post	79,256
Sap spile	C. C. Post	84,302

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Sap spout	R. F. Livermore	74,101
Sap spout	J. B. Sargent	76,530
Sash adjuster, Ventilating	W. C. Stickney and J. McGee	81,703
Sash and frame, Hot-bed	M. Cridge	81,881
Sash and shutter fastening	W. J. Miller	78,115
Sash balance	A. B. Hester	79,118
Sash-bead fastener	D. W. Dyer and J. H. McVeigh	75,396
Sash fastener	O. Cate	76,891
Sash fastener	R. Thomas	78,772
Sash fastener	F. Zell	79,046
Sash fastener	H. North	79,248
Sash fastener	F. Krauser	81,178
Sash fastener	L. D. Gould	81,889
Sash fastener	J. E. Downs	82,392
Sash fastener	A. Conant	82,603
Sash fastener	H. H. Kelley	82,847
Sash fastener	J. H. Douglass	83,266
Sash fastener	D. Armstrong	83,439
Sash fastener	J. V. Bogert and M. R. Perkins	83,824
Sash fastener	W. K. Marvin	83,983
Sash fastener	W. J. DeGrummond	84,093
Sash fastener	W. Edson	84,098
Sash fastener	W. M. and C. A. Warren	84,596
Sash fastener and adjuster	A. Bedford	84,987
Sash fastening	C. M. Amsden	73,562
Sash fastening	T. H. Bowerman and C. J. Dart	81,131
Sash fastening	F. Walker	81,848
Sash fastening	W. Brown	82,797
Sash guide block	A. Bicknell	83,685
Sash holder	D. P. Lacey	81,179
Sash holder	F. Babcock	82,580
Sash holder	S. L. Loomis	83,292
Sash holder	J. Obseiter	84,504
Sash, Sliding	G. Warren	81,850
Sash stop	B. Doe	73,305
Sash stop	W. H. Sutherland	74,446
Sash stop	R. E. Buchanan	75,852
Sash stop and holder	F. Walker	84,031
Sash stop and lock	W. A. Sullenberger	85,345
Sash stop for window and door	F. Baumgarter	75,347
Sash supporter	C. F. Dodge	78,193
Sash supporter	J. N. Watrous	79,525
Sash supporter	W. Randall	81,207
Sash supporter	H. C. Goodspeed	83,626
Sash supporter	A. Davis	83,697
Sash supporter	R. M. Campbell	84,088
Sash, Window	A. K. Eddows	73,586
Sash, Window, Fastener for	J. W. Hansel	73,325
Satchel holder and dress combined	G. McFadden	80,196
Sausage filler	M. Feuerstein	73,591
Sausage filler	J. G. Perry	75,965
Sausage filler	J. G. Perry	75,966
Sausage stuffer	J. P. Troxell	73,410
Sausage stuffer	P. Miles	73,453
Sausage stuffer	J. P. Troxell	78,555
Sausage stuffer and lard press	A. J. Troxell	80,035
Sausage stuffer and lard press	J. B. Cassel	81,751
Sausage stuffer and lard press	N. S. Underkuffler	82,453
Saw	J. Davis	72,983
Saw	G. Walker	73,210
Saw	E. M. Boynton	73,226
Saw	J. E. Emerson	74,521
Saw	J. E. Emerson	74,522
Saw	J. E. Emerson	74,523
Saw	E. Humphrey	74,541
Saw	W. Clauson	75,733
Saw	W. Clauson	75,734
Saw	I. S. and C. N. Brown	76,395
Saw	S. Anderson	77,439
Saw	S. Barry	79,099
Saw	I. G. Baker	79,185
Saw	C. Disston	80,929
Saw	G. B. Montgomery	81,525
Saw	W. P. Miller	81,811
Saw	W. P. Miller	81,812
Saw	B. F. Burgess	82,289
Saw	J. L. Warren	84,722
Saw	E. Andrews	85,417
Saw, Attaching handle to	J. Ohlen	81,102
Saw, Belt	G. Thompson	81,434
Saw-carriage device	L. Black and M. Gaffney	84,046

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Saw, Chain	D. Kennedy	74,097
Saw, Circular	H. Disston	73,238
Saw, Circular	J. F. Folmer	81,267
Saw, Circular, Attaching handle to	E. Galley	74,749
Saw, Circular, Feeding roller for	E. C. Dickey	83,047
Saw, Circular, Guide for	T. Milner	78,752
Saw, Circular, Hanging	W. McDonald	81,661
Saw, Circular, Jointing	I. France	82,508
Saw, Circular, Swage for	J. G. Baker	79,184
Saw, Cross-cut	T. S. Disston	73,516
Saw, Cross-cut, Attaching handle to	W. P. Miller	76,228
Saw, Cross-cut, Attaching handle to	P. Donough	78,653
Saw, Cross-cut, Attaching handle to	S. Disston	84,095
Saw, Cylindrical	C. Murdock	85,021
Saw-filing machine	H. Clendenen	80,141
Saw-filing machine	J. Temple	81,035
Saw-filing machine	J. H. Van Northwick	82,047
Saw-filing machine	D. H. Iseminger	83,168
Saw for felling trees	T. Bauschtliker	82,789
Saw frame	M. J. Jones	73,341
Saw frame	B. Butler and C. F. Ramsay	83,131
Saw grinder	E., E. W., and E. C. Strange	84,916
Saw, Grinding	C. W. Hubbard	79,981
Saw, Grinding, Circular	S. D. Tucker	84,721
Saw grinding machine	E. Andrews	81,126
Saw grinding machine	J. G. Baker	83,443
Saw gummer	A. R. Silver	84,514
Saw-gumming device	D. J. Barnett	80,115
Saw-gumming machine	T. S. Disston	73,239
Saw-gumming machine	T. S. Disston	73,880
Saw-gumming or toothing machine	A. Bartholf	76,147
Saw, Hand	J. E. Emerson	82,299
Saw handle	C. W. Hubbard	79,980
Saw handle	W. T. Harvey, jr	82,943
Saws, Hanging	A. Fellker	85,294
Saw-horse	A. Stanley	77,779
Saw-horse	F. V. Mansfield	78,750
Saw-horse	C. H. Hardy	83,958
Saw in saw mills, Hanging reciprocating	E. Andrews	76,969
Saw, Jig	J. E. Chamberlin	83,362
Saw jointer	W. B. Noyes	75,188
Saw plates and similar articles of steel, Tempering	G. Mercer and J. Hinton	77,396
Saw, Scroll	B. J. Camp	74,497
Saw, Scroll	W. Dobson	82,501
Saw, Scroll	C. M. Baxter	82,585
Saw, Scroll, Guide for	L. A. Johnson	81,376
Saw, Scroll, Guide for	G. W. Staats	82,171
Saw set	J. F. Brodhead	76,046
Saw set	J. Nocpel and B. Assman	77,082
Saw set	A. Lyon, W. Shumard and J. N. Robbins.	77,825
Saw set	F. Bates	78,357
Saw set	I. Estell	79,964
Saw set	W. B. Weaver	81,442
Saw set	J. Uhl	81,708
Saw set	C. Deyhle	82,500
Saw set	L. T. Smart	82,759
Saw set	A. Johnson	82,845
Saw set	W. E. Goodnough	82,825
Saw set	J. J. Reichard	83,792
Saw set	J. J. Reichard	83,793
Saw set	R. W. Tyler	83,805
Saw set and gauge	W. B. Noyes and C. S. Baker	80,871
Saw, Setting	H. Disston	73,879
Saw, Sharpening	B. P. Poindexter	78,995
Saw, Sharpening	O. A. Tefft	79,787
Saw, Sharpening	A. M. Newman	82,240
Saw, Sharpening	D. Huffman	83,383
Saw, Sharpening	A. R. Stewart	84,229
Saw, Sharpening and gumming	A. W. Newhall	76,236
Saw sharpening device	P. M. Bristol	82,078
Saw, Slide for hanging upright	A. P. Barlow	84,851
Saw, Swage for	H. H. Gridley	83,956
Saw, Swage for	W. A. L. Kirk	84,361
Saw tang	E. M. Boynton	73,227
Saw teeth, Cutting	J. Morton	75,563
Saw teeth, Dressing	J. Lough	84,365
Saw, Wood, Frame for	J. Havens	73,890
Saw, Wood, Straining	J. R. Webster	73,413
Sawing and boring machine	T. Smith	82,649
Sawing machine	I. R. Harman	73,000

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Invention or Discovery.	Name of Patentee.	No.
Sawing machine	J. Fry	73, 520
Sawing machine	P. P. Lane and J. F. Bodley	73, 814
Sawing machine	I. B. Jones	74, 096
Sawing machine	C. Root and B. Bennett	74, 432
Sawing machine	S. L. King	76, 469
Sawing machine	T. Jenkyn	77, 195
Sawing machine	J. P. Grosvenor	77, 606
Sawing machine	A. E. Ross	78, 019
Sawing machine	J. R. Logan	78, 298
Sawing machine	H. A. Daniels	80, 338
Sawing machine	P. S. Beidler	81, 332
Sawing machine	J. Frey and J. M. Eickholtz	81, 356
Sawing machine	M. P. Noel	81, 400
Sawing machine	P. L. Shepler	81, 418
Sawing machine	H. Thompson	82, 257
Sawing machine	O. E. Moore	82, 265
Sawing machine	R. B. DeBare	83, 262
Sawing machine	F. M. Schaeffer	83, 324
Sawing machine	G. H. Eddleman	85, 436
Sawing machine	S. Hunter	83, 856
Sawing machine	I. C. Gillett	83, 954
Sawing machine, Circular	C. D. Blakeslee	74, 042
Sawing machine, Producing motion for	J. W. Maxey	75, 441
Sawing machine, Scroll	W. W. Hubbard	80, 958
Sawing machine, Wood	D. Snell	83, 416
Scabbard for trowel-bayonet	F. Chillingsworth	84, 612
Scaffold	E. R. Holzer	77, 733
Scaffold	F. Odenbaugh	83, 994
Scaffold and ladder	R. Rowan	79, 399
Scaffold bracket	S. P. Van Pelt	77, 133
Scaffold, Builders and painters'	C. Mudge	77, 308
Scaffold, Building	J. Lamb and F. Livings	73, 346
Scaffold, Roofing	P. R. Oberdeen	73, 387
Scaffolding	J. W. Glover, W. B. and B. E. Orner	80, 346
Scaffolding	M. T. Williams	80, 581
Scaffolding for buildings	J. H. Martin	75, 176
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Scale beam	J. F. Keeler	78, 098
Scale beam, Box case for	A. B. Davis	76, 169
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Scale beam, Hollow-headed	J. F. Keeler	78, 748
Scale, Charging	T. and H. Fairbanks	82, 610
Scale, Double platform	H. K. Bugbee	82, 204
Scale frame, Rounding the corner of	J. Flory	78, 200
Scale, Milling the knife edge of	T. J. Rockwood	81, 007
Scale pan, Suspending	R. Murdock	75, 448
Scale, Petroleum, and coal hopper combined	F. E. and L. I. Howe	77, 488
Scale platform	J. F. Keeler	74, 696
Scale platform	W. W. Reynolds	76, 523
Scale platform	J. Decker	80, 857
Scale, Postal	M. L. M. Hussey	73, 976
Scale, Weighing	J. D. Willoughby	73, 273
Scale, Weighing	O. Forsyth and J. H. Truax	75, 146
Scale, Weighing	S. Harris	80, 169
Scale with hard rubber for the manufacture of Cutlery, &c., Plating.	F. Beals	84, 932
Scissors	R. Cook	73, 589
Scissors	A. H. Rennie	73, 836
Scissors	S. H. Brisbane	83, 453
Scissors	J. Bell	85, 427
Scissors and shears	S. W. Huntington	79, 658
Scissors and shears	A. Thayer	80, 432
Scissors sharpener	L. M. Gilbert	72, 995
Scissors sharpener	W. H. Leach	76, 086
Scissors sharpener and screwdriver combined	G. P. Bergen	85, 163
Scissors, Suspender for	J. H. Kuttner	84, 951
Scoop	T. B. Davis	84, 803
Scoop and sifter	E. J. Smith and T. B. Perkins	79, 922
Scoop and sifter, Flour	H. Molby	73, 629
Scoop, Sand	J. Sheets	75, 989
Scoop, shovel, &c	J. T. Page	80, 087
Scoop, Weighing	J. K. O'Neil	78, 604
Scow	E. J. Allen	81, 125
Scraper	D. B. Nelson and M. Dyer	77, 644
Scraper	N. and A. Maybee	78, 220
Scraper	F. Post	78, 999
Scraper, Blacking brush	J. Goodenough	80, 621
Scraper, Boiler	A. Poirel	73, 832
Scraper, Cotton	I. J. Kidd	77, 292
Scraper, Dirt	H. J. England	76, 179
Scraper, Foot	W. L. Williams	76, 866

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Scraper, Railway track	S. A. Otis	78,537
Scraper, Road	E. P. H. Capron	78,054
Scraper, Road	N. E. Yost	78,713
Scraper, Road	E. B. Driskell	80,155
Scraper, Road	J. F. Winchell	84,330
Scraper, Road	D. Noff	84,570
Scraper, Road	R. S. Boyd	85,424
Scraper, Roller tube	C. W. Tremain	84,320
Scraper, Street	A. Dyson	78,583
Scraper, Street railway	J. W. A. Jones	75,764
Screen and coal hod	A. Porter	74,770
Screen and shovel combined	A. Thayer	77,333
Screen and sieve, Hanging	S. Thompson	75,599
Screen, Ash, and coal-hod combined	T. J. Thurston	81,037
Screen attachment for wash-stand	E. F. Gilbert	73,796
Screen, Carriage step	A. Q. Ross	77,531
Screen for machine for treating cotton	R. Kitson	80,975
Screen for wash-stand	R. Nelson	80,496
Screen, Grain	J. H. H. Wiseheart	81,567
Screen, Grain	J. J. Crider	84,345
Screen, Mosquito	E. Spaulding	78,767
Screen, Sand	R. McMurray	77,509
Screen, Window	C. C. Plaisted	73,925
Screen, Window	R. S. Whittier	82,053
Screen, Window	F. Hatch	82,115
Screen, Wire	S. Adams	79,176
Screw	P. N. Jacobus	80,742
Screw	F. Washhouse	84,663
Screw blank, Conveying	E. S. Pierce	74,717
Screw blank, Fending	E. S. Pierce	81,404
Screw, Boat crumping	B. S. Norris	75,784
Screw caps, Threading	J. L. Mason	76,220
Screw cutting machine	E. Royon	76,351
Screw cutting machine	J. H. Richardson	77,530
Screw cutting machine	V. Smith	80,840
Screw cutting machine	S. L. Wiegand	81,049
Screw cutting machine	A. Hoermann	82,118
Screw cutting tool	E. B. Beach	73,431
Screw driver	I. Allard	80,583
Screw driver	W. S. Goss	80,622
Screw driver and boring tool	J. A. Bidwell	74,490
Screw driver and countersink	P. M. Jacobus	81,171
Screw driver and scissors sharpener combined	G. P. Bergen	85,163
Screw driver and wrench combined	E. J. Amor	81,970
Screw for oil wells, Temper	R. B. Magee	85,461
Screw, Guide for	N. Smith	79,509
Screw handle attachment	E. Ripley	81,111
Screw machine	B. A. Mason	73,110
Screw, Manufacture of	G. V. Sheffield	80,022
Screw nut, Making	F. Rheydt	85,399
Screw, Piano-stool	J. Krieg	85,454
Screw plate	J. S. Dutton	82,697
Screw, Shaving	J. Burnes	78,512
Screw top	W. K. Foster	83,371
Screw top	S. J. M. Clark and J. L. Farrell	84,411
Screw, Threading	J. A. Bidwell	75,350
Screw, Threading	W. F. Parker	77,910
Screw threading machine	E. Gould	79,971
Screw threads, Cutting	D. Poulott	82,346
Screw threads, Tap for cutting	W. Mantey	77,994
Screw, Wood	J. A. Bidwell	74,489
Screw, Wood, Moulding	E. H. Keith	78,212
Scrolls, Bending	E. Gibbs	84,181
Scrubber	J. Edson	76,610
Scrubber	V. A. Hacker	77,035
Scrubber holder	H. B. Grebinger	75,154
Scrubbing machine	W. E. Stoddard	84,146
Scrubbing machine, Rotary	C. E. Wareham	77,554
Scuttle, Coal	T. and J. M. Scantlin	79,692
Scuttle, Coal	O. Morse	80,203
Scuttle cover and lader	J. Steger	78,152
Scythe	C. E. Griffin	85,380
Seams, Trimming welted	W. H. Rounds	85,028
Seaming and bag cutting machine	J. Collins, jr. and N. R. Nixon	73,299
Seaming machine	W. Haslen	77,611
Seat, Adjustable	I. Cook	74,993
Seat and desk	H. W. White	73,416
Seat and desk	G. A. Stewart	82,765
Seat and desk, School	J. P. Scott and S. H. La Rue	74,433
Seat and desk, School	M. B. Cochran	74,504

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Invention or Discovery.	Name of Patentee.	No.
Seat and desk, School	A. E. Roberts	79, 145
Seat and desk, School	L. C. Abbott, S. D. Tuttle, and M. L. Holt.	80, 166
Seat and desk, School	A. Hutchinson	84, 947
Seat and shade, Portable	D. E. Newton	73, 313
Seat back	W. H. Paige	83, 536
Seat bed, &c., Expanding bottom for	E. K. Garretson	81, 358
Seat bolt for railroad cars	J. P. Moore	84, 503
Seat, Cane	G. W. Martin	80, 300
Seat, Car	W. G. Creamer	73, 510
Seat, Car	C. P. Kimball	79, 837
Seat, Car	S. R. Blackman	80, 703
Seat, Car	F. F. Wagner	81, 712
Seat, car, Railway	M. M. Martin	78, 304
Seat, car, Railway	A. M. White	80, 041
Seat, car, Railway	H. S. Blood	82, 482
Seat, car, Railway	F. F. Wagner	82, 899
Seat, car, Railway	G. W. Perry and J. D. Billings	84, 755
Seat, Carriage	J. H. Adams	78, 563
Seat elasp or fastener	E. C. Lewis	74, 100
Seat for harvester	E. A. Smith	75, 306
Seat for tailors	F. Neuhaus	80, 991
Seat, Harvester	W. J. Ludlow	78, 531
Seat, Portable adjustable elastic	H. Perkins	82, 636
Seat, Spring	J. L. Whipple	78, 705
Seat, Spring	C. B. Smith	82, 760
Seat, Spring, for vehicles	O. Vanorman	81, 846
Seat, Stuffing, means for	W. E. Michael	73, 543
Seat, Tailor's	F. Neuhaus	78, 472
Seat, Vehicle	W. A. Eddy	75, 397
Seat, Vehicle	L. V. Wolfe	77, 791
Seat, Vehicle	L. Pray	77, 838
Seat, vehicle, Fastener for	C. Dixon	81, 150
Seat, Wagon	L. Graham	78, 590
Seat, Wagon	C. W. Aiken	84, 603
Seat, wagon, Spring	A. Reicherts	78, 009
Sea wall, Constructing	J. Kelly	74, 547
Secretary	E. Ale	80, 893
Seed and fertilizer sower	E. H. Cook	85, 284
Seed fertilizers, Sowing	D. Caine	78, 423
Seed and plaster sower	D. Diek and O. Preston, jr	74, 320
Seed sower	E. D. Cramer	82, 092
Seeder and cultivator	H. S. Matteson	73, 020
Seeder and cultivator	L. Bishop	75, 845
Seeder and cultivator	M. D. Smith	75, 146
Seeder and cultivator	J. S. and I. Rowell	78, 833
Seeder and cultivator	C. Lobdell	84, 499
Seeder and cultivator, Broadcast	G. Esterly	79, 331
Seeder and cultivator combined	A. Ingalls	73, 336
Seeder and cultivator combined	E. F. Crawford	78, 066
Seeder and cultivator combined	L. Stadler	83, 334
Seeder and planter combined	W. E. Phelps	83, 727
Seeder, cultivator, and harrow, Combined	D. Kuit	77, 052
Seeder, cultivator, and roller, Combined broadcast	J. P. Long	75, 936
Seeder drill and roller	L. R. Wallace	78, 846
Seeding and manuring, System of	A. H. Eckhardt	82, 503
Seeding machine	P. A. Downer and A. P. Stuart	73, 307
Seeding machine	M. Hayden	73, 973
Seeding machine	O. Fry, jr	74, 073
Seeding machine	A. R. Eggleston	75, 005
Seeding machine	C. Deis	77, 009
Seeding machine	S. Beekwith	79, 189
Seeding machine	J. Haas	81, 627
Seeding machine	J. King and L. T. Shope	81, 790
Seeding machine	J. L. Linderman	81, 914
Seeding machine	L. M. Olden	81, 935
Seeding machine	F. A. Hill	83, 158
Seeding machine	N. A. and J. S. Clapton	83, 364
Seeding machine	H. A. Gaston	83, 624
Seeding machine	G. Esterly	85, 221
Seeding machine	L. Mood	84, 296
Seeding machine	A. Sternberg	85, 343
Seeding machine and cultivator, Combined	O. M. Pond	75, 575
Seeding machine and cultivator, Combined	S. S. Hogle	84, 121
Seeding machine, Broadcast	S. Thompson	74, 171
Seeding machine, Elastic coupling for	A. P. Green	73, 320
Seed-planting machine	F. W. Tilton	75, 600
Seed sower	E. D. and O. B. Reynolds	73, 463
Seed sower	A. Rowe, W. H. Mitchell, and E. B. Hansill.	73, 548
Seed sower	F. W. Tilton	75, 601

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Seed sower	G. Rank	84,375
Seed sower	J. House	85,383
Seed sower and cultivator	C. G. Curtis	76,306
Seed sower and field harrow combined	D. Wilber	74,651
Seed sower and harrow	A. Walker	80,522
Seed sower and harrow, Combined	C. Curtis	82,387
Seed sower and harrow, Combined	A. Hallam	85,443
Seed sower, Broadcast	F. G. and E. O. Floyd	76,903
Seed sower, Broadcast	W. H. and J. F. Mitchell	82,862
Seed sower, fertilizer, and hand roller, combined	L. D. Taylor	79,280
Seed sower, Grass	D. G. Pickett	81,942
Seed sower, Hand	E. W. Sanderson and W. A. Shattock	78,396
Seed sower, Stirrer for	F. G. and E. A. Floyd	81,156
Seed-sowing machine	J. B. Perkins and A. Colburn	78,538
See-saw, or tilting apparatus	A. F. Sherman	76,665
Seine, Fishing	J. Collins	80,274
Separator	J. F. Pool	73,382
Settee	T. J. Close	80,528
Settee, bed, and table, Combined	C. F. Kramer	74,551
Sewer	J. Brown	79,199
Sewer Cleaning	C. Williams	80,526
Sewing and knitting machine, Lever power for	G. Stackpole	84,144
Sewing horse	M. B. Mills	78,884
Sewing machine	W. Chicken	72,974
Sewing machine	W. C. Wilmarth and C. N. Farr	83,750
Sewing machine	A. Warth	73,063
Sewing machine	A. Warth	73,064
Sewing machine	G. Rehfuss	73,119
Sewing machine	D. Forrest	73,178
Sewing machine	E. Cornely	73,696
Sewing machine	E. W. French	73,709
Sewing machine	G. W. Bell	74,038
Sewing machine	L. R. Blake	74,289
Sewing machine	T. M. Bradley	74,492
Sewing machine	T. C. Page	74,584
Sewing machine	G. L. Jencks	74,694
Sewing machine	E. M. Clark	74,751
Sewing machine	W. St. George Elliott	75,884
Sewing machine	C. H. Buck, 2d	76,047
Sewing machine	A. W. Halbert	76,076
Sewing machine	J. W. Bartlett	76,385
Sewing machine	T. W. Pepper	76,807
Sewing machine	A. H. Sherwood	76,950
Sewing machine	C. C. Brown	76,986
Sewing machine	G. Slater	77,665
Sewing machine	C. Chabot	77,715
Sewing machine	O. C. Kerr	77,889
Sewing machine	G. A. Fairfield	78,729
Sewing machine	C. Parham	78,817
Sewing machine	C. Parham	78,818
Sewing machine	E. Waterbury	79,037
Sewing machine	H. P. Lamson	79,579
Sewing machine	H. Plummer	79,856
Sewing machine	S. French	80,345
Sewing machine	D. Weaver	80,789
Sewing machine	G. H. Fox and J. Hubbard	80,861
Sewing machine	W. C. Willmarth	80,889
Sewing machine	J. Briggs	80,903
Sewing machine	A. R. and C. S. Byrkit	80,907
Sewing machine	N. Meyers	81,191
Sewing machine	R. Barclay	81,328
Sewing machine	A. S. Rawley	81,621
Sewing machine	J. P. Vanduzer	82,183
Sewing machine	J. A. Wagner	82,366
Sewing machine	N. Meyers	83,398
Sewing machine	H. J. Hancock	83,492
Sewing machine	C. P. Benedict	83,596
Sewing machine	M. B. Smith	84,389
Sewing machine	J. Sprague and A. T. Hill	84,589
Sewing machine	N. Meyers	84,959
Sewing machine, Auxiliary power for	G. Stackpole	82,655
Sewing machine, Binder for	W. M. Stoddard	83,742
Sewing machine, Binding guide for	L. C. Session	74,727
Sewing machine, Braiding attachment for	W. Carpenter	81,138
Sewing machine brake	J. S. Fowler	82,701
Sewing machine caster	L. O. Allen	81,454
Sewing machine caster	R. Hathaway	75,755
Sewing machine, Cast-off for	E. M. Consery	74,310
Sewing machine, Cloth guide for	W. Carpenter	85,364
Sewing machine, Cloth guiding attachment for	J. Cline	81,604
Sewing machine, Cloth plaiting for	S. D. Tucker	80,243

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Sewing machine, Creasing apparatus for	H. W. Fuller	77, 972
Sewing machine, Fan for	J. H. Stone	81, 429
Sewing machine, Feeding mechanism for	J. A. Minor	76, 340
Sewing machine, Feeding mechanism for	J. L. and D. H. Coles	83, 133
Sewing machine, Feller for	E. S. Yeutzer and A. K. McCain	73, 067
Sewing machine for button-holes	H. E. Reynolds	79, 393
Sewing machine for button-holes	K. Vogel	80, 520
Sewing machine for embroidering	A. Bonnaz	83, 909
Sewing machine for embroidering	A. Bonnaz	83, 910
Sewing machine for working button-holes	M. C. Gritzner	76, 323
Sewing machine, Friction-brake for	D. Newton	81, 195
Sewing machine, Gathering attachment for	W. B. Bartram	83, 592
Sewing machine, Gathering attachment for	J. Crandell	84, 414
Sewing machine guide	C. Benedict and O. R. Tyler	81, 466
Sewing machine, Guide and marker for	E. W. Ingle	80, 961
Sewing machine, Guide for hat lining in	C. H. Lockwood	75, 637
Sewing machine, Guiding attachment for	J. Wensley	84, 783
Sewing machine, Hemmer for	W. H. Thomas	75, 079
Sewing machine, Hemmer for	G. Rehfuss	80, 090
Sewing machine, Hemmer for	J. Morrison	80, 558
Sewing machine, Hemmer for	E. Wilder and J. Crandell	84, 454
Sewing machine, Hemmer, marker, &c., for	W. D. Heyer	74, 533
Sewing machine, Marker for	J. P. White	73, 216
Sewing machine, Marking guage for	M. A. Duffy	74, 323
Sewing machine, Motive power for	A. H. Enholm	80, 815
Sewing machine motor	E. Shiver	81, 219
Sewing machine, Operating	G. Cuppers	73, 303
Sewing machine, Operating	A. C. Crary	75, 667
Sewing machine, Needle sharpening attachment for	J. Callan	80, 908
Sewing machine, Plaiter for	H. Cawl, D. Corning, and J. W. Wheeler.	74, 990
Sewing machine, Power attachment to	A. C. Crary	75, 666
Sewing machine, Ruffling attachment for	A. Stewart	80, 371
Sewing machine, Ruffling device for	R. Brooks, jr., and W. N. Manning	84, 676
Sewing machine shuttle	D. M. Church	78, 057
Sewing machine shuttle	N. B. Eveland	78, 944
Sewing machine shuttle	J. A. Davis	82, 499
Sewing machine shuttle	A. Warth	85, 040
Sewing machine, Take-up for	J. V. D. Eldridge	84, 099
Sewing machine, Take-up for thread in	J. Fanning	82, 397
Sewing machine, Tension device for	H. C. Goodrich	81, 080
Sewing machine, Tension device for	D. Porter	83, 406
Sewing machine, Thread tension mechanism for	S. Snyder	75, 654
Sewing machine treadle	B. Rutter and H. Hunt	74, 007
Sewing machine treadle	A. Q. Allis	79, 296
Sewing machine treadle	C. Kihn	81, 379
Sewing machine, Treadle attachment for	J. Crandell	81, 346
Sewing machine, Tuck creaser for	E. Bastock	80, 269
Sewing machine, Tuck creaser for	E. Bastock	80, 270
Sewing machine, Tuck creaser for	A. Morehouse and A. R. Heath	80, 653
Sewing machine, Tuck creaser for	H. C. Goodrich	81, 160
Sewing machine, Tuck creaser for	H. W. Fuller	83, 950
Sewing machine, Tuck folder for	C. H. Gardner	80, 721
Sewing machine, Tucking device for	W. H. Cole	79, 447
Sewing machine, Tucking device for	R. H. St. John	83, 219
Shackle and supporter	W. Riley	85, 402
Shackle bearer	J. W. Mayhew	79, 996
Shackle for platform springs of wagons	J. Price	74, 591
Shackle, Joint for	J. F. Reiner	77, 915
Shade and seat, Portable	D. E. Newton	73, 313
Shade fixture	G. T. Pillings	78, 826
Shaft bearer	W. Platt	82, 549
Shaft, Bearing for	J. F. La Place	73, 815
Shaft bearing or millstone bush	S. Kine	76, 083
Shaft, Crank	J. Converse	82, 805
Shaft, Device for stop motion for revolving	E. J. Manville	79, 368
Shaft for connecting power with machinery, Tumbling	D. Snell	82, 447
Shaft journal	L. Patric	81, 938
Shaft, mining, Safety guard for	E. O. Leermo	79, 076
Shaft, single, Multiplying motion on a	L. S. Fithian	76, 902
Shaft, Sinking	J. D. Brunton	80, 056
Shaft tug and draught	H. Bowers	77, 575
Shaft, Vehicle	A. Bean	81, 737
Shaft, vehicle, Anti-friction bearing for	R. P. Barnett, C. P. Purinton, and N. Scibert.	84, 470
Shafting	L. F. Pitcher	80, 212
Shafting, &c., Tool for turning	J. A. Cleveland	79, 729
Shafting, Anti-friction box for	J. McIlvain	85, 393
Shafting, Counter	H. C. Weihe	78, 627
Shafting, Hanger for	J. Richards	78, 608
Shafting, Hanger for	G. V. Orton	78, 992

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Shafting, Hanger for	G. W. Hubbard and S. A. Smith	80,546
Shafting, Hanger for	G. W. Loraine	80,752
Shafting, Self-lubricating box for	W. W. Crane	77,261
Shafting, Straightening and rounding	F. H. Laforge and W. Geddes	76,781
Shafting, Turning	N. C. Stiler	82,042
Shawl and blanket strap	T. W. and H. K. Porter	85,129
Shears	A. B. Buell and G. W. Root	78,255
Shears	G. Bergner	79,191
Shears	C. Bishop	79,193
Shears	H. Wendt	80,254
Shears and knife, Pruning	J. Spear and J. A. Hall	78,615
Shears and scissors	S. W. Huntington	79,658
Shears and scissors	A. Thayer	80,432
Shears, Clipping	J. C. Wilson, A. Walker and J. Foster	84,926
Shears, Hair-cutting	L. D. Craig	84,860
Shears, Hand	C. Witte	85,500
Shears, Paper	A. Hathaway	79,345
Shears, Pruning	T. S. Bell	78,918
Shears, Pruning	D. Cambell	80,595
Shears, Pruning and hedge	L. Campbell	82,290
Shears sharpener	M. M. Morse and M. V. Collins	79,246
Shears, Sheep	H. Wendt	80,255
Shears, Sheep	P. G. Claney	80,914
Shearing and punching machine	M. A. Lanagan	79,912
Shearing machine	S. W. Huntington	84,695
Sheave	J. L. Collins and H. E. Burgie	75,735
Sheep feeder, Swing	A. Putnam	76,810
Sheep, foot-rot and other diseases in, Treatment of	G. Wilson	76,871
Sheep holder	C. Albert	77,435
Sheep holder and fleece holder combined	G. Paine	74,767
Sheep, Holding	G. D. A. Krigbaum	84,198
Sheep rack and shelter combined	O. P. Norris	74,411
Sheep, Shearing	J. K. Alwood	79,179
Sheep, Shearing	G. Harsin and C. T. Sanders	82,404
Sheep, Shearing	H. A. Reid	84,905
Sheep-shearing device	W. S. Lane	82,533
Sheep-shearing device	J. K. Alwood	82,673
Sheep-shearing machine	H. A. Reid	81,210
Sheep skins, Tanning and coloring	J. Diehl	75,535
Sheep wash	E. B. Booth	73,225
Shelf-rest	G. T. Swett	77,676
Shell and shot, Polishing	J. B. Tarr	79,610
Shell and shot, Spherical	J. B. Tarr	76,271
Shield for carriage curtain button holes	W. G. Queal	81,538
Shield for puddling furnace	H. McDonald	85,320
Shield for smoothing iron	W. J. Keep	77,886
Shield, Nipple	T. McLaughlin	77,393
Shingle	J. Lewis	85,316
Shingle bolt machine	T. Thompson	81,435
Shingle machine	D. L. Peacock	73,116
Shingle machine	H. Woodman	73,219
Shingle machine	E. Keith	73,343
Shingle machine	A. G. Ritz	75,793
Shingle machine	J. F. Chambers	76,160
Shingle machine	D. W. Roche	76,250
Shingle machine	W. H. Walker	76,566
Shingle machine	J. E. Austin	76,691
Shingle machine	J. P. N. Davis	76,721
Shingle machine	P. H. Lawler	76,782
Shingle machine	A. Thompson	77,128
Shingle machine	S. Head	77,283
Shingle machine	D. H. Ball	78,508
Shingle machine	L. H. Dodge	78,725
Shingle machine	L. Jennings	78,744
Shingle machine	M. J. Hine	79,351
Shingle machine	L. C. Robinson	81,295
Shingle machine	J. E. Austin	82,067
Shingle machine	C. A. Kinney and C. Parker	85,103
Shingle machine	G. W. Southwick and J. H. Gillette	77,776
Shingle tool	T. Van Doren	84,595
Shipping case	M. H. Nichols	78,316
Ship's davit	C. G. Meinhardt	80,869
Ship's fender	E. B. Lake	79,235
Ship's mast, Lowering	G. Dowling	75,671
Shirt and drawers combined	E. S. Bennett	83,447
Shirt pattern	J. H. Myers	82,740
Shoe	L. Bullard	73,773
Shoe	L. S. Starrett	73,847
Shoe	D. S. McNamara	74,707
Shoe	M. Wesson	74,962
Shoe	C. Perley	75,048

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Shoe	R. O. Lowrey	78, 384
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Shoe	J. S. Lester and P. H. Cardwell	81, 516
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Shoe, Fastening for	N. Kirchner	75, 768
Shoe for bathing and other purposes	L. D. Jeandron Ferry	80, 934
Shoe for separator	M. Laufenburge	78, 597
Shoe holder	A. N. Breneman	73, 228
Shoe holder and last	A. J. Roek	77, 764
Shoe knife guard	G. G. Townsend	75, 602
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Shoe lacer	P. Thompson	79, 087
Shoe laeing	M. White	82, 188
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Shoe, Over	L. Elliott, jr	76, 731
Shoe, Over	H. L. Hotekiss	78, 595
Shoe, Pegging	J. H. Brown	85, 206
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Shoe, Sole of a, Shaping	J. B. Johnson	75, 428
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Shoe, Soling	L. A. Favre	74, 066
Shoe strings, Fastening	S. B. Parker	75, 962
Shoe tip	A. B. Ely	74, 901
Shoe uppers, &e., Folding and eutting material for	G. W. and B. F. Parrott and E. H. Timson.	85, 123
Shoe, Waterproof	F. M. Shepard	84, 650
Shoe, wearing apparel, &e., Fastening	R. Judson and W. H. Lyneh	75, 924
Shot and shell, Polishing	J. B. Tarr	79, 610
Shot and shell, Spherieal	J. B. Tarr	76, 271
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Shoulder braee	A. Adamson	84, 787
Shoulder brace and suspender	E. Jennings, jr	83, 387
Shoulder braee and suspender eombined	A. N. Eaton	81, 482
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Shovel	H. M. Myers	78, 679
Shovel and sereen eombined	A. Thayer	77, 333
Shovel and tongs eombined	H. C. Siseo	75, 652
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Shovel or exeavator	W. T. Nichols	75, 783
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Show eards, labels, &e., Manufaeture of	A. J. Connell	83, 763
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Show case, Ventilating	W. Henry	77, 389
Shutter and blind fastener	W. B. Farrar	84, 411
Shutter and blind operator	W. E. Broke	83, 248
Shutter and door fastener	J. Auser	84, 984
Shutter and door, Metallie	C. K. Marshall	78, 218
Shutter and sash fastening	W. J. Miller	78, 115
Shutter and window fastening	W. L. Barnes	80, 266
Shutter fastener	B. D. Washburn	84, 032
Shutter fastener	Le Grand Dodge	85, 290
Shutter fastening	G. G. Hickman	73, 893
Shutter fastening	J. A. Pipo and W. Walbauno	75, 788
Shutter fastening	B. Doe	76, 723
Shutter fastening	A. Cutter	77, 005
Shutter fastening	W. Johnston	77, 748
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Shutter, Metallie	E. Perkins	82, 159
Shutter, Opening and elosing	C. Lehnert	80, 414
Shutter operator	M. Streeter	79, 086
Shutter operator	J. H. Baker	80, 799
Shutters, Operating	T. Watson	79, 792
Shutters, Operating	T. Q. Sloan	80, 023
Shutter, Window, Operating	S. E. Jewett	74, 227
Shutter worker	L. Muller and C. Hood	83, 989
Shuttle	E. R. Marble	76, 090
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Shuttle binder	F. Haskins	75,545
Shuttle box, Cam for operating	C. H. Knowlton	81,792
Shuttle box, Loom actuating	M. Rice	81,005
Shuttle for loom	A. M. Damon and J. Whitaker	79,557
Shuttle, Tatting	J. H. Stockwell and L. C. Goodwin	80,781
Shuttle, tatting, Thread guiding plate for filling	A. Clow	79,207
Sickle sections, and method of serrating them	S. D. Sheldon	75,990
Sickle sections, Separating	A. A. and G. F. Simonds	83,736
Side-board and refrigerator	J. A. Thompson	82,365
Side walls	S. I. Russell	77,766
Sieve	G. Mohler	79,589
Sieve	J. D. Jones	80,966
Sieve and screen, Hanging	S. Thompson	75,599
Sieve, Grain	J. Corson	74,313
Sieve, Separator	J. B. Amboy	74,483
Sifter	S. S. Hughson	76,327
Sifter and safe, Flour	F. A. Hoyt	74,091
Sifter and scoop	E. J. Smith and F. B. Perkins	79,922
Sifter and scoop, Flour	H. Molby	73,629
Sifter and scoop, Flour	G. W. and C. M. Sherman	74,157
Sifter, Ash	J. A. Miller	73,361
Sifter, Ash	C. Folsom	78,949
Sifter, Ash	F. A. Beach	84,986
Sifter, ash, Ventilating attachment for	H. A. Newhall	83,653
Sifter, Barrel	C. Breasted	77,578
Sifter, Coal	D. Morrison	75,043
Sifter, Coal	C. K. Rice	84,216
Sifter, coal, Hand	G. H. Roth	79,398
Sifter, coal, Parlor	S. Albee	75,719
Sifter, Flour	J. Novek	77,832
Sign for street lamp	W. P. Ware	75,086
Sign for tobacconist	J. W. Boughton	78,254
Sign, glass, Grinding and ornamenting	J. B. Blair	79,303
Sign or burner, Hanging	S. Wing	77,695
Signal and alarm, Railway	A. C. Twining	76,559
Signal and switch	J. Saxby and J. S. Farmer	80,878
Signal box	W. McKee	77,392
Signal box, Railroad	J. Durand	83,700
Signal device, Pocket	J. J. Detwiller	79,963
Signal, Express	C. P. Seawell	82,756
Signal flag for vessels	J. F. H. King	82,849
Signal, Pyrotechnic	H. J. Harris	82,619
Signal, Railway	S. C. Thornton	79,163
Signal, Railway, switch	I. F. Morsell	84,896
Signal rope guide	W. G. Creamer	73,698
Signal, Transmitting	P. A. Sparre	79,271
Signalling apparatus	S. S. Laws	75,775
Silicium, fluoride of, Manufacture of	C. M. T. Du Motay and E. Kareher	75,538
Silk and woolen goods, Treating	G. Warren	77,138
Silk cleaner	W. G. Watson	74,644
Silk winding machinery	H. L. Brown	81,874
Silver and gold from ores, Extracting	J. W. Kidwell	83,582
Silver and gold from ores, Extracting	J. Turnbridge	85,259
Silver and gold ores, Treating	L. E. Rivot	78,831
Singeing machine for fabrics	P. McEwen and W. McKenzie	83,395
Singletree	G. and W. Gibbs	75,408
Singletree brace	C. R. Elmer	78,868
Sinker for fishing line	W. H. Smith	77,774
Sizing, Composition for preparing	J. Dodd	78,866
Skate	W. X. Stevens	73,405
Skate	J. W. Port	74,129
Skate	P. G. Beckley	74,280
Skate	J. W. Port	74,421
Skate	L. B. Tyng	74,866
Skate	T. Lovelidge and J. Grindrod	76,214
Skate	M. C. Haight	76,324
Skate	E. H. Barney	76,383
Skate	J. Holland	76,453
Skate	R. Pohl	77,089
Skate	E. H. Barney and J. Berry	77,862
Skate	A. F. Migeon	77,901
Skate	S. A. Du Bois	79,329
Skate	C. Gooch	81,269
Skate	J. Bourke	82,201
Skate	E. Murray	82,543
Skate	H. B. Hooker	82,952
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Skate	G. Havell	83,631
Skate	R. J. Russell	83,665
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Skate buckling tongs	W. P. Patton	75, 453
Skate fastening	A. Woodham	74, 185
Skate fastening	C. B. Maedel and J. Wolf	77, 061
Skate fastening	H. B. Lucas	78, 216
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Skate, Parlor	R. Hewson	78, 207
Skate sharpener	B. F. Prettyman	73, 118
Skate, Stilt	W. Jordan	76, 465
Skating rink	I. H. A. Hervey	73, 806
Skein holder	T. F. Brown, jr	81, 471
Skid for elevating and lowering barrels	C. Bronius	74, 493
Skimmer for sorghum evaporator	J. B. Lewis	82, 330
Skins and hides, Compound for treating	L. F. Robertson	77, 099
Skins and leather, Finishing	G. T. Woodbury and T. Burch	77, 792
Skins of animals, Preserving	L. S. Robbins	75, 794
Skins, Shaving and polishing	C. Sehmitz	85, 030
Skins, Stretching and softening	C. Sehmitz	80, 018
Skirt and hose supporter combined	M. J. Foss	83, 146
Skirt, Bustle attachment for	R. Duncan	81, 262
Skirt former	F. Hull	78, 374
Skirt, Hoop, and bustle combined	A. K. Young	81, 319
Skirt, Measuring	L. G. Riel	84, 579
Skirt supporter	N. A. Vurgason	82, 772
Skirt supporter and braee combined	R. A. N. Ward	82, 901
Slat, Bedstead	O. H. Weed	74, 262
Slat bottom, Spring	J. S. Vanhorn and W. H. Paek	81, 120
Slat machine	L. S. Colburn	82, 802
Slat matting	W. Barton	74, 975
Slat matting for ears, &c	W. Barton	82, 678
Slates, &e., Polishing	E. Snyder	79, 784
Slates, &e., Wetting or wiping instrument for	W. T. Fry	73, 967
Slates, &e., Wetting or wiping instrument for	W. T. Fry	73, 968
Slate, Bevelling the edge of	S. Hagaman	74, 216
Slate, Cutting	T. R. Drummond	83, 939
Slate frame	W. C. Wendell	76, 014
Slate frame	J. H. Foote	76, 068
Slate frame	R. Heneage	80, 410
Slate frame	C. Wendell	80, 846
Slate frame	C. J. Wirth	84, 522
Slate frame, Dressing	W. F. Mosser	80, 363
Slate frame, Rounding	S. Hagaman	78, 959
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Slate, Grinding and polishing	W. Kester	80, 634
Slate pencils	D. R. Satterlee	77, 105
Slate, Ruling school	J. H. French	85, 376
Slate, School	L. Wiegel, J. Lehnbeuter and C. Fegers.	74, 964
Slate, School	F. Melville	82, 734
Slate, school, Grinding and polishing	S. Hagerman	82, 828
Slate surfaee, Artificial	O. A. Wagner	77, 420
Slate trimming maehine	H. J. Ruggles	81, 112
Slate, Writing	R. F. Leighton and S. Severy	83, 645
Sled	S. Way	78, 162
Sled	E. L. Stevens	79, 273
Sled	D. W. Gould	82, 826
Sled and sleigh	D. C. Frazier	73, 885
Sled, Dumping	E. R. Whitney	77, 692
Sled knee	J. W. Blake	77, 350
Sled knee	B. F. Cady	82, 380
Sled, Log	C. W. Mosher	80, 654
Sled, Tip	S. Chamberlin	74, 891
Sleeve of knitted garments	W. H. Abel	80, 697
Sleigh	B. Thompson	74, 450
Sleigh	T. W. Porter	75, 971
Sleigh	A. Armstrong and A. Weller	76, 877
Sleigh	C. Heald	78, 737
Sleigh	J. P. Dorman	78, 939
Sleigh	L. A. Spiekler	81, 699
Sleigh	E. H. Gillman	82, 706
Sleigh and baby carriage	L. Shmetzer	84, 310
Sleigh and carriage top	D. K. Hiekok	75, 908
Sleigh and sled	D. C. Frazier	73, 885
Sleigh, Attaching wheel to	J. Stonebank	85, 408
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Sleigh runner	J. G. Mieler	73, 025
Sleigh runner	J. Lanx	83, 864
Sleigh runners and mode of attaching them to axles of vehieles.	J. C. Moore	76, 498
Sleigh runners, Cast-iron	E. W. Loekwood and B. T. Frederiek	74, 556

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Slide, Check-rein	W. B. Potter	77, 318
Sling, Sprit-sail boom	G. Dowling	76, 309
Sluice blanket	A. Block	73, 160
Smoke and gas, Consuming and increasing draught in boiler furnace.	D. E. Somes	77, 226
Smoke stack	G. Holton	82, 003
Smoke stack	T. P. Peck	82, 158
Smoke stack	W. H. Parker	80, 659
Smoke stack for locomotive engine	J. Atkins	75, 511
Smoothing iron	J. Jones	74, 372
Smut machine	C. Millar	79, 077
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Smut machine	H. Stanley	81, 428
Snow clearer	S. Lewis	75, 028
Snow clearer	R. D. Chatterton	81, 343
Soap	J. L. Klein	75, 170
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Soap	D. C. Lincoln	78, 214
Soap	O. E. Loomis	78, 530
Soap	G. W. Slagle, J. L. Miller and H. C. Hoy.	78, 840
Soap	H. A. Pease	82, 635
Soap and detergent compound	H. W. Weedon	82, 459
Soap bars, Separating	H. and A. Phelps	73, 994
Soap, Bleaching	A. Watt	81, 851
Soap, Cutting	J. Hatfield	73, 714
Soap, Cutting	D. S. Brown	79, 102
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Soap, Cutting	P. B. McKelvey	82, 971
Soap, Cutting and stamping	J. S. Pierson	78, 127
Soap holder	M. Safford	77, 536
Soap into slabs, Cutting	G. T. Palmer and P. P. Bush	81, 200
Soap, Making	J. Lawrence	79, 358
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Soap, Transparent	M. W. Brown	78, 182
Socket and ball joint	M. W. St. John	79, 408
Socket, Caster	A. C. Twining	75, 080
Socket for tool handle	W. H. Johnson	80, 744
Socket, Gas	T. L. Reed	73, 040
Socket, Gas	G. Mooney	84, 961
Sod or turf, Cutting	W. Gilbert	74, 341
Soda and potash	A. G. Hunter	78, 375
Soda and potash, Carbonate of	A. G. Hunter	77, 381
Soda and potash, Manufacture of	A. G. Hunter	73, 722
Soda and sulphuric acid, Manufacture of	H. M. Baker	73, 689
Soda, Carbonate and other salts of	J. M. Gatman	80, 940
Soda, Carbonate of	H. M. Baker	84, 250
Soda fountain, Jet attachment for	J. C. Wharton	83, 346
Sofa, Adjustable	E. Deetz	77, 872
Sofa and bed	J. B. Reith	80, 767
Sofa and bed	W. H. Schwalbe	81, 691
Sofa bed	W. Brown	81, 065
Sofa cradle	H. A. Axtell	74, 876
Soil preparatory to planting, Scarifying	E. Crane	73, 876
Soil preparatory to plowing, Scarifying	E. Crane	76, 404
Soil pulverizer	C. Berninger	81, 333
Solder	L. Brandeis	85, 057
Solder for aluminium	A. Starr	75, 312
Solder for aluminium	A. Starr	78, 123
Solder, Ready	D. H. Priest	77, 404
Soldering galvanized iron	P. B. Bonner	83, 451
Soldering iron	T. Beardsley	74, 881
Soldering iron, Constructing	J. Gleason	73, 798
Soldering machine	V. and P. Fath and J. Friclingsdorf	85, 003
Soldering vessel	C. Seimel	83, 100
Sole cutting machine	T. A. Curtis	76, 409
Sole cutting machine	M. Hobbs	82, 716
Sole, India rubber	R. S. Pickett	73, 924
Sole, Inner	R. A. Webster	74, 645
Solution for treating vegetable fibre for the manufacture of vegetable parchment.	S. Gwynn	73, 322
Sorghum evaporator	T. Gillespie	76, 074
Sorghum juice and other liquids, Evaporating	H. B. Avery	74, 875
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Sower, Broadcast	A. B. Beaumont	79, 301
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Spacing and boring machine	J. M. Seymour	74, 724
Spade	J. Lunemann	83, 071

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Spading machine	C. Moody	85,019
Spading machine, Rotary	E. H. Kent	83,639
Spangles to hoops and skirts, Attachment	A. Komp	76,473
Spangles to hoops and skirts, Attachment	A. Carter	79,810
Spark arrester	A. F. Smith	80,229
Spark arrester	D. Eberhart	80,615
Spectacles	E. Hunter	77,287
Spectacles	E. S. Clapp	79,898
Spectacles and eye glass	J. J. Bausch	73,285
Spectacles and eye glass, Mounting	C. N. Dunham	82,930
Spectacle bows	H. Want and J. Lundgren	85,495
Spectacles, Galvanic	J. Moses	78,534
Spider	N. Lewis	80,978
Spike	W. V. Martin	73,908
Spike	J. H. Champlin	74,501
Spike	R. K. Walton	82,900
Spike and bolt	J. S. Hall	80,478
Spike drawer	I. W. Mead	79,587
Spike extractor and lifting jack	J. Douglass	75,134
Spike machine	W. Taplin	77,199
Spike machine	J. Dryson and A. Potter	79,442
Spike machine	W. H. Shoenberger	81,546
Spike machine	L. Thomas	82,452
Spikes, Pointing	L. Thomas	85,146
Spike, Self clinching	J. Balmer	78,354
Spike with screw threads	A. C. and J. L. Dunn	83,699
Spindle	E. Atwood	77,566
Spindle, Attaching door knob to	W. H. Andrews	77,344
Spindle bearing	J. Richards	78,013
Spindle bolster	G. H. Noble	76,937
Spindle for shuttles	C. E. Smith	83,331
Spindle step	S. L. Pattee	81,201
Spindle step	J. B. Bancroft	81,732
Spinning, Drawing and twisting head for	A. L. Houghtalin	78,968
Spinning frame	C. B. Morse	76,798
Spinning frame	F. Haythorn	78,085
Spinning frame, Ring	J. Ashworth	80,849
Spinning jack	T. Netherwood and J. P. Babcock	74,714
Spinning machine	R. Moxley	73,371
Spinning machine	J. McCune	73,910
Spinning machine	D. C. Wolf	75,232
Spinning machine	J. E. Burdge	76,299
Spinning machine	W. T. Carroll	78,427
Spinning machine	R. Atherton and G. Singleton	79,297
Spinning machine	J. M., L., and E. Pusey	80,216
Spinning machine	W. A. Stevenson	80,572
Spinning machine	J. E. Hooper and B. Arnold	80,863
Spinning machine	C. J. Harris	80,949
Spinning machine	J. Goulding	83,375
Spinning machine, Bearing for fliers in	J. Brown	81,064
Spinning machine, Bobbin and thread holder for	T. L. Luders	83,354
Spinning machine, Flier for	H. Silver	78,489
Spinning machine, Hand	F. D. Moore	74,115
Spinning machine, Hand	A. W. Silvis	75,063
Spinning machine, Hand	J. W. Burkhart	81,594
Spinning machine ring	J. W. Wattles	83,426
Spinning machine, Ring and traveler	J. W. Wattles	75,610
Spinning machine ring, Clearer for	J. W. Wattles	75,609
Spinning, Mule for	J. Parley and T. Rawsthorne	74,585
Spinning, Mule for	J. Cumnock	76,056
Spinning throstle	O. Pearl	74,415
Spiral gearing	U. Haskin, jr	75,544
Spirits, Ageing and purifying	J. M. Crafts	80,459
Spirits, alcoholic, Rectifier and condenser for	J. F. Collins	73,579
Spirits and other liquids, Condensing and distilling	H. G. Dayton	84,479
Spirits, Distilling	C. S. Hutchinson	80,740
Spirits, Distilling	F. Haeck	82,519
Spirits from grain, Distilling	W. H. Ford, J. D. Burns and L. C. Clark.	80,860
Spirits, Manufacturing and purifying	P. Martin	80,646
Spirits, Rectifying	J. Springer	77,671
Spirits, Rectifying	W. G. Barett	81,868
Spirits, wood, Purifying	J. Pollock	79,499
Spirometer	G. W. Brown	73,229
Spittoon	F. E. Darrow	77,594
Spittoon	E. Detwiler	78,722
Spittoon for cars	J. H. Scymour	74,600
Spittoon for cars, Stationary	J. C. Tunison	75,222
Splint, Surgical	H. D. Ballard	82,478
Spoke and felloe connection	G. Allen	79,533

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Spoke tenon	G. W. Stouffer	80, 678
Spoke tenoning machine	A. H. Calhoun and G. W. Collins	81, 595
Sponge and dough raiser	W. Pearce	79, 680
Spool guard	W. C. Cleveland	78, 577
Spool for cutting thread, Attachment	J. W. Murrell	83, 353
Spool of thread, Holding	L. F. Hobbs	81, 504
Spool stand	J. H. Simmons	76, 533
Spoon	S. Farrer	75, 139
Spoon and other articles, Plating	M. L. Forbes	75, 250
Spoon, fork, &c., Plated	H. E. Fowler and W. W. Holmes	77, 971
Spoon, Metallic	F. G. Niedringhaus	83, 300
Spout bracket	J. E. Rohrer	74, 145
Spout, water, Fastening for	G. A. Hein	78, 087
Spring	W. Kroeger	79, 578
Spring	H. A. V. Post	81, 536
Spring	F. Cajar	83, 360
Spring, Adjustable	A. Roff	79, 778
Spring adjuster	J. D. Van Hoevenberg	83, 343
Spring, Air	J. Corriston	83, 043
Spring and body brace for vehicle	C. C. Gleason	77, 276
Spring, Bed	H. Beyrodt	79, 302
Spring, Bed	H. N. Hemingway	84, 824
Spring butt	W. Wells	82, 240
Spring, Car	E. U. Benedict	73, 690
Spring, Car	O. E. Allen	77, 438
Spring, Car	W. R. Nichols	78, 120
Spring, Car	D. G. Daniels	78, 191
Spring, Car	G. W. Harris and G. Elliott	81, 499
Spring, Car	J. W. Evans	82, 300
Spring, Car	E. J. Homer	83, 855
Spring, Car	E. T. Russell	84, 258
Spring, Car	P. G. Gardiner	84, 688
Spring, Carriage	J. D. Sarven	74, 010
Spring, Carriage	J. D. Sarven	74, 009
Spring, Carriage	W. W. Sutliff	75, 999
Spring, Carriage	W. B. Higgins	77, 880
Spring, Carriage	G. Douglass	78, 439
Spring, Carriage	A. Buzzell	82, 082
Spring, Carriage	E. L. Gaylord	82, 510
Spring, Carriage	J. R. Locke	82, 726
Spring, Carriage	J. R. Locke	82, 727
Spring, Carriage	J. Jackson	83, 170
Spring, Carriage	T. J. Shears	83, 217
Spring, Carriage	W. F. Whitney	83, 810
Spring, Carriage	A. C. Stowe	84, 316
Spring, Carriage	B. H. Robert	84, 378
Spring, Carriage	W. F. Vernier	84, 446
Spring, Carriage	F. A. Huntington	85, 008
Spring, Carriage	A. C. Stowe	85, 144
Spring, Carriage	J. M. Miller	85, 323
Spring, Chair	A. M. Blake	77, 161
Spring, Coiling	J. Freeland and D. Ward	75, 405
Spring, Corset	T. B. De Forest and T. S. Gilbert	73, 440
Spring, Corset	S. H. Brown and C. H. Willets	76, 708
Spring, Door	L. C. Prindle	73, 999
Spring, Door	S. W. Huntington	79, 125
Spring, Door	W. Duryea	80, 931
Spring, Door	W. S. Barlow	84, 159
Spring, door, India-rubber	B. G. Fitzhugh	72, 992
Spring, Double volute	J. Hobart	80, 628
Spring, elliptic, Bending	J. Gatchell	83, 625
Spring, elliptic, Welding the ear of	J. Palmer	78, 230
Spring for bed bottoms, chairs, &c	A. H. Knapp	73, 905
Spring for bed and seat, Securing	J. D. Eggleston	81, 991
Spring for hoop skirt	T. B. De Forest and T. S. Gilbert	74, 672
Spring for relay magnet	W. N. McInnis	74, 925
Spring for vehicle	C. L. Rice	74, 424
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Spring, Gate and door	B. F. Whitaker	75, 324
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Spring, India-rubber car, and other articles, Vulcanizing.	H. W. Beins	77, 952
Spring, Mill spindle	T. Alsop	79, 537
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Spring, Vehicle	C. D. Sutton	81, 431
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Spring, Watch case	E. H. Buckland	77, 579
Spring, Window	E. W. Munson and W. P. Thomas	82, 863
Spring, Wire	D. Manuel	74, 233
Sprinkler	W. R. Worden	75, 717
Sprinkler	G. Jones	78, 805
Sprit-sail boom sling	G. Dowling	76, 309
Spur	S. Wehrly	78, 703
Spur	S. Wehrly	79, 793
Spur and creeper combined	F. Mehrmann	81, 925
Spur, Ice	C. F. Wieland	84, 400
Square and bevel, Adjustable	E. B. Foster and J. G. Witt	82, 933
Square and clipper combined	C. W. Guerrant	78, 591
Square and gauge combined	T. C. Hendry	74, 356
Square and level combined	H. G. Taylor	78, 770
Square and miter combined	W. S. Winterbottom	79, 175
Square and rule combined	W. O. Jones	73, 532
Square, Bevel	W. S. Fisher	79, 062
Square, Bevel	C. O. Hansen	79, 069
Square, Centering	G. W. Brooks	82, 917
Square plumb and level combined	A. F. Ward	80, 252
Square, Tailor's	D. Tierney	78, 338
Square, Try	H. L. Ogden	73, 828
Square, Try	E. J. Toof	77, 130
Square, Try	W. Ross	81, 011
Staging	C. S. Burton	74, 665
Staging	D. Morrison	78, 886
Staging	J. F. Lang	85, 314
Staging frame	H. Wood	74, 472
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Stair rod, &c	W. M. Marshall	79, 846
Stair rod, Fastener for	W. R. Anderson	73, 563
Stair, Spiral or winding	W. J. Keim	79, 985
Stake, Tin smiths'	A. W. Whitney	81, 048
Stalk cutter and husker combined	J. D., C. B., L. N. Rice, and E. Briggs, jr.	82, 553
Stalk, weeds, &c., Turning down and burying	S. Collins	74, 666
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Stall for horses	A. Hosmer	82, 838
Stamp, Affixing	C. B. Still	84, 225
Stamp and die for sheet metal	W. D. Grimshaw	84, 625
Stamp, Branding	W. C. Garretson and E. Draper	82, 823
Stamp, Government revenue	G. W. Bowlsby	76, 153
Stamp, Hand	J. H. Berret	74, 657
Stamp, Hand	C. Merriam and C. O. Luce	75, 945
Stamp, Hand	A. Fessler	78, 446
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Stamp, Revenue	G. W. Bowlsby	79, 806
Stamp, Revenue, for liquor barrels	G. W. Bishop	83, 127
Stanchion for fastening cattle	L. S. Safford	82, 995
Stand and book cover, Combined	W. Milliken	75, 040
Stand, Flour	C. J. Hauck	73, 005
Stand for mosquito nets	A. Strasser and B. M. Lewy	80, 782
Stand, Soap	J. D. Blake	77, 442
Stand, Spool	G. A. Pridham	79, 926
Stand, Spool	N. P. Clarke	76, 997
Stand, Tumbler	J. C. Wharton	82, 572
Stand, Wash	A. Stankowitch	75, 311
Stand, Wash	I. Morris	76, 796
Staple, Blind	J. B. Sargent	84, 585
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Starch separator	C. Gilbert	81, 888
Starch tray	J. A. Owens	78, 320
Starching apparatus	W. B. Coates	77, 356
Stationary machinery, Operating	G. Maramville	74, 838
Staves, Cutting	H. Martin	78, 882
Staves, Cutting	J. Greenwood	79, 651
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Stave machine	J. Holmes	82, 718
Stave machine	W. S. Colwell	83, 466
Stave machine	C. Murdock	84, 897
Staves, Sawing	W. K. and O. D. Bishop	75, 846
Stay for shirt bosom	J. P. Little	84, 498
Steak erusher	A. Castellaw	74, 304
Steak masher	R. Flynn	79, 966
Steamboat stages, Handling	M. Moore and G. Hastie	81, 667
Steamer, Partitioned	S. T. MeDougall	79, 670
Steam graduator	W. A. Robinson	84, 710
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Steel and iron	J. A. Jones	78, 806
Steel and iron, Carbonizing and hardening	F. E. Sissions	75, 986
Steel and iron combined, Manufacture of plates from	J. Parks, jr	78, 477
Steel and iron, Compound for welding and refining	J. Lehmann	76, 087
Steel and iron, for the manufaeture of plows, &e., Compound for hardening and uniting.	W. Howell and N. W. Browning	84, 420
Steel and iron, Manufaeture of	J. Jameson	76, 196
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Steel, Manufaeture of	T. S. Blair	85, 053
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Steel, Producing	J. Myers, jr	84, 644
Steelyard	H. Maranville	81, 388
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Steering apparatus	G. H. Colbert	75, 125
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Still for distilling hydroearbon	C. W. Requa	77, 094
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Still for turpentine	J. E. Winants	82, 263
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Still, Vinegar	R. L. Vanee	74, 174
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Stone, Artificial	J. L. Rowland	78, 327
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Stone, Artificial	C. Schaeffer	84, 003
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Stone drag	G. N. Palmer	83, 726
Stone, Dressing	W. O. Leslie	77, 895
Stone, Dressing	F. L. King	79, 838
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Stone gathering machine	G. N. Palmer	77, 833
Stone, Hardening	E. P. Taylor	79, 612
Stone quarrying machine	C. O. Luce and C. W. Greene	85, 317
Stone, Sawing	S. Stanton	79, 608
Stone, Unloading	J. B. and E. M. Moore	83, 721
Stool and rack, Music	A. N. Towne	83, 801
Stool, camp, Folding	J. Ingram	82, 955
Stool, Folding	W. E. Camcron	78, 259
Stool, Milking	O. Earl	81, 352
Stool, Milking, and pail holder	L. A. Hoit	77, 376
Stool, Piano	J. Bramble and H. M. Deihl	76, 044
Stool, Piano	J. Briggs	77, 164
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Stove	J. Collins and J. Knox	76, 400
Stove	J. H. Keyser	82, 327
Stove and coal grate	C. K. Marshall	79, 845
Stove and fireplace, Heating	A. J. Haswell	82, 945
Stove and furnace, Heating	W. C. Goggins	75, 748
Stove and oven, Camp	D. C. McNeill	80, 987
Stove and range, Cooking	B. Nott	75, 046
Stove and range, Cooking	J. Spear	79, 510
Stove and range, Summer attachment for	N. O. Bond	85, 054
Stove and range, Water back for	S. Wilks	84, 978
Stove, Ash pit cover for	W. L. McDowell	73, 737
Stove, Base-burning	S. B. Sexton	75, 585
Stove, Base-burning	R. B. Thompson	76, 005
Stove, Base-burning	R. Holmes	76, 326
Stove, Base-burning	F. H. Husted	76, 922
Stove, Base-burning	W. S. Bronson	77, 444
Stove, Base-burning	D. Stuart and L. Bridge	77, 549
Stove, Base-burning	S. B. Sexton	79, 505
Stove, Base-burning	J. S. Perry	79, 594
Stove, Base-burning	S. W. Gibbs	79, 650
Stove, Base-burning	J. Spear	79, 696
Stove, Base-burning	S. Pieree	80, 007
Stove, Base-burning	A. K. Sanders	80, 016
Stove, Base-burning	I. H. Gildersleeve	81, 360
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Stove, Base-burning	W. S. Bronson	85, 062
Stove, Base-burning	S. Culver	84, 537
Stove, Base-burning	H. B. Van Benthuysen	84, 920
Stove, base-burning, Cover for fuel magazine in	E. Maey	84, 890
Stove, Base-burning fireplace	D. Stuard and L. Bridge	79, 275
Stove, base-burning, Magazine for	J. Van Wormer and M. McGarvey	81, 024
Stove, base-burning, Oven in	A. Spitzmiller	79, 607
Stove, Car	W. A. Allen	82, 273
Stove, car, Casing for railway	S. L. Denney	80, 927
Stove, Car heating	E. Sanger	84, 308
Stove, car, Railroad	E. Z. Webster	77, 784
Stove, car, Railroad	F. H. Whitman	80, 525
Stove, car, Railroad	A. P. Winslow	85, 348
Stove, car, Railroad	E. M. Grant, J. B. Van Dyne, and T. R. Pugh.	84, 183
Stove, car, Railroad	A. P. Winslow	74, 969
Stove, car, Railroad	R. O. Brien	78, 475
Stove, car, Railroad	J. K. Sax and G. W. Kear	79, 920
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Stove, Coal	E. A. De Camp	74, 753
Stove, Coal	H. B. Voorhis	75, 223
Stove, Coal	J. Van Wormer and M. McGarvey	75, 491
Stove, Coal	C. Williams	75, 715
Stove, Coal	A. Knobel	76, 204
Stove, Coal	E. Hosford	76, 455
Stove, Coal	F. Walker	76, 565
Stove, Coal	C. B. Gregory	77, 032
Stove, Coal	D. G. Littlefield	77, 056
Stove, Coal	E. A. Parker	77, 519
Stove, Coal	T. Crane	77, 962
Stove, Coal	A. C. Rand	79, 390
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Stove, Coal	G. O. Woodcock	81, 053
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Stove, Coal	J. Fahrney	81, 484
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Stove, Coal	S. B. Steuart	82, 449
Stove, Coal	A. J. Redway	82, 637
Stove, Coal	C. S. Doolittle	83, 049
Stove, Coal	P. Parodis	85, 122
Stove, Coal box	A. N. Towne	73, 477
Stove, coal, Combustion chamber in	W. H. Whitehead	81, 043
Stove, cook, Coal	H. Pease	78, 822
Stove, cook, Magazine	J. S. Perry and J. Easterly	85, 124
Stove, cook, Reservoir	S. M. Clark	84, 343
Stove, Cooking	F. C. Adams and J. Peckover	73, 942
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Stove, Cooking	G. Chilson	75, 665
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Stove, Cooking	E. D. Weston	77, 688
Stove, Cooking	B. L. Mott, jr	77, 751
Stove, Cooking	L. M. Parsons	77, 835
Stove, Cooking	J. Magee	78, 217
Stove, Cooking	B. Newbury	78, 315
Stove, Cooking	W. Doyle	78, 517
Stove, Cooking	M. Woolley	79, 619
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Stove, Cooking	J. Magee	80, 194
Stove, Cooking	C. W. Smith	80, 230
Stove, Cooking	E. O. Thomas	80, 240
Stove, Cooking	J. W. Lowrey	80, 416
Stove, Cooking	W. T. Kistler	80, 636
Stove, Cooking	J. Magee	80, 867
Stove, Cooking	T. Colwell	80, 916
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Stove, Cooking	C. Williams	82, 574
Stove, Cooking	A. J. Redway	82, 638
Stove, Cooking	N. S. Vedder	82, 697
Stove, Cooking	E. D. Weston	82, 910
Stove, Cooking	A. G. Patton	83, 085
Stove, Cooking	A. G. Patton	83, 086
Stove, Cooking	H. Pease	83, 657
Stove, Cooking	H. Brown	83, 688
Stove, Cooking	D. Stuart and L. Bridge	83, 798
Stove, Cooking, ash pan	G. W. Swett	75, 073
Stove, cooking, Attachment to	J. Thorniley	76, 554
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Stove, cooking, Double-oven	E. Card	83, 458
Stove, cooking, Extension ring for base of	D. B. Cox	79, 108
Stove, cooking, Grate and ash sifter in	D. E. Paris	78, 686
Stove, cooking, Hearth and ash sifter in	D. E. Paris	78, 891
Stove, cooking, Hot air attachment to	J. Norris	83, 199
Stove, cooking, Hot water tank for	D. E. Paris	78, 819
Stove, cooking, Hot water tank for	D. E. Paris and C. S. Davis	78, 688
Stove, cooking, Hot water tank on	A. Brown	79, 807
Stove, cooking, Portable	H. Brown	76, 707
Stove, cooking, Portable	O. B. Hall	81, 163
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Stove, cooking, Water reservoir attachment to	D. E. Paris	78, 687
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Stove grate	E. Moneuse and L. Duparquet	79, 590
Stove grate	J. H. Yocum	79, 716
Stove grate	W. Caven	81, 139
Stove grate, &c., Illuminator for	B. Nott	83, 877
Stove hearth	W. I. Fryer	74, 906
Stove, Heating	T. J. Frazier	73, 793
Stove, Heating	F. S. Zumstein	79, 718
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Stove, Hot air water tank for	G. Tennie	76, 675
Stove leg	G. W. Burling	80, 706
Stove leg, Attaching	W. L. Newill	85, 237
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Stove, Magazine	J. Gray	84, 109
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Stove, Petroleum or gas	D. L. Emerson	75, 400
Stove pipe, Cap for marine	G. Warner	78, 496
Stove pipe cleaner	J. W. Mortimer	75, 291
Stove pipe, Connecting	N. W. Green	73, 887
Stove pipe elbow	C. Recht	76, 812
Stove pipe elbow	C. Hoeller	82, 407
Stove pipe elbow, Joint for	H. B. Morrison	83, 401
Stove pipe joint	J. Faint	84, 736
Stove pipe, oven, and water heater, Combined	H. Herrick	79, 348
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Stove pipe shelf	L. C. Stiles and R. P. Jaekman	76, 668
Stove pipe shelf	H. C. Johnson	79, 127
Stove pipe shelf	J. Perham	80, 210
Stove pipe suspender	G. W. Bradford	80, 126
Stove pipe thimble	G. F. Hammer	81, 899
Stove pipe thimble	J. L. Little	83, 646
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Stove, Portable	J. Smallwood	79, 084
Stove, Radiating drum	J. H. Patterson and H. B. Northup	76, 099
Stove, Window for	C. H. Buck	75, 664
Straight edge	S. Darling	73, 082
Strainer	W. Westlake	80, 790
Strainer and press, Combined	J. H. Littlefield	78, 981
Strainer for fluids	W. Dunn	75, 002
Strap and hames fastener	J. B. Waterman	82, 367
Strap fastener	S. W. Durham	74, 807
Strap fastener	J. B. Armstrong	77, 946
Strap for horses, Interfering	E. Chestermann	81, 601
Strap holder	H. W. Burgess	73, 230
Strap holder	G. B. Kirkham	74, 916
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Sugar, Draining	W. Elmenhorst and F. O. Matthiessen	77, 017
Sugar evaporator	W. C. Smith	78, 695
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Suspender	S. W. Henlon	84, 669
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Suspender and shoulder brace, Combined	E. Jennings	82, 720
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Thread, Polishing	P. Kerr	74, 832
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Thresher for grain, clover, &c	L. Cosler	78, 650
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Threshing machine and corn crib combined	J. R. Jordan and J. Campbell	85, 011
Threshing machine and grain separator	L. B. Lathrop	73, 348
Threshing machine and grain separator, Combined	L. P. Teed	78, 843
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Threshing machine, Measuring and tallying attachment to.	W. F. Abbot	74, 784
Threshing machine separator	T. Crumling	85, 368
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Threshing machine, Side gear for	J. Duchesne	78, 582
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Tie, Bag	E. Tuslow	79, 414
Tie, Bag	J. W. Bates	83, 240
Tie, Cattle	J. Wiard	78, 849
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Tie, Cotton bale	I. L. Phillips	73, 034
Tie, Cotton bale	J. B. Dunn	74, 059
Tie, Cotton bale	A. C. Fletcher	74, 070
Tie, Cotton bale	H. Fassmann	75, 140
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Tie, Cotton bale	G. A. Seaver	77, 770
Tie, Cotton bale	J. A. Shone	81, 018
Tie, Metallic, for cotton bales	T. Guyol	73, 713
Tie, Neck	H. G. Fisk and T. J. Flagg	73, 790
Tie, Neck	J. Sieberman and G. Unger	74, 436
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Tiles, floors, &c., Composition for forming	J. Neubrand	83,529
Tile for flooring, &c	W. Berner	80,120
Tile for floors, &c	J. Gray	84,877
Tile machine	J. Shellabarger	80,512
Tile machine	W. L. Reck	82,034
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Tile, Malt-kiln	T. G. Arnold	80,110
Tile or slabs for floors, Composition for	J. Marsh, jr	78,601
Timber from decay, Preserving	C. Brown	83,758
Time piece	C. King	78,972
Tin and other coating from sheet metal, Removing	B. H. Harmon and D. B. Sturdevant	81,164
Tin from sheet metal, Removing	D. B. Sturdevant and B. H. Harmon	75,809
Tinners' forming machine	W. Stine	73,208
Tinners' use, Machine for	W. Forshee and J. L. Judd	80,937
Tinning	P. Naylor	75,449
Tin scraps or waste, Utilizing	C. Kuehn	77,987
Tinsmiths' stake	E. H. Meigs	79,376
Tinsmiths' stake	O. W. Whitney	81,048
Tin ware	L. Lehmann	78,104
Tin ware, Bending oval handles for	J. Miller	83,523
Tin ware, Pressing and grooving seams in	J. Sehmucher and H. Upjohn	80,511
Tin ware seaming machine	H. J. Noyes	73,636
Tin work, Double seamer for	C. F. Spaulding	77,929
Tire bender	T. M. and A. F. Stansbury	81,550
Tire, Bending	J. Naylor	75,781
Tire bending and punching machine	J. M. Bryan	78,420
Tire bending machine	R. Tyrrell	79,089
Tire Cast steel	J. B. Tarr	83,223
Tire cooler	J. Wampach	80,687
Tire frame attachment	N. H. Mead	79,999
Tire heater	C. E. Pierce	75,050
Tire heater	P. P. Hemstreet	81,633
Tire, Rolling	T. E. Vickers	79,416
Tire setter	R. Cawthorne	78,926
Tire, Setting and cooling	J. Courtleyow	82,605
Tire setting machine	R. B. Wheatley	75,713
Tire shrinker	E. B. Decker	73,170
Tire shrinker	J. Maekey	77,297
Tire shrinking and punching machine	W. Britton	78,719
Tire shrinking machine	J. Elliott	73,175
Tire on carriage wheels, Fastening Indiar-ubber	J. A. Green	84,878
Tire tightener	S. Shirley	78,141
Tire tightener	A. O. Morgan	85,235
Tire to wheels, Securing	W. H. Hovey	77,981
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Toaster	M. E. A. W. Evard	76,316
Toaster and boiler	W. F. Collier and J. H. Bigelow	76,032
Tobacco, Belting	R. T. Sitterly	74,619
Tobacco, Casting	E. R. Morrison	78,117
Tobacco compress	J. H. McGowan	79,769
Tobacco, Curing	N. W. Broome	80,906
Tobacco, &c., Cutting	D. T. Robinson	74,248
Tobacco, Cutting	L. W. Spencer	75,805
Tobacco, Cutting	C. E. Rymes	77,102
Tobacco dressing machine	R. Meginnity and J. Dessinger	82,144
Tobacco drier	S. T. Cotterill	83,694
Tobacco, Granulating and finishing	N. H. Borgfeldt and F. W. Ritterhoff	78,360
Tobacco hand-tying machine	D. C. Dellinger	77,009
Tobacco hill preparer	B. T. Hardsey	74,350
Tobacco, Mill-shape or mold for manufacturing	G. F. Marks	73,354
Tobacco, Packing	L. H. Marburg	74,395
Tobacco, Packing	M. Falk	75,887
Tobacco, Straightening	J. A. Hunter	78,376
Toe calk, and blank for the same	T. Dooley	78,581
Toe-calk blanks, Manufacturing	A. Reese	85,130
Toilet attachment for bureau	H. Eastman	77,263
Tompion for fire-arms	T. T. S. Laidley	77,988
Tongs and lifter	J. Hyslop, jr., and C. E. Phillips	75,427
Tongs and shovel combined	H. C. Sisco	75,652
Tongs, Oyster	J. Johnson	75,550
Tongs, Pipe	W. Kenyon, jr	74,697
Tongs, Pipe	J. M. Evarts	79,642
Tongs, Pipe	J. R. Brown	79,724
Tongue depresser and automizer	O. A. Schulz	79,015
Tongue for hay-loading machine	E. Sweet	73,474
Tonic or bitters	J. Heisler	75,161
Tool	A. J. Prescott	73,648

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Tool, Combination	J. W. Marsh	76, 218
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Tool extractor for wells	T. M. Patterson	81, 530
Tool for cutting holes in cloth or leather for buckle tongues.	A. Bedford	81, 464
Tool for gas fitters	J. Himmer	82, 620
Tool for measuring and marking, Combination	C. M. Lane	78, 974
Tool handles, Bushing for	A. C. Kasson	85, 230
Tool, Hand-turning	A. B. Simonds	74, 437
Tool holder	F. A. Potter	77, 522
Tool holder	W. Pratt	79, 684
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Tool, Shoemaker's	W. T. Fisher	80, 161
Tooth burr and drill, Pneumatic	G. F. Green	77, 370
Tooth plugger	E. Coburn, jr	76, 161
Top	C. L. Johnson	78, 745
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Torpedoes for oil wells	A. T. Ballantyne	80, 896
Toy	J. E. Hawkins	73, 036
Toy	E. C. Brackct	74, 292
Toy	A. C. Fanston	74, 815
Toy	D. Checkeni	76, 892
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Toy	J. H. Barnes	78, 567
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Toy cannon	G. E. Hutchinson	79, 073
Toy, Child's	E. T. Colburn	74, 308
Toy entitled Sibyl's cave	J. S. Griffith	85, 087
Toy fish	R. Hunter	84, 628
Toy gun	S. Hubbard	74, 825
Toy gun	C. Locke	82, 536
Toy gun	F. A. Spofford and G. Raffington	82, 561
Toy gun, Torpedo	E. W. Keys	75, 767
Toy, horse	E. S. Russel	79, 782
Toy, Illusion	J. A. Minor	77, 072
Toy, Mechanical	H. G. Pearson	73, 379
Toy pistol	J. W. Bailey	75, 831
Toy pistol	W. H. Emory	75, 885
Toy pistol	G. Stackpole	83, 004
Toy pistol	W. D. Gridley	83, 058
Toy pistol	E. Ripley	83, 211
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Toy railroad and car	D. Douglas	75, 876
Toy, Reciprocating ball	C. Gresiuchna	73, 093
Toy safe with puzzle lock	A. and G. F. Wright	77, 560
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Trace clip	P. Schoonmaker	76, 826
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Trace fastener	E. D. and J. P. Rhoads	78, 011
Trace fastener	F. M. Weller	82, 906
Trace fastening	T. Peck	81, 403
Trace fastening	J. Brown	83, 454
Trace fastening	F. W. Dean	83, 476
Trace holder	S. Stout	78, 154
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Track cleaner, Railway	R. A. and T. Kendall	83, 860
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Trap, Animal	W. J. Biddle	74, 658
Trap, Animal	S. Huffman	74, 759
Trap, Animal	W. W. Leech	74, 762
Trap, Animal	W. Miller	74, 842
Trap, Animal	A. C. Briant	74, 886
Trap, Animal	A. C. Briant	74, 887
Trap, Animal	C. R. Capp	74, 889
Trap, Animal	J. M. Dearborn	74, 998
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Trap, Animal	C. C. Lyman	75, 777
Trap, Animal	W. L. Starr	76, 289
Trap, Animal	J. J. Cline	76, 713
Trap, Animal	A. J. Adams	77, 157
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Trap, Animal	J. H. Reissinger	77, 657
Trap, Animal	T. L. Rivers	78, 015
Trap, Animal	J. Trainer	78, 029
Trap, Animal	J. C. McClausrock	78, 306
Trap, Animal	E. B. Smith	79, 506
Trap, Animal	J. Kohler	79, 577
Trap, Animal	S. S. Rain	79, 686
Trap, Animal	O. R. Smith	81, 023
Trap, Animal	S. F. Estell	81, 265
Trap, Animal	A. Campbell	81, 596
Trap, Animal	H. S. Lesher	81, 798
Trap, Animal	J. Sherman	81, 829
Trap, Animal	T. B. Kirby	82, 008
Trap, Animal	H. W. Prouty	82, 246
Trap, Animal	A. L. Waring	83, 011
Trap, Animal	W. McClure	83, 074
Trap, Animal	E. Reichard	83, 094
Trap, Animal	T. M. Hill	83, 633
Trap, Animal	J. A. Lee	83, 642
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Trap, Animal	H. F. Lushbaugh and O. Z. Hurd	84, 292
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Trap, Animal and bird	A. T. Latta	79, 987
Trap, Bird	J. S. Stone and G. W. Chamberlin	83, 220
Trap, Burglar	W. Carr	77, 582
Trap, Fish	T. B. McCoughlan	76, 489
Trap, Fish	E. B. Beach	85, 199
Trap, Fly	A. Snyder	75, 480
Trap, Fly	C. J. Swingle	76, 673
Trap, Fly	J. Hoover	84, 825
Trap for destroying insects	T. C. Silliman	83, 666
Trap, Mole	C. Polley	78, 128
Trap, Rat	J. C. Guerrant and B. J. Field	73, 527
Trap, Rat	R. Beem	76, 700
Trap, Rat	W. C. Marquis	77, 631
Trap, Rat	M. D. Fowler	81, 268
Trap, Steam	C. E. Palmer	73, 032
Trap, Steel	C. P. Goss and A. Rais	73, 526
Trap, Stench	F. H. Williams	81, 719
Traveler for furling sails	G. Hart	75, 012
Tray, Wooden	H. Barber	80, 382
Treadle	A. Fontayne	85, 375
Treadle for machinery	A. Hitchcock	79, 572
Tread power machine	J. B. Pawley	82, 545
Treble tree	W. W. Mathews	75, 440
Tree box	J. W. L. Letherbury	82, 234
Trees, Extracting and transporting	J. Rider	85, 135
Tree feeding tube	M. L. Tomlinson	78, 554
Trees, Felling	A. Edwards	75, 882
Trees, Felling	M. M. Fory	82, 303
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Trimming, Fluted	E. H. Mandelbaum	84, 641
Trimming, Ruffled	E. C. Wooster	85, 502
Trough and double rack for feeding sheep, cattle, and horses, Combined.	J. D. McBride	73. 426
Trough, Damping	H. T. Davis	84, 538
Trough, Eaves	W. Stine	78, 617
Trough for stock, Salting	G. T. Marshall	83, 780
Trough, Hog	C. M. Rolfe	79, 688
Truck	O. F. Burton	80, 388
Truck and bag-holding device	J. S. Lehmann	82, 132
Truck and horse power, Combined	C. Roberts and J. A. Throp	84, 766
Truck and wagon reach	P. Hicks	83, 497
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Truck, Car	A. Bridges	75, 357
Truck, Car	J. Baysore	75, 513
Truck, Car	C. F. Allen	77, 858
Truck, Car	S. Skillman	79, 267
Truck, Car	J. H. Densmore	80, 858
Truck, Car, for changing gauge	H. T. Carter	79, 104
Truck, car, Railroad	J. R. and D. W. Perry	77, 520
Truck for moving horses	J. S. Millikan	78, 883
Trunk, Hand	W. May	74, 107
Trunk, Hand	J. Garsted	76, 907
Truck, Hand, and sack holder	G. and J. Smoker	77, 412
Truck, Railroad	W. S. Shotwell	75, 476
Truck, Railroad	D. McFarland	77, 505
Truck, Railway	W. P. Parrott	79, 252
Truck, Safety	S. Y. Bradstreet	77, 248
Truck, Store	A. V. Smith	73, 397
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Trunk, Bureau	A. L. Mora	80, 200
Trunk caster	L. Horton and J. A. McGaw	75, 017
Trunk caster	J. W. C. and J. E. Haskell	82, 310
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Trunk corner	E. A. G. Roulstone	75, 200
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Trunk-lid supporter	S. Wehrly	77, 785
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Tub, Bath	E. J. Knowlton	73, 906
Tub, Butter	D. A. Gilbert	77, 030
Tub, Butter	D. A. Gilbert	78, 955
Tub, Butter	A. B. Harris	78, 963
Tub, Butter	A. R. Bailey	81, 459
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Tube, Tapering	W. O. Shaw	74, 614
Tubes, Threading	D. Saunders	76, 823
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Tunnel excavator	T. A. Fisher	74, 069
Tunnels, arches, &c., Constructing	G. T. Lape	81, 797
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Tuyeres	L. Donnell	77, 178
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Tuyere iron	L. M. Bailey	73, 490
Tuyere iron	J. Brown	73, 574
Tuyere iron	C. F. Espick	80, 933
Tweezers, watch key, &c., Combined	D. A. Jones	77, 621
Twist, button-hole, Winding	J. Lovett	75, 938
Twisting wax ends	F. K. Way	73, 270
Type machine	D. Bruce	80, 448
Type, Music	E. L. Balch	78, 555
Typographer, Mechanical	J. Pratt	81, 000
Type, Setting and distributing	W. H. Housen	75, 681
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Umbrella	W. F. Turner	80, 785
Umbrella	A. G. Davis	81, 259
Umbrella	G. L. Witsil	84, 457
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Umbrella and parasol	J. A. Simpson	78, 839
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Uterine supporter	J. A. Morrell	75, 694
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Uterine supporter	A. Dickson	80, 153
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Valve, Balance slide	J. D. Stewart	80, 677
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Valve, Check	J. Wilson	79, 527
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Valve, engine, Steam	J. Reichmann	74, 593
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Valve, engine, Steam	W. D. Hooker	80, 738
Valve, engine, Steam	B. F. Perkins	82, 870
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Valve for steam and other enginery, Stop	H. G. Ludlow	85, 263
Valve for steam and other enginery	P. H. Kendricken	85, 389
Valve for steam and other engines, Check	J. Hayden, jr	83, 380
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Valve for steam passage	G. Verry	78, 556
Valve for sugar pan	L. Colwell	77, 359
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Valve gear	E. T. Robinson	79, 396
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Valve gear, Cut-off	A. Kendall	77, 986
Valve gear, Cut-off	S. Stanton	80, 025
Valve gear, Electro-magnetic	E. A. Wood	76, 965
Valve gear for oscillating engine	C. H. and D. B. Overton	82, 342
Valve gear for steam engine	E. N. Dickerson	75, 387
Valve gear for steam engine	R. L. Reaney and J. S. Cornell	75, 459
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Valve gear for steam engine, Cut-off	C. W. Wailey	82, 184
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Valve gear for steam-heating apparatus	H. Howard	78, 454
Valve gear, Steam engine	D. V. Wood and S. W. Robinson	76, 131
Valve gear, Steam engine	S. S. Jamison	76, 769
Valve gear, Steam engine	A. Seely	78, 764
Valve gear, Steam engine	J. Crampton	84, 615
Valve gear, Steam engine	H. Reid	84, 761
Valve, Globe	W. S. Cooper	74, 803
Valve, Globe	S. H. Whitaker	75, 094
Valve, Globe	F. Douglass	75, 670
Valve, Globe	W. S. Cooper	76, 164
Valve, Globe	J. Powell	77, 913
Valve, Globe	J. B. T. Van Patten	78, 342
Valve, Globe	R. G. Packard	79, 679
Valve, Globe	G. A. Hadley	81, 893
Valve, Globe	W. Chesley	82, 206
Valve, Globe, for steam and other engines	E. H. Ashcroft	83, 902
Valve, globe, Steam	L. C. Rodier	74, 597
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Valve, globe, Steam	E. A. Rock	74, 144
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Valve, globe, Steam engine	R. A. Filkins	80, 160
Valve, Governor	R. Andrews and E. Armstrong	78, 410
Valve in railroad car stoves, Draught	J. E. Wootten	82, 672
Valve, Melodeon	E. A. Jones and J. A. Bidwell	83, 971
Valve motions for steam engines	H. Reid	83, 095
Valve, oscillating, Steam engine	J. S. Everitt and O. Cook	78, 656
Valve, Piston	M. C. Stebbins	83, 739
Valve, Pump	W. H. Pollard	73, 038
Valve, Pump	J. A. Nichols	83, 302
Valve, pump, Chain	O. O. Witherell	83, 117
Valve rod connection	J. Robertson	76, 526
Valve, Rotary	E. D. Wood	76, 682
Valve, Rotary, for steam and other engines	R. D. Gray	75, 153
Valve, Safety	H. Anderson	74, 480
Valve, Safety	J. Atkins	74, 656
Valve, Safety	S. B. Dougherty	75, 392
Valve, Safety	F. Harden	78, 280
Valve, Safety	E. H. Ashcroft	81, 863
Valve, Safety	W. R. Malone	83, 295
Valve, safety, and low-water detector, Combined	D. Burns	77, 451
Valve, safety, Lock-up	R. G. Packard and M. Hastings	77, 084
Valve, safety, Spring balance for	J. Ayres	74, 973
Valve, safety, Steam	E. H. Ashcroft	76, 878
Valve, safety, Steam	A. G. Buzby	76, 992
Valve, safety, Steam	E. H. Ashcroft	79, 182
Valve, safety, Steam	G. H. and E. C. Leurens	81, 878
Valve, safety, Steam	W. H. Bechtel	79, 436
Valve, safety, Steam	G. W. Richardson and H. Waterman	83, 320
Valve, safety, Steam	O. R. Davis	80, 461
Valve, safety, Steam	H. W. Hewett	81, 167
Valve, safety, Steam	J. Ashcroft	81, 326
Valve, safety, Steam	E. G. Allen	81, 329
Valve, safety, Steam	H. B. Beckman	81, 976
Valve, safety, Steam	E. H. Ashcroft	82, 270
Valve seat	A. M. Cheeseman	82, 596
Valve seat, Non-corrosive	E. H. Ashcroft	81, 576
Valve, Slide	W. Wilson	77, 152
Valve, Slide, of combined high and low-pressure engine	T. L Jones	76, 776
Valve, slide, Operating	I. Church	79, 204
Valve, slide, Steam	J. Martin	77, 301
Valve, slide, Steam	J. Hemphill	78, 205
Valve, slide, Steam	J. R. Hall	82, 520
Valve, slide, Steam	E. B. Latch	83, 716
Valve, slide, Steam engine	T. A. Bisbee	76, 294
Valve, slide, Steam engine	J. S. Barden	77, 569
Valve, slide, Steam engine	L. H. Allen and J. B. Wilford	80, 698
Valve, slide, Steam engine	J. S. Everitt and O. Cook	84, 054
Valve, slide, Steam engine	J. Lawson	85, 105
Valve, Steam	O. P. and H. D. Dunbar	84, 175
Valve, Steam	F. S. Pease	84, 211
Valve, Steam and water-check	E. H. Ashcroft	83, 588
Valve, Steam cut-off	R. Sanderson	80, 509
Valve, Steam engine exhaust	T. S. Davis	85, 289
Valve, Steam engine piston	W. R. Thomas and T. Evans	76, 002
Valve, Steam engine piston	R. Gornall	82, 936
Valve, Steam engine slide	J. Stocking and E. P. Shaffer	76, 545
Valve, Stop	S. H. Brown	77, 448
Valve, Stop, for steam and other enginery	J. H. Davis	85, 288
Valve, Throttle, for locomotive engine	G. Richards	78, 012
Valve, throttle, Steam engine	H C. Bull and S. T. Shelley	84, 992
Valve, Water-closet	W. S. Cooper	74, 896
Valve, Water-closet	W. S. Cooper	75, 374
Valve, Water-closet	W. Smith	81, 024
Valve, Water-closet	D. Morrison	82, 057
Valve, water-closet, Slow closing	C. Harrison	85, 006
Vane	L. W. Cushing and S. White	81, 146
Vapor inhaler	M. M. Miles	73, 913
Vapors in lard boiling, Condensation of	C. C. and G. F. Pierson	80, 006
Vapor, metallic, Collecting and condensing	F. Formhals	73, 519
Varnish	I. Ranney	83, 317
Varnish, copal, Ageing and rectifying	D. Duduit	84, 174
Varnish for metal, wood, &c	R. Love	81, 916
Varnish for the surface of rolls used in textile machinery.	D. Photeplace	76, 245
Varnish, Shellac	G. S. Meikle	81, 663
Vat, Cheese	W. Howard	77, 734
Vat, Cheese	P. Colvin	80, 335
Vat, Dyer's	W. Vine and W. H. Judd	75, 081
Vat for cylinder paper machines	A. Howland	83, 165
Vat, Milk	J. A. Edwards	82, 698

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Vegetable and fruit slicer	E. Holmes	78,373
Vegetable fiber as a substitute for hair	W. Slaufen	81,702
Vegetable masher	E. Brown	78,050
Vegetable mashing and cutting machine	C. Vignal	75,605
Vegetables and fruit, Preserving	J. M. Blanco y Nuño	82,588
Vegetable server	T. F. Bigelow	79,543
Vegetables, hay, and straw, Cutting	R. I. Burbank	85,067
Vegetable slicer	I. Bullard	77,250
Vegetable slicer	G. W. Jacobs	78,290
Vegetables, Liquid extract from	G. Do Villepoix and J. F. Bonnaterre	77,805
Vegetable washer	U. A. Woodbury	77,699
Vegetable washer	G. H. Tift	77,944
Vehicle	G. Stricker	73,849
Vehicle, Attaching shaft to	S. Thompson	76,357
Vehicle, Construction of	G. P. Kimball	75,026
Vehicle, Draught attachment for	W. P. Brooks	78,049
Vehicles, Equalizer for	J. J. Connolly	82,385
Vehicle, Excavating	J. P. Smith	77,329
Vehicle, Kingbolt and whiffletree plate for	L. Adams	83,234
Vehicle, Pole for	E. D. Brown	80,055
Vehicle, Propelling	T. Rhoads	76,814
Vehicle, Running gear of	D. D. Gitt	73,444
Vehicle, Self-propelling	O. D. Peddrick	80,206
Vehicle, Shaft for	W. L. Blaisdell	77,797
Vehicle, Spring and body brace for	C. C. Gleason	77,276
Vehicles, Spring attachment for	E. C. Brooks	73,497
Vehicle, Walking	R. C. Vernol	74,176
Vehicles, wheeled, Running gear for	W. C. Cook	74,802
Velocipede	L. Derozier	74,058
Velocipede	O. T. Gleason	77,478
Velocipede	B. T. Crandall	79,553
Velocipede	G. W., A. E., and F. Hanlon	79,654
Velocipede	H. A. Reynolds	80,425
Velocipede	A. Christian	81,603
Velocipede	D. Hunt, jr.	82,319
Velocipede	C. R Bradford	83,035
Velocipede	C. N. Cutter	83,696
Velocipede	E. K. W. Blake	84,163
Velocipede	S. M. Skidmore	85,337
Velocipede	S. A. Wood	85,501
Velocipede for land and water	W. G. Crossley	75,531
Veneer	J. B. Wilson	73,421
Veneer	H. F. Shepherd	84,008
Veneer-cutting machine	E. Jewett	78,458
Veneers, Cutting	H. Kassing	74,830
Veneers, Rovolving stay log for cutting	J. N. Lyman	84,637
Ventilating and desiccating device	E. H. Ashcroft	81,060
Ventilating apparatus	W. Potts	78,894
Ventilation	G. W. Blake	84,608
Ventilator	H. B. Worth	74,655
Ventilator	R. T. Crane	76,717
Ventilator	R. T. Crane	76,718
Ventilator	W. O. Crawford	77,003
Ventilator	E. L. Roberts	79,395
Ventilator	J. F. Frye	80,719
Ventilator	A. Hurff	81,091
Ventilator	W. Holzhäuser	81,905
Ventilator	J. and J. Peckham	82,746
Ventilator and chimney cowl, Exhausting	J. W. C. Anderson	73,280
Ventilator, Car	M. T. Hitchcock	74,534
Ventilator, Car	D. C. Richardson	74,849
Ventilator, Car	R. Hitchcock	75,910
Ventilator, car, Automatic	I. Buckingham	77,867
Ventilator, car, Railroad	I. Dripps	75,878
Ventilator, car, Railroad	M. C. Andrews	78,174
Ventilator, car, Railroad	R. Heneage	78,206
Ventilator, car, Railroad	G. W. R. Bayley and J. McCluskey	79,541
Ventilator, car, Railroad	M. T. Hitchcock	80,411
Ventilator, car, Railroad	W. Scharrath	84,004
Ventilator, car, Railroad	W. M. Russell and D. E. Holmes	81,297
Ventilators, car, railway, Opening	W. C. Stickney and J. McGeo	85,143
Ventilator, Car window	W. Thompson	84,319
Ventilator, Cooking stove	C. and A. Stoddard	82,173
Ventilator, Hat	W. M. Irvine and A. H. Moses	81,784
Ventilator, Hat	W. T. Warburton	84,323
Ventilator, Heat	G. Deas	77,007
Ventilator, Millstone	J. Wetherell	81,927
Ventilator, Window	R. H. Long	81,184
Ventilator, Window screen	J. R. Wharry	73,213
Venting core	G. G. Cressey	83,135
Vermifuge	J. McKinsey	75,561

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Vessels, Ballasting	J. B. Stoner	74,169
Vessel, Cast iron, Preventing corrosion of	C. O. Greene	77,186
Vessel, Center board for	D. Robertson	74,003
Vessel, Composite	J. Baird	85,051
Vessel, Culinary	C. W. Fuller	78,587
Vessel for holding petroleum, &c	E. Waters	81,441
Vessel for mineral water	A. D. Schnackenberg	75,582
Vessel, Propelling	O. Tenny	80,289
Vessels, Propelling	B. T. Babbitt	79,937
Vessels, Propulsion of	A. F. Yardell	84,602
Vessels, Raising sunken	J. Burger	73,294
Vessels, Raising sunken	C. A. Dillon	76,416
Vessels, Raising sunken	G. M. Allerton	77,237
Vessels, Scuttling	J. Hall	83,490
Vessels, Tightening band for	J. Tingley	81,843
Vessels to and from wharves or docks to water, Device for moving.	J. Du Bois	81,075
Vessels, Towing	J. M. Kilner	80,075
Vial	W. Storer	77,378
Vine cutter and garden cultivator combined	P. Alling	83,437
Vine puller and potato digger	J. W. Newton	83,785
Vine trellis	C. Seylor	78,487
Vinegar	A. Foubert	75,404
Vinegar	J. Firmenich	77,727
Vinegar	H. A. Tilden	83,423
Vinegar, Making	S. R. Holt	81,637
Vinegar, Manufacture of	T. Grundmann	82,712
Violin	B. Bishop	73,569
Violin players, Regulating the position and movements of the arms of.	E. Mollenhauer	75,950
Vise	L. Yale, jr	73,152
Vise	S. S. Barnaby	73,944
Vise	L. Yale, jr	74,025
Vise	T. H. Humphreys	74,093
Vise	M. Prentiss	75,576
Vise	S. Darling	76,410
Vise	C. Barnes	76,584
Vise	B. L. Randall	76,656
Vise	A. Jameson	77,289
Vise	A. Z. Mason	77,390
Vise	T. Fisher	77,472
Vise	Q. S. Backus	78,565
Vise	F. B. Johnson	78,746
Vise	O. V. Flora	79,566
Vise	O. H. Gardner	80,722
Vise	I. Fisher	81,764
Vise	A. Z. Mason and R. B. Robbins	82,014
Vise	T. L. Baylies and E. Crawley	82,073
Vise	F. J. Dibble	82,095
Vise	O. V. Flora	82,612
Vise	J. C. Crumpton	83,045
Vise, Adjustable jaw for	H. N. King	75,552
Vise, Bench	J. Pickering	84,508
Vise, Carpenters'	O. V. Flora	79,565
Vise clamp	H. O. Nauen	73,028
Vise, Engravers'	G. N. Munger	82,627
Vise, Horseshoe calking	G. L. Gerald	77,973
Vitreous substances, Cutting	O. M. Pike	85,396
Vitrified compound	J. O. Friel	76,509
Voltaic pile for medical purposes	A. C. Garratt	85,300
Vulcanizing India-rubber car springs and other articles.	H. W. Beins	77,952
W.		
Wagon	J. F. Applegate	78,913
Wagon	G. Carter	79,155
Wagon	G. W. Janvrin	80,489
Wagon	S. Seitz and L. D. Arnold	81,216
Wagon	A. and E. W. Tate	82,343
Wagon	J. F. Applegate	83,900
Wagon, Advertising	G. W. Thompson	78,552
Wagon and cart, Dumping	W. W. Rogers	80,669
Wagon and car unloader	N. Swickard	83,005
Wagon, Army	A. Sully	82,472
Wagon body	M. M. Carr	79,311
Wagon body	T. E. Lewis	81,800
Wagon body fastening	A. A. Hotchkiss	85,096
Wagon bolster	G. Richards	79,005
Wagon bolster	C. Stebbins	73,471
Wagon box	H. Parker	79,251

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Wagon box	T. M. Marcy	84, 892
Wagon, cannon lumber, Regulating	J. W. Drew	78, 194
Wagon, Car, and other vehicle	T. Stone	79, 410
Wagon, Chafing roller for	J. M. Mayhew	79, 995
Wagon clip	G. S. Zeigenfuss	73, 686
Wagon, Draught equalizer for	C. C. Bradley	83, 914
Wagon, Dumping	J. Priest	74, 131
Wagon, Dumping	H. Shirey	74, 856
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Wagon, Dumping	G. R. and C. H. Sneath	83, 003
Wagon, Dumping	W. S. Bullock and H. Hannigan	83, 920
Wagon, End gate for	E. S. Miller	76, 095
Wagon, Express	T. W. Porter	75, 972
Wagon, Farm	C. Mahan	77, 500
Wagon, Farm, Three-wheeled	E. T. Crockett	74, 511
Wagon for loading logs, stone, &c	J. Sutherland	74, 253
Wagon for unloading coal	J. H. Wood	73, 684
Wagon, Hopper attachment for a	F. Gerard	76, 744
Wagon, hub, axle and box	J. W. Pollock	75, 574
Wagon hub, Boring	J. W. Emerson	74, 062
Wagon hub, Boring	J. T. Kendall	76, 467
Wagon, King bolt for	J. J. Waldron	77, 782
Wagon lock	O. A. Kenyon	74, 831
Wagon, Lumber	S. D. Carpenter	73, 076
Wagon pole	J. R. Madison and W. Thomas	79, 584
Wagon pole support	D. C. Newton	74, 581
Wagon protector	G. R. K. Smith	73, 132
Wagons, Removing boxes from	S. S. Brewster	80, 127
Wagon, Running gear for	C. M. Sexton	81, 217
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Wagon seat	I. Kinney	80, 827
Wagon, Shaft attachment to	W. Ward	77, 687
Wagon, Shaft coupling for	I. H. Mulford	80, 759
Wagon skein	C. F. Ravin	77, 656
Wagon skein, Roller	J. W. Morrett and H. Watts	80, 758
Wagon, Spring seat for	H. H. Palmer	80, 562
Wagon stake	A. Fassett	83, 614
Wagon, Tilting	G. R. and C. H. Sneath	74, 251
Wagon tongue support	N. A. De Long	84, 682
Wagon tongue support	J. O. Houck	85, 446
Wagon tongue, Working	A. J. Beach	75, 840
Wagon top bow	S. C. LaHalt, P. Listeman, and C. Hadley.	84, 199
Waist band for wearing apparel	Z. Wolfsbruck	76, 871
Waiter machine	D. F. Myers	84, 898
Walls, &c., Composition for kalsomining	N. O. Frank	79, 337
Walls, Decorating	J. C. Finn	77, 876
Walls of buildings, Construction of	W. Vineland	75, 098
Wall, Subterranean	M. Thode	79, 028
Wardrobe, Extension	J. G. Roux	75, 579
Wardrobe frame, Extension	E. Gill	80, 723
Wardrobe, Portable	G. Niermann	85, 023
Warps, Composition for sizing or dressing	F. Johnson	82, 120
Warp dresser	B. Saunders	81, 826
Warp dressing machine, Dresser-copper for	W. H. Boyden	84, 793
Warping chuck	J. T. Haskins	78, 964
Warping frame	C. H. Howard	78, 453
Warping machine, Stop motion for	J. Siegrist	83, 330
Wash bench	F. Diebold	78, 937
Wash bench	E. M. Stevars	73, 404
Wash board	J. H. Beidler	75, 114
Wash board	F. E. Marberry	76, 481
Wash board	M. McGarry	77, 828
Wash board	R. M. Mausur	79, 367
Wash board	H. B. Straut	82, 175
Wash bowl	J. Gilbert and P. M. Sofield	75, 896
Washer	T. Shaw	77, 326
Washer	J. A. Way	80, 435
Washer, Anti-friction	U. H. Reed, J. Lake, and L. Sisson	84, 067
Washer for lock nut	D. Elliott and E. Seely	74, 060
Washer, Spring, and safety nut	A. V. B. Orr	75, 643
Washing and wringing machine	G. W. Kintz	76, 924
Washing and wringing machine	M. Leavitt and A. Foster	78, 975
Washing and wringing machine	R. K. Tomlinson	79, 033
Washing and wringing machine	G. P. Fuller	80, 540
Washing and wringing machine	R. K. Tomlinson	80, 784
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Washing buildings, Steam device for	C. Niverts	84, 132
Washing compound	H. K. White	79, 882

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Washing machine	I. Lee	73, 103
Washing machine	F. M. Harris	73, 445
Washing machine	H. Helm	73, 601
Washing machine	B. F. Stover	73, 667
Washing machine	E. P. and E. Doty	73, 701
Washing machine	W. Eberhard	73, 785
Washing machine	M. V. Jennings	73, 978
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Washing machine	E. H. Cooel	74, 052
Washing machine	J. Webb	74, 459
Washing machine	A. B. Clark and C. Davis	74, 502
Washing machine	C. E. Wahlgren	74, 640
Washing machine	P. F. Bindewald	74, 790
Washing machine	L. S. Enos	74, 902
Washing machine	A. Lamb	74, 919
Washing machine	D. E. Somes	74, 949
Washing machine	G. Custer	75, 129
Washing machine	E. Stair	75, 592
Washing machine	J. Cooper	75, 629
Washing machine	F. W. Heins	75, 680
Washing machine	W. C. Hunter	75, 762
Washing machine	J. F. Chambers	75, 859
Washing machine	J. P. Thompson	76, 004
Washing machine	D. W. Bancroft	76, 037
Washing machine	N. T. Edson	76, 313
Washing machine	L. H. Whitney	76, 281
Washing machine	E. Y. Boyce	76, 393
Washing machine	E. T. Tinch	76, 850
Washing machine	G. G. Hood and J. D. Kelly	77, 041
Washing machine	H. J. Case and F. J. Johnson	77, 252
Washing machine	J. T. Wheeler	77, 340
Washing machine	O. W. Stanford and S. S. Scoville	77, 413
Washing machine	N. Trowbridge	77, 417
Washing machine	D. C. Baker	77, 861
Washing machine	J. C. Crawford	78, 067
Washing machine	T. Crane	78, 187
Washing machine	N. Drew	78, 440
Washing machine	S. V. Hall	78, 593
Washing machine	W. M. Doty	78, 940
Washing machine	W. Hachenberg	79, 068
Washing machine	A. A. Atherton	79, 095
Washing machine	E. E. Brewster	79, 101
Washing machine	G. H. Kidney	79, 477
Washing machine	J. Lamb	79, 662
Washing machine	C. Milner	80, 000
Washing machine	S. Barker	80, 114
Washing machine	J. K. Dugdale	80, 156
Washing machine	L. M. Lull and P. C. Bowen	80, 193
Washing machine	J. Phillips, jr	80, 211
Washing machine	P. Prentiss	80, 501
Washing machine	A. G. Wilkins	81, 050
Washing machine	W. Hoeft	81, 273
Washing machine	J. Osterhout	81, 674
Washing machine	W. Ross and J. M. Adamson	81, 688
Washing machine	M. Culler	82, 386
Washing machine	J. Ballard	82, 584
Washing machine	J. Stafford	82, 722
Washing machine	C. H. Cramer	82, 924
Washing machine	N. M. Shafer	82, 999
Washing machine	R. E. Ferguson	83, 145
Washing machine	G. R. Weber	83, 230
Washing machine	C. F. Chambers	83, 254
Washing machine	G. A. Dabney	83, 260
Washing machine	J. Scott	83, 325
Washing machine	A. T. Adams	83, 435
Washing machine	J. Dare	83, 473
Washing machine	E. F. O'Neill	83, 535
Washing machine	D. Estes	83, 613
Washing machine	W. Cooper	83, 764
Washing machine	O. Schimmel	84, 005
Washing machine	W. Cornell and T. L. Blakley	84, 050
Washing machine	M. S. Harsha	84, 058
Washing machine	C. F. Flemming	84, 102
Washing machine	W. S. Harrison	84, 115
Washing machine	L. H. Hubbard	84, 491
Washing machine	Le Roy B. Wheeler	84, 597
Washing machine	A. A. and J. Wilder	84, 924
Washing machine	J. Leib	85, 315
Washing machine	E. D. Hunt	85, 447
Wash powder	P. A. La France	84, 633
Washstand and sick chair	V. Schreck	82, 441

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Washstand and water closet combined	A. J. Brown	80,129
Wash, Yellow, for barns and buildings	H. Bachtold and J. Nunamacher	81,975
Watch	G. A. Bowen	73,161
Watch	O. F. Steadman	73,937
Watch	B. D. Bingham	74,041
Watch	A. Wadsworth	74,457
Watch	C. S. Moseley	77,078
Watch	C. Springer	77,848
Watch	L. V. Piquet	78,323
Watch	E. Chatelain	78,720
Watch	M. N. Frederick	79,968
Watch	A. J. Harrison	80,480
Watch	G. P. Reed	81,107
Watch	P. R. Bennett, jr	82,197
Watch	G. W. Reed	83,729
Watch case	G. J. Willson	75,505
Watch case and locket from hard rubber, Molding	W. H. Halsey	81,082
Watch, Changeable escapement for	G. F. Roskopf	75,463
Watch cord, Pocket safe for friction	W. H. Rogers	83,097
Watch, Dust cup for	W. Fennimore	74,329
Watch, Dust ring for	E. Howard	75,018
Watch escapement	J. and J. W. Hietel and J. L. Geissler	84,060
Watches for canes, umbrella handles, &c	S. B. Simon	76,108
Watches, Jeweling	A. C. Crosby	73,511
Watch keys and other articles, Receptacle for	M. Z. Crane	83,695
Watch protector	C. Baumann	76,699
Watch regulating adjustment	F. G. Johnson	81,907
Watch, Rejeweling	C. Hopkins	78,803
Watch, Safety attachment to	J. Elson	82,097
Watch, Self-winding	U. H. Rammz	77,213
Watch, Spring and duster for a	J. H. Morse	80,989
Watch, Stem-winding	E. Howard	74,090
Watch, Stem-winding and setting	O. P. Rice and J. H. Gerry	78,693
Watch, Toy	J. Laubereau	83,978
Watch winding click	E. Paulus	83,788
Watch wood, Sharpening	C. P. Carter	77,455
Water closet	W. S. Cooper	75,375
Water closet	W. S. Carr	76,398
Water closet	H. H. Craigie	76,403
Water closet	G. Conron	77,459
Water closet	W. Sprague	78,148
Water closet	W. S. Carr	79,728
Water closet	W. S. Carr	80,708
Water closet	W. S. Carr	82,595
Water closet	D. Schilling	83,215
Water closet	H. H. Craigie	84,262
Water closet	D. Wellington	85,192
Water closet and washstand combined	A. J. Brown	80,129
Water closet, Automatically operated pan for	W. A. Butler	85,431
Water closet, Automatic supply regulator	G. Conron	79,318
Water closet, Ventilating	T. Hainsworth	75,000
Water conductor and lubricator combined	T. A. Shoek	73,262
Water power, Floating	A. B. Shepard	78,488
Water, Purifying	M. S. Bringier	81,979
Water, Raising	H. Schlotter	81,013
Water-wheel gate, Operating	J. H. Bodine and T. A. Hill	78,510
Water with carbonic acid, Charging	R. Grant	73,712
Waxends, Twisting	F. K. Way	73,270
Wearing apparel, shoes, &c., Fastening	R. Judson and W. P. Lynch	75,924
Wearing apparel, Stiffening articles of	J. Sloan	74,250
Weather-board gauge	W. E. Stoddard	83,337
Weather-board gauge and rest	J. Williams	80,691
Weather boarding, Marking	J. W. Bailey	81,579
Weather strip	W. L. Gilroy	74,077
Weather strip	J. R. Mills	76,793
Weather strip	J. Cross	78,790
Weather strip	J. E. Smith and M. H. Dascnbrook	78,900
Weather strip	J. E. Lindsley	78,980
Weather strip	B. F. Averill	79,625
Weather strip	J. H. Thomas	79,876
Weather strip	T. S. Fellows	80,538
Weather strip	A. C. Brown	80,591
Weather strip	E. S. Torry	81,228
Weather strip	C. Bean	85,422
Weather strip and door alarm combined	G. W. Carpenter	75,857
Weavers' cutmarks, Producing	W. G. Perry	84,301
Weeding implement	C. S. Jewell	74,371
Weeding machine	N. and C. Carstens	75,858
Weeding tool	N. Webster	76,011
Weeds and hedge plants, Extracting	J. L. Knick	77,385
Weeds, stalks, &c., Turning down and burying	S. Collins	74,667

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Weights, heavy, Raising	S. E. Tuttle	74, 173
Weights, Raising	J. Pickering	84, 577
Weigher and measure combined	A. B. Hurd	82, 842
Weighing apparatus	G. and J. L. Barbson	82, 477
Welding compound	J. R. Tryon	80, 036
Well	S. W. Barr and E. McGuire	72, 962
Well, artesian, Constructing	N. V. Green	73, 425
Well borer	G. W. Bowen	75, 355
Well boring apparatus	N. C. Clark	74, 503
Well boring apparatus	W. Skiff	80, 773
Well curbing	C. W. Perry	81, 532
Wells, Curbing	J. A. Sutherland	76, 672
Wells, Discovering fissures in the sides of	J. D. Dale	.....
Well, Drive	T. B. Conklin	77, 171
Well, Drive	J. S. Armstrong	83, 901
Well, Drive	W. and G. H. Burdett	85, 428
Well, Side scraper for	E. Beach	84, 852
Well, Tube	R. C. Welch and J. B. Miller	73, 414
Well, Tube	S. E. Skilling	77, 772
Well, Tube	W. H. White	77, 941
Well, Tube	O. D. Chapman	77, 957
Well, Tube	A. B. Parsons	78, 689
Well, Tube	E. A. and G. Platt	80, 875
Well tube	J. Lovejoy	81, 801
Well tube	W. T. Horner	73, 446
Well tube	A. Rhoades and J. Adams	80, 504
Well tube, Deep	J. G. Moxey	82, 238
Wheat, Debranning	H. Poth	78, 480
Wheel	J. Montgomery	78, 467
Wheel and axle, Car	T. C. Hargrave	81, 083
Wheel and axle for railroad car	F. Parkerson	76, 241
Wheelbarrow	W. F. Newcombe	78, 003
Wheelbarrow	E. B. Marshall	83, 189
Wheelbarrow	G. W. Heekart	18, 902
Wheel bender, Fifth	W. Morgey	79, 677
Wheel, Bending fifth	T. Blake	82, 790
Wheel, Bushing for	J. Raddin	74, 939
Wheel, Car	G. Doek	74, 999
Wheel, Car	S. B. Chapman	75, 521
Wheel, Car	J. Raddin	76, 811
Wheel, Car	E. Stiles	76, 844
Wheel, Car	W. R. Thomas	79, 029
Wheel, Car	C. T. Harvey	79, 757
Wheel, Car	W. Wilmington	80, 323
Wheel, Car	A. Atwood	80, 380
Wheel, Car	W. Wilmington	82, 466
Wheel, Car	W. H. Noble	82, 978
Wheel, Car	G. Nathorp	83, 722
Wheel, Car	W. H. Childe	82, 086
Wheel, Car, and frog	W. J. Cochran	83, 603
Wheel, car, Annealing pit for annealing	G. G. Gobdell	79, 842
Wheel, car, Cast-iron	W. Wilmington	85, 046
Wheel, car, Chill for casting	W. W. Martin	73, 621
Wheel, car, Lubricating	W. G. Hamilton	85, 089
Wheel, car, Metal for and mode of manufacture	W. F. Morton	74, 117
Wheel, Carriage	T. Nevison, jr	74, 579
Wheel, Carriage	J. C. Sparks	75, 213
Wheel, Carriage	L. Adams	76, 033
Wheel, Carriage	S. Toomey	77, 680
Wheel, Carriage	A. B. Smith	78, 143
Wheel, Carriage	J. and T. Nevison	79, 495
Wheel, Carriage	G. W. Seymour	81, 828
Wheel, Carriage	C. Clark	81, 141
Wheel, Carriage	G. Kenney	81, 175
Wheel, Carriage	S. W. H. Ward	85, 259
Wheel, Carriage	J. T. Shimer	81, 545
Wheel, Carriage	W. H. De Valin	81, 758
Wheel, Carriage	J. B. Jones	82, 530
Wheel, Carriage	J. G. Buzzell	82, 690
Wheel, Carriage	J. Switzer	75, 314
Wheel, carriage, Securing the ends of felloes and spokes in.	J. B. Tarr	79, 611
Wheel, Cast iron	H. J. Crandall	83, 469
Wheel, Cog, for gearing	S. Mosher	83, 083
Wheel, Combined hub and box for	A. H. Smith	79, 403
Wheel, Compensating fly	E. Roberts	78, 896
Wheel, Cutting teeth of a	G. Feightner	76, 899
Wheel, fifth, Forming	G. R. Peckham	81, 678
Wheel for animal cage	J. Birkenhead	80, 384
Wheel for locomotive, Driving	W. Rowell	84, 305
Wheel gear, Molding	J. Letskus	80, 291
Wheel gear, Teeth for		

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Wheel, Hand spinning	S. W. Clark	74,047
Wheel, Harvester driving	W. N. Whiteley and T. Harding	79,171
Wheel hub, Expanding	A. I. Judge	73,342
Wheel, Making	H. Hoag	80,726
Wheel on axles, Setting	M. S. Wilcox	76,126
Wheel, Paddle	J. Burson	78,574
Wheel, Paddle	R. Cromelin	73,783
Wheel, Paddle	W. Kennedy	80,186
Wheel, Paddle	W. R. Manley	78,301
Wheel, Paddle	P. Emerson	82,395
Wheel, paddle, Feathering	R. Bell	78,415
Wheel, Plow	E. S. Rice	75,054
Wheel, Plow gauge	P. D. Beckwith	73,564
Wheel, Polishing balance	A. W. Stephenson	79,405
Wheel, Polishing balancing	H. K. Jones	79,475
Wheel, Polishing balancing	H. K. Jones	79,984
Wheel, Propelling	C. Seymour	85,248
Wheel, Spinning	C. L. Cole	84,261
Wheel, Spur	C. F. Woodruff	77,700
Wheel, Spur	C. F. Woodruff	82,054
Wheel stop, Steering	I. N. Bunker	79,947
Wheel tightener	E. Swain	73,668
Wheel to axle, Attaching	G. W. Sawin	77,220
Wheel, Toothed	J. Cowell	79,957
Wheel, Vehicle	H. Poth	81,943
Wheel, Vehicle	R. J. Bowman	83,245
Wheel, Wagon	P. R. Ridgely	76,249
Wheel, Wagon	P. Richardson, jr	76,524
Wheel, Wagon	S. Shirley	84,009
Wheel, Wagon and carriage	M. J. Dawkins	81,883
Wheel, Wagon and carriage	T. Salorgne	79,602
Wheel, wagon, Expansion	S. Belden and J. P. Ford	85,269
Wheel, Water	C. B. Wilson and A. S. Houghton	73,150
Wheel, Water	G. W. Wheeler and G. V. Allen	73,215
Wheel, Water	W. Snodgrass	73,400
Wheel, Water	J. M. Tanner	73,850
Wheel, Water	W. J. Hoffman	74,089
Wheel, Water	J. D. Trullinger	74,455
Wheel, Water	B. D. Compton	74,668
Wheel, Water	F. R. Ferris	74,903
Wheel, Water	I. M. Thompson	75,003
Wheel, Water	M. D. Grow	75,009
Wheel, Water	N. Rose and E. W. Wright	75,056
Wheel, Water	N. F. Burnham	75,121
Wheel, Water	J. O. Joyce	75,765
Wheel, Water	J. Clark	77,256
Wheel, Water	M. H. Matson	77,302
Wheel, Water	J. P. Collins	77,588
Wheel, Water	N. Dewey and G. W. Fosdick	77,595
Wheel, Water	A. J. Hall	77,609
Wheel, Water	T. Leffel	78,879
Wheel, Water	S. W. Marsh	79,585
Wheel, Water	J. M. Cook	79,731
Wheel, Water	D. W. Case	80,136
Wheel, Water	T. Hoyt and A. Denio	80,178
Wheel, Water	L. Lyons	80,359
Wheel, Water	I. S. Rowland	80,566
Wheel, Water	T. J. Kindleberger	80,635
Wheel, Water	J. Y. Lanfair	80,638
Wheel, Water	O. M. Pike	80,874
Wheel, Water	C. S. Corsett	81,254
Wheel, Water	F. Post	81,535
Wheel, Water	T. H. Fox	81,618
Wheel, Water	J. Hathaway	81,632
Wheel, Water	B. Sutherland	81,704
Wheel, Water	V. M. Baker	81,866
Wheel, Water	J. Hoyt	82,225
Wheel, Water	J. Tucker and A. B. Palmer	83,009
Wheel, Water	G. Cox	83,044
Wheel, Water	A. N. Wolf	83,579
Wheel, Water	M. J. Colburn	83,604
Wheel, Water	G. W. Wesley	84,035
Wheel, Water	J. H. Bodine and T. A. Hill	84,047
Wheel, Water	V. M. Baker	84,158
Wheel, Water	A. M. Maynard	84,203
Wheel, Water	T. W. Mahler	84,292
Wheel, Water	W. E. Tate	84,393
Wheel, Water	S. J. Thomas	84,394
Wheel, Water	W. Henpecke	85,094
Wheel, Water	N. Johnson	85,100
Wheel, Water	D. L. Bartlett	85,421

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Invention or Discovery.	Name of Patentee.	No.
Wheel, water, Casing for	J. D. Bryson	82,486
Wheel, water, Curb for	P. H. Wait	81,439
Wheel, water, Curb for	J. B. Dryson and J. H. Hartsuff	81,474
Wheel, water, Regulator for	H. D. Snow	79,870
Wheel, water, Scroll for	T. Rose	75,298
Wheel, water, Scroll for	J. L. Beer	79,804
Wheel, Wind	J. Hidden	74,687
Wheel, Wind	E. J. Hall	75,752
Wheel, Wind	J. T. Braum	78,921
Wheel, Wind	B. H. Goodale	82,307
Wheel, Wind	C. P. Chapman	83,928
Wheel, Wind	R. Waite	84,237
Whiffle tree	D. Austin	74,273
Whiffle tree	L. G. Binkley	74,287
Whiffle tree	D. W. Johnson	74,761
Whiffle tree	H. Webster	78,034
Whiffle tree	J. W. Kelley	80,551
Whiffle tree	S. Smith	75,803
Whiffle tree, Attaching trace to	L. Massey	85,462
Whiffle tree attachment	H. W. Austin	82,785
Whiffle tree, Equalizing	F. N. Corbin	78,064
Whiffle tree evener	J. B. Clark	79,205
Whiffle tree plate	L. Adams	83,234
Whiffle tree plate and king bolt for vehicles	M. T. Lanning	82,233
Whiffle tree swivel	T. R. Markellie	78,461
Whiffle tree, Tightening	D. A. Underhill	74,274
Whiffle tree tug	J. S. Cook	73,165
Whip	J. R. Gillett	77,477
Whip	D. Avery	79,299
Whip	R. V. Salada and G. A. Pearson	79,691
Whip, Carriage and riding	A. C. Rand	78,129
Whip, Covering	L. Hull	81,507
Whip from India-rubber	T. Flanders	82,302
Whip goad	L. Hull	82,840
Whip handle	P. F. Cooley	81,754
Whip hanger	A. Worden	77,233
Whip holder	A. C. Rand	79,776
Whip holder	A. W. Johnson	81,786
Whip holder	P. L. Slayton	73,131
Whip lashes, Braiding	C. R. Shelton	85,032
Whips, Repairing	C. Christain	80,389
Whip socket	L. J. Parsons	81,675
Whip socket	L. J. Parsons	83,203
Whip socket	J. Julien	83,287
Whip socket	J. W. Kelley	77,049
Whip socket, Attaching	B. N. Shelley	84,513
Whip socket, Fastening for	C. R. Shelton	74,435
Whip tip	H. Vaughn, T. Chadwell, E. H. Childress, and G. A. Webber.	79,926
Whisky, Manufacture of	P., J., and F. Slevin	77,328
Whistle	C. H. Parshall	73,639
Whistle, Air	B. Weinmann	84,239
Whistle, Steam	W. W. Chipman	75,861
Whiting and Paris white, Manufacture of	E. O. Sehastau	77,767
Wick, Lamp	W. A. Geusch	81,359
Wick, Lamp	E. J. Toof	75,318
Wick regulator	A. F. Ward and J. H Bean	84,324
Willow and cane stripper	L. L. Treman	73,059
Windlass	W. G. McIvor	73,360
Windlass	P. Evarts	74,524
Windlass	G. L. Woods	79,885
Windlass	N. B. Brown	81,470
Windlass	A. Day	82,295
Windlass	S. B. Minnick	84,434
Windlass and horse power	E. and B. Holmes	81,274
Windlass power, for making casks	G. M. McMahan	74,399
Window and door blind, and awning	J. Parkin and J. H. Smith	83,200
Window and door caps, Moulding sheet metal	S. W. Gear	78,251
Window and door catch	W. L. Barnes	80,266
Window and shutter fastening	J. Boyd	84,530
Window blind slat holder	T. A. Cambarsy	82,919
Window cross bar or sheet iron, Hollow	G. L. Miller	77,638
Window curtain fixture	O. E. H. Sturcken	76,116
Window frame	H. E. Hull and B. T. Merritt	85,097
Window frame	S. Meyers	85,394
Window frame	J. R. Wharry	75,612
Window netting	E. H. Tobey	78,844
Window, Raising and lowering	J. F. Ford	77,603
Window safety guard	J. Liness	75,556
Window sash	H. Gross	81,493
Window sash	O. R. Hight	83,632
Window sash frame		

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Invention or Discovery.	Name of Patentee.	No.
Window sash frame	J. H. Osgood, jr	76,096
Window sash fastener	R. Bates	74,192
Window sash fastener	I. Pierson	74,718
Window sash fastener	O. S. Garrettson	78,274
Window sash, Hanging	C. H. Palmer	74,413
Window sash, Hanging	T. Bullivant	75,853
Window sash holder	E. Andrews	76,876
Window sash lock	W. H. Betts	76,981
Window sash, Operating	F. Baumgartner	85,356
Window sash, Raising and lowering	J. D. Cramer	75,249
Window sash stop	A. R. Dyett	74,324
Window sash stop	F. Ball	76,582
Window sash stop	J. G. Jewell	79,835
Window sash supporter	P. Wentzel	75,226
Window screens, Frame for	C. F. Linscott	76,930
Window scrubber	B. F. Burgess, jr	80,330
Window shade	C. G. Matchett	75,037
Window shade	J. C. Govers	75,152
Window shade	T. E. Purdy	75,974
Window shade, Embossing	R. K. Slaughter and J. O. Hundt	74,159
Window shade fixture	W. O. C. Oaks	74,412
Window shade fixture	J. B. Moore	75,446
Window shade fixture	F. A. Seborn, D. R. Dunlap and J. F. C. Geist.	82,442
Window shutter	N. Poulson	82,031
Window shutter	F. Engel	83,053
Window shutter	F. A. Reiher	84,068
Window shutter	S. M. Sherman	84,913
Window shutter holder	C. R. Doane	76,170
Window shutter, Iron	B. A. Jenkins	84,124
Window shutter, Operating	T. J. Sloan	77,114
Window strip attachment	W. Ward	82,904
Window, Store	H. Chamberlain	77,716
Wine, Artificial	J. F. Subenmann	74,946
Wire cloth	T. Baggott	83,019
Wire cloth, Painting	C. H. Waters	84,520
Wire cloth, Printing figures on	C. H. Waters	84,521
Wire, Reducing and pointing	T. B. DeForest	75,131
Wire, telegraph, Stretching	G. M. Thompson	83,109
Womb supporter	J. Magoffin	84,128
Wood and coal dumping apparatus	E. R. Kerr	85,101
Wood and paper, Combination of	A. C. Spencer	79,511
Wood, Articles made of moulded	S. R. Henry	73,603
Wood, Bending	J. Hale	77,036
Wood, Bending	J. G. Lucas	78,983
Wood, Bending	L. Heywood	80,627
Wood, Bending	W. P. Letchworth	81,095
Wood, Bending	J. S. Hall	81,365
Wood, Bending	J. F. Melcher	82,237
Wood, Bending	J. Merrill	83,078
Wood bending machine	I. W. Bowers	73,493
Wood bending machine	D. F. Breed	73,496
Wood bending machine	M. V. Howe	73,720
Wood bending machine	J. Conner	74,688
Wood bending machine	E. Metz	79,489
Wood, Boring	G. Dryden	79,640
Wood boring machine	J. Null	75,785
Wood boring machine	J. B. Thorp	75,813
Wood boring machine	H. Flemming	75,891
Wood boring machine	A. Roff	76,103
Wood, Carving	H. H. Adams	78,910
Wood, Carving	H. H. Adams	81,722
Wood, Carving in	I. Hall	75,413
Wood cleaver	J. Van Winkle	78,344
Wood, Composition for filling the pores of, for varnishing.	J. Sheller	78,613
Wood, Composition for stuffing and filling	J. Sheller	82,254
Wood, Compound for preserving	B. A. Jeager	81,172
Wood, Cutting and splitting	A. W. Jackson	85,009
Wood, Distilling	G. Hemzelker	78,743
Wood, dye, Cutting	O. E. Pray	73,647
Wood, dye, Cutting and separating	G. W. Pearson and D. Coburn	74,586
Wood for covering walls, &c., Treating	A. R. Davis	74,056
Wood, Forming raised ornaments on	J. B. McDuff	75,358
Wood, kindling, Bundling	F. Myers	74,407
Wood, kindling, Bundling	J. Richardson	74,425
Wood, kindling, Bundling	L. Tilton	74,634
Wood, kindling, Splitting	W. M. Williams	81,123
Wood, metal, canvas, &c., Preserving	L. Harmyer	73,246
Wood of coffins, Preserving	J. M. Dufournet and L. Clemendot	77,806
Wood, pine, Distilling	D. F. Mellen	77,636

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Invention or Discovery.	Name of Patentee.	No.
Wood planing machine	J. J. Russ	75, 984
Wood planing machine	O. P. Turman	76, 740
Wood, Polishing	G. F. Hammer	76, 755
Wood, Polishing	H. O. Hooper	78, 093
Wood, Polishing	J. S. Loomis	78, 215
Wood, Polishing	S. Hagaman	81, 774
Wood, Preserving	J. Calkins	78, 514
Wood, Preserving	C. M. Crosson	79, 554
Wood, Preserving	E. L. Cowling	84, 733
Wood, Printing the grain of	J. Bougardt	84, 728
Wood, Purifying, seasoning, and preserving	T. W. Hensemann	76, 757
Wood sawhorse	W. Tripp	79, 614
Wood, Seasoning and preserving	S. Beer	73, 565
Wood splitting machine	L. Tilton	80, 241
Wood, Tamping and blasting machine for splitting	E. W. Walton	73, 555
Wood to paper pulp, Reducing	H. Max	84, 640
Wood, Treating	E. Spaulding	77, 777
Wooden rod, Connection for	A. Good, jr., and S. Strouse	81, 270
Wool, &c., Cleaning	L. S. Robbins	75, 980
Wool, Bundling	H. T. La Roy	83, 976
Wool, Burring	J. Nichols	83, 723
Wool, Burring	L. Primbach	77, 249
Wool, Compound for destroying burrs in	W. H. Jubb	73, 980
Wool, cotton, &c., Preparing	A. J. Dern	77, 011
Wool, Oiling	M. Mayall	73, 909
Wool, Oiling	T. A. Campbell	74, 300
Wool oiling machine	R. Dexter and H. Gledhill	85, 219
Wool, Picking	W. Wardsworth and E. H. Semple	84, 236
Wool, Pressing, packing, and weighing	A. W. Fox	82, 103
Wool, Removing burrs and other vegetable matter from	J. W. Boynton and J. A. McGaw	72, 966
Woolen and silk goods, Treating	G. Warren	77, 138
Worm for gears	D. Harrigan and J. Whitney	73, 093
Wort and similar liquids, Extracting	F. Jacoby	81, 785
Wrench	H. S. Wrightson	73, 561
Wrench	T. Pratt	74, 245
Wrench	H. S. Ross	75, 199
Wrench	J. J. Ellis	75, 399
Wrench	A. S. Petrie	76, 519
Wrench	E. P. Smead	76, 536
Wrench	I. Morse	77, 076
Wrench	T. A. Searle	77, 107
Wrench	J. B. Barnes	78, 176
Wrench	D. W. Colburn	78, 861
Wrench	W. Bradshaw and C. Lyon	79, 306
Wrench	J. Madden	79, 665
Wrench	G. C. Taft	80, 237
Wrench	E. W. Quincy	82, 033
Wrench	L. Chapman	82, 085
Wrench	J. Goodwin	82, 513
Wrench	E. J. Leyburn	82, 962
Wrench	E. P. Russell	82, 994
Wrench	E. T. Ford	83, 618
Wrench	F. L. Oliver	83, 654
Wrench	A. C. Greth	84, 111
Wrench	W. S. Smoot	84, 142
Wrench	W. Baxter	84, 605
Wrench	H. E. Anthony	85, 049
Wrench	J. Burt	85, 276
Wrench and screw-driver combined	E. J. Arnor	81, 970
Wrench, Carriage-wheel	L. B. Fisk	76, 900
Wrench, Hose coupling	A. F. Allen	76, 579
Wrench, Pipe	N. F. Loi	78, 299
Wrench, Pipe	R. H. Lecky	79, 361
Wrench, Socket	J. M. Seymour	74, 156
Wrench, Supplemental jaw for	R. Faries	79, 219
Wringer	A. M. Bailey	79, 096
Wringer and mop combined	J. A. Wright	79, 428
Wringer and mop-head	C. Gullman	81, 272
Wringer, Clothes	W. Q. Douglass	73, 584
Wringer, Clothes	E. H. Covel	74, 201
Wringer, Clothes	H. E. Smith	75, 066
Wringer, Clothes	G. L. Witsil	75, 231
Wringer, Clothes	R. B. Hugunin	75, 425
Wringer, Clothes	W. Mont Storm	75, 707
Wringer, Clothes	B. Read	76, 659
Wringer, Clothes	M. Pierce	77, 315
Wringer, Clothes	A. F. Lapham	77, 386
Wringer, Clothes	P. Cramer	80, 336
Wringer, Clothes	J. Webb	82, 259
Wringer, Clothes and mop	E. Youngs	80, 794
Wringer, Mop	J. H. Mears	74, 400
Wringer, Mop	J. H. Gridley	75, 679

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Invention or Discovery.	Name of Patentee.	No.
Wringer, Mop	M. M. Follett	76, 430
Wringer, Mop	B. B. Choate	77, 353
Wringer, Mop	J. M. May	77, 391
Wringer, Mop	W. R. Mills	77, 639
Wringer, Mop	H. B. Borke	77, 919
Wringer, Mop	A. J. Davis	78, 071
Wringer, Mop	D. J. Stone	78, 618
Wringer, Mop	J. Filkins	78, 657
Wringer, Mop	H. B. Willoughby	79, 795
Wringer, Mop	M. J. Barcalo	81, 583
Wringer, Mop	G. Wells and S. A. Haynes	84, 034
Wringer, Mop and brush	W. S. Simpson	77, 543
Wringing and washing machine	J. W. Kintz	76, 924
Wringing and washing machine	M. Leavitt and A. Foster	78, 975
Wringing and washing machine	R. K. Tomlinson	79, 033
Wringing and washing machine	G. P. Fuller	80, 540
Wringing and washing machine	R. K. Tomlinson	80, 784
Wringing and washing machine	E. Bartholomew	85, 355
Wringing machine	S. A. Bailey	77, 346
Wringing machine	S. F. Emerson	83, 480
Wristband, Shirt	S. H. Scribner	76, 829
Wrist pin, crank pin, &c., Turning	T. A. Goff	78, 733
Wrist pin, Fitting	G. Raft	79, 000
Wrist pin turner	P. Maltby	84, 954
Y.		
Yarn, Clouded	J. W. Bentley	76, 042
Yarn, jute, Preparing	J. Monach	77, 073
Yarn, Printing	J. Forest	75, 259
Yarn, Printing	W. McAllister	78, 222
Yarn, Printing	J. Foster	78, 273
Yarn, Printing	C. F. Austel	80, 895
Yarn, Printing	E. J. Stephens	82, 889
Yarn, Printing	E. J. Stephens	83, 103
Yarn and thread holder	F. F. Myrick	73, 825
Yarns and certain textile fabrics, Printing	J. Lightfoot	83, 182
Yarns and threads, Dyeing and bleaching	W. H. Elliott	76, 178
Yarns, bobbins, &c., Washing, bleaching, and cleansing	J. G. Marshall	82, 732
Yarn, Shearing	C. L. Lutton	74, 923
Yarn, Sizing	J. S. Thompson and K. Girvin	83, 890
Yeast, Acid powder as a substitute for	W. J. Walker	77, 685
Yoke	F. M. Shields	80, 674
Yoke for horses	E. Sanford	75, 299
Yoke, Horse	T. J. Barnes	82, 274
Yoke, Ox	H. Rawson	74, 592
Z.		
Zinc	A. G. Hunter	77, 618
Zinc, oxide of, from sulphuretted ores, Manufacture of	D. Lees	83, 643
Zinc, white oxide of, Manufacture of	S. Wetherill	73, 146
Zinc, white oxide of, Manufacture of	S. Wetherill	73, 147
Zincing iron	F. A. Kraft	79, 234

EXTENSIONS.

A.		
Anchor	S. H. Miller	9, 076
Apples, Paring	E. L. Pratt	10, 078
B.		
Barrels, Making	G. W. Livermore	10, 680
Bedstead, Sofa	C. F. Martine	11, 026
Boilers, steam, Fusible discs in	W. Burnett and J. Absterdam	10, 573
Boot and shoe soles, Trimming	C. B. Thompson	10, 239
Bottles, Corking	R. R. Gillett	11, 281
Brake, car, Iron	S. Morse	10, 004
Bridge	A. Fink	10, 887
Bristles, Cleaning and assorting	G. E. Burt	10, 498
Buckles	S. E. Booth	11, 892
C.		
Candles, Molding	W. Humiston	10, 730
Cane fiber for paper, &c., Treating	B. A. Lavender and K. Laws	10, 722
Caoutchouc and other vulcanizable goods, Treating	L. O. P. Meyer	10, 741

Alphabetical list of extensions—Continued.

Invention or Discovery.	Name of Patentee.	No.
Caoutchouc compounds, Vulcanizing	L. O. P. Meyer	10,339
Carding machine	H. N. Gambrill	12,469
Carding machine, Cleaning top cards of	H. Woodman	11,448
Carding machine, Stripping top plate for	W. B. Bates	10,298
Carding machine, Stripping top plates in	W. B. Bates	14,481
Card teeth, Sticking	G. W. Coats and J. Russell	11,434
Car, Railroad	B. J. La Moth	10,721
Car, Replacing, upon railroad tracks	L. B. Flanders	10,301
Car seats, railroad, Converting, into beds and lounges	H. B. Myer	11,699
Cartridge	H. Smith and D. B. Wesson	11,496
Clamp, Spring, for clothes lines	D. M. Smith	10,163
Clapboard joints	W. Baker	10,903
Clock, Alarm	J. S. Turner	9,123
Clock, Calendar	W. H. Akins and J. C. Burritt	11,711
Clock-case front (Design)	E. Ingraham	107
Cloth, Tentering	W. Shaw and P. G. Green	11,141
Coffee, Hulling and scouring	R. P. Walker	10,328
Corn sheller	T. D. Burrall. (Original number, 4,300; private number, 102.)	
Crommets, Metallic	T. Alexander	11,108
Cultivator	D. W. Shares	11,460
Cultivators	G. Lightenthaler	11,379
Cutters, Straw	W. Gale	10,592
Cutters, Straw	W. Gale	11,667
Cutters, straw, Feed-roller for	R. Sinclair, jr., and R. F. Maynard	10,238
Cylinder, Cotton-picker	J. Pitts	10,578
D.		
Daguerreotype cases	E. Mascher	9,611
Derrick	J. B. Holmes	10,544
E.		
Earth, Excavating	J. Taggart	11,242
Engine, Air	P. Shaw	10,868
Eyelet machine	H. L. Lipman	11,260
Eyelet machine	H. L. Lipman	11,380
F.		
Feathers and hair from insects, Cleansing	W. Wisdom	10,347
Fire-arms	H. Smith and D. B. Wesson	10,535
Fork, Hay-elevating	T. T. Jarrett	10,989
Furnace, Air-heating	C. R. Havey	10,447
Furnace, Glass	F. G. Schaum	10,830
Furnace or heat generator and radiator	G. Chilson	11,718
G.		
Generators, Divided tubular	F. Latta	11,025
Governor, Windmill	D. Halladay	11,629
Grate-bars	S. Van Syckel	11,879
Guide for sewing or binding	W. H. Sweet	10,344
H.		
Hair and feathers from insects, Cleansing	W. Wisdom	10,347
Hammer, Machine	D. Noyes	10,170
Hammer, steam, Valve arrangement for	J. Watts	10,297
Hammer, Trip	B. Hughes	10,923
Harvester	W. H. Seymour	10,707
Harvester, Clover and grass seed, No. 1	T. A. Steadman	10,967
Harvester, Clover and grass seed, No. 2	T. A. Steadman	10,967
Harvester, Clover and grass seed, No. 3	T. A. Steadman	10,967
Harvester, Grain	A. Palmer	10,459
Harvester, Grain and grass. (Reissued in six div., Nos. 721–726.)	P. Sylla and A. Adams	10,038
Heddles, Metallic	J. Senneff	8,662
Heddles, Weavers'	J. Senneff	11,335
Hinge	E. Brown	10,943
Hinge for inkstand covers	J. Nock	10,340
Hinge, Shutter	H. Lull	10,477
Hinge, shutter, Self-fastening	A. Nicholson	10,673
Horse power	J. Brayley and M. Pitts	11,232
Hot-water apparatus	J. Brown	10,982
Houses, Warming, by steam	S. J. Gold	11,747
Hydrocarbon vapor with air, Combining	O. P. Drake	9,967
I.		
India-rubber	C. Swan	11,608

Alphabetical list of extensions—Continued.

Invention or Discovery.	Name of Patentee.	No.
India-rubber and other gums, Vulcanizing	L. O. P. Meyer	10,586
India-rubber, Treating	E. D. S. Goodyear	10,689
Irregular forms, Turning or cutting	N. Gear	10,204
K.		
Kiln, malt, Floor-plate of	M. Stewart	10,370
L.		
Lanterns, Securing lamps to	W. Porter	11,849
Lathe chuck	R. H. Garigues	11,364
Leather banding for machinery	G. Miller	11,902
Leather-splitting machine	S. W. Flanders and J. A. Marden	11,604
Lock, hasp, Trunk	C. Lubriek	10,862
Lock, pad, Spring	H. Ritchie	9,963
Loom	E. W. Brown	11,352
Looms, Casting metallic eyes or mails of heddles	J. Senneff	11,589
Looms for weaving figured fabrics	G. Crompton	11,933
M.		
Marble and stone, Sawing	A. H. Tingley	11,347
Mills, Grinding	E. Harrison	11,040
Mills, Grinding surface in	J. Ross	11,811
Mortising machine	H. B. Smith	10,422
Molds for cement or earthern tubes	B. S. and C. M. Pierce	11,440
N.		
Nail, Screw	S. Pratt	10,171
P.		
Packing for stuffing boxes, &c	J. H. Tuck	13,145
Paper, Cutting	N. Gavit	10,889
Paper pulp, Making	A. Hay	17,387
Paper stock, Washing	H. W. Peaslee	12,283
Paper, Thick	S. G. Levis	10,519
Pavement, Wooden	G. T. Bigelow	11,491
Planing lumber out of wood	S. S. Gray	11,582
Planing machine, Press-bar for	C. M. B. Snow	11,984
Planters, Seed	C. A. Wakefield	11,395
Plow	J. Gibbs	11,523
Plow castings, Grinding	J. Gibbs	10,068
Pot, Coffee	J. Buell	10,752
Press, Hay	L. Dederick	11,043
Press, printing, Feeding sheet of paper to	H. Clark	10,824
Propeller, screw, Application of high pressure engine to	H. Whitaker	10,145
Propellers to the driving shaft, Attaching	G. L. Catheart	10,790
Pump, Centrifugal	W. O. Andrews	11,544
Purifying fatty bodies	R. A. Tilghman	11,766
R.		
Radiator and furnace or heat generator	G. Chilson	11,718
Rake, Harvester	C. B. Brown	11,249
Rattan, Splitting	A. M. Sawyer	10,614
Register, Hot-air	E. A. Tuttle	10,371
Roller for scarfing the edges of skelps for lap welded tubes.	J. McCarty	10,478
Roller for window curtains, Spring	B. Bray	11,638
Roofing, Metallic	H. Outcalt	11,292
Rope, Laying	S. and and J. A. Bazin	10,823
S.		
Sawing thin boards, &c	J. Meyers and R. G. Eunson	10,965
Screws in lathes, Cutting	J. Nason	10,383
Seats, car, railroad, Converting into beds and lounges	H. B. Myer	11,699
Sewing machine	S. J. Parker	10,757
Sewing machine	W. Butterfield	11,240
Sewing machine	G. A. Leighton	11,284
Sewing machine	C. Parham	11 971
Sewing machine	S. S. Turner	11,588
Shingle machine	H. H. Evarts	11,858
Shovel blades to handle straps, Uniting	L. S. White	10,244
Shovel handles	L. L. Botlett	10,631
Shovel handles, Making the heads of	L. L. Bartlett	11,288
Skelps for the manufacture of wrought-iron tubes	J. McCarty	10,747
Spike machine in weighted levers, Hanging of the gripping jaw of.	J. H. Sweet	10,645

Alphabetical list of extensions—Continued.

Invention or Discovery.	Name of Patentee.	No.
Spoke machines, Holding pieces in	M. Starks	11,084
Spring, Combined india-rubber and steel	E. T. Russell	10,280
Square, carpenters', Figuring	N. Millington, S. M. George, A. B. Gardner, and L. J. Mattison.	10,136
Square, carpenters', Graduating	N. Millington, L. J. Mattison, S. M., and D. J. George.	11,489
Steel direct from the ore, Making	G. H. Smith	11,338
Stone and marble, Sawing	A. H. Tingley	11,347
Stove plate (Design)	C. J. Wilson	1,349
Syringe, Enema	M. Mattison	10,742
T.		
Teeth, artificial, Plates for	M. Loomis	10,847
Trough, eaves, Suspending	C. D. Woodruff	10,606
Trunk-lock hasp	C. Liebrich	10,862
Tube, wrought-iron, Heating skelp for the manufacture of.	J. McCarty	10,747
Turning or cutting irregular forms	N. Gear	10,204
Turn-key	M. Jenks	10,312
Type, Machinery for composing	W. H. Mitchell	10,929
V.		
Valve cocks, Governing the action of (Nos. 1 and 2)	F. H. Bartholomew	11,113
Valve, cut-off, of steam engines, Operating	W. Wright	10,398
Valve, safety, of locomotive engine, Constructing	H. Waterman	10,243
Veneers, Cutting	C. Hart	10,739
Vessel for holding liquids	J. M. Colburn	11,819
Vise, Cast-iron	C. Parker	11,137
W.		
Washer for securing wheels to axles, Safety	W. Thornley	11,705

DESIGNS.

A.		
Advertising panel	G. Fay	3,157
Axle box for railway carriages	J. Corrigan	3,266
B.		
Badge	E. Moore	3,078
Badge	N. P. Chipman and W. T. Collins	3,298
Badge, Good Templar	W. H. Wilson	2,904
Base and figure	C. Müller	2,944
Base or stand	N. Müller	2,920
Basket, Card	G. L. Underwood	3,094
Bell, Sleigh	E. G. Cone	3,160
Bottle	L. Lacour	2,915
Bottle	T. Stearns	2,928
Bottle	F. Stearns	2,926
Bottle	M. Jackson	2,960
Bottle	A. Legrand Arne	3,077
Bottle	J. Hart	3,100
Bottle	M. B. Powell and C. W. Stutenroth	3,141
Bottle, Glass	N. N. Brown	2,930
Bottle, Glass	J. B. Bartless	3,213
Bottle, Perfume	H. Whitney	3,066
Bottle, Toilet	H. Whitney	3,067
Box	W. H. Savournin	3,016
Box, Match	R. L. Smith	3,171
Box, Snuff	F. C. Heiser	3,277
Box, Tobacco	G. M. Ball	2,961
Bracket	F. W. Brocksieper	3,020
Bracket	F. W. Brocksieper	3,021
Bracket	F. W. Brocksieper	3,022
Bracket	F. W. Brocksieper	3,023
Bracket	F. W. Brocksieper	3,024
Bracket	F. W. Brocksieper	3,025
Bracket	F. W. Brocksieper	3,026
Bracket	F. W. Brocksieper	3,027
Bracket	F. W. Brocksieper	3,028
Bracket	F. W. Brocksieper	3,029
Bracket	F. W. Brocksieper	3,030
Bracket	F. W. Brocksieper	3,031
Bracket	F. W. Brocksieper	3,032

Alphabetical list of designs—Continued.

Invention or Discovery.	Name of Patentee.	No.
Braid, bonnet, Imitation	S. A. Blake	3,019
Braid, bonnet, Imitation	S. A. Blake	3,097
Braid, bonnet, Imitation	S. A. Blake	3,041
Bridle front, &c	C. Fraser	3,069
Brush, horse, Ornamentation of	J. A. Bradley and F. N. Smith	3,002
Burial casket	W. G. Algeo	3,000
Burial casket	J. M. Hall	3,063
Burner, Vapor	P. Baumgrass	3,229
Bust of F. Douglass	D. Morgan	3,151
C.		
Can, Oil	C. J. Hauk	2,862
Car basket	W. G. Creamer	2,910
Card receiver	F. W. Broeksieper	3,033
Carpet or floor oil cloth pattern	C. T. Meyer	2,917
Carpet or floor oil cloth pattern	C. T. Meyer	2,918
Carpet pattern	L. G. Malkin	2,864
Carpet pattern	L. G. Malkin	2,865
Carpet pattern	H. G. Thompson	2,871
Carpet pattern	H. G. Thompson	2,872
Carpet pattern	H. G. Thompson	2,873
Carpet pattern	H. G. Thompson	2,874
Carpet pattern	H. G. Thompson	2,875
Carpet pattern	H. G. Thompson	2,876
Carpet pattern	H. G. Thompson	2,877
Carpet pattern	H. G. Thompson	2,878
Carpet pattern	H. G. Thompson	2,879
Carpet pattern	H. G. Thompson	2,880
Carpet pattern	H. G. Thompson	2,881
Carpet pattern	H. G. Thompson	2,882
Carpet pattern	H. G. Thompson	2,883
Carpet pattern	H. G. Thompson	2,884
Carpet pattern	H. G. Thompson	2,885
Carpet pattern	H. G. Thompson	2,886
Carpet pattern	H. G. Thompson	2,887
Carpet pattern	H. G. Thompson	2,888
Carpet pattern	H. G. Thompson	2,889
Carpet pattern	H. G. Thompson	2,890
Carpet pattern	H. G. Thompson	2,891
Carpet pattern	H. G. Thompson	2,892
Carpet pattern	H. G. Thompson	2,893
Carpet pattern	H. G. Thompson	2,894
Carpet pattern	H. G. Thompson	2,895
Carpet pattern	H. G. Thompson	2,896
Carpet pattern	H. G. Thompson	2,897
Carpet pattern	H. G. Thompson	2,898
Carpet pattern	H. G. Thompson	2,899
Carpet pattern	H. G. Thompson	2,900
Carpet pattern	H. G. Thompson	2,901
Carpet pattern	H. G. Thompson	2,902
Carpet pattern	H. G. Thompson	2,903
Carpet pattern	H. G. Thompson	2,908
Carpet pattern	H. G. Thompson	2,909
Carpet pattern	H. G. Thompson	3,172
Carpet pattern	H G. Thompson	3,173
Carpet pattern	H. G. Thompson	3,174
Carpet pattern	H. G. Thompson	3,175
Carpet pattern	H. G. Thompson	3,176
Carpet pattern	H. G. Thompson	3,177
Carpet pattern	H. G. Thompson	3,178
Carpet pattern	H. G. Thompson	3,179
Carpet pattern	H. G. Thompson	3,180
Carpet pattern	H. G. Thompson	3,181
Carpet pattern	H. G. Thompson	3,182
Carpet pattern	H. G. Thompson	3,183
Carpet pattern	H. Christie	3,187
Carpet pattern	I. Foster	3,200
Carpet pattern	I. Foster	3,201
Carpet pattern	I. Foster	3,220
Carpet pattern	I. Foster	3,241
Carpet pattern	I. Foster	3,242
Carpet pattern	I. Foster, jr	3,268
Carpet pattern	B. Crabtree, jr	3,267
Carpet pattern	B. Crabtree, jr	3,145
Carpet pattern	B. Crabtree, jr	3,146
Carpet pattern	B. Crabtree, jr	3,147
Carpet pattern	L. G. Malkin	3,165
Carpet pattern	L. G. Malkin	3,166
Carpet pattern	B. Crabtree	344
Carpet pattern	J. Allinson	3,143

Alphabetical list of inventions—Continued.

Invention or Discovery.	Name of Patentee.	No.
Carpet pattern	R. R. Campbell	3,104
Carpet pattern	E. J. Ney	3,278
Carpet pattern	E. J. Ney	3,279
Carpet pattern	E. J. Ney	3,280
Carpet pattern	E. J. Ney	3,281
Carpet pattern	E. J. Ney	3,282
Carpet pattern	E. J. Ney	3,283
Carpet pattern	E. J. Ney	3,284
Carpet pattern	E. J. Ney	3,285
Carpet pattern	E. J. Ney	3,286
Carpet pattern	E. J. Ney	3,287
Carpet pattern	E. J. Ney	3,288
Carpet pattern	E. J. Ney	3,289
Carpet pattern	E. J. Ney	3,290
Carpet pattern	E. J. Ney	3,291
Carpet pattern	E. J. Ney	2,922
Carpet pattern	E. J. Ney	2,923
Carpet pattern	E. J. Ney	2,924
Carpet pattern	E. J. Ney	2,925
Carpet pattern	E. J. Ney	2,926
Carpet pattern	E. J. Ney	3,119
Carpet pattern	E. J. Ney	3,120
Carpet pattern	E. J. Ney	3,121
Carpet pattern	E. J. Ney	3,122
Carpet pattern	E. J. Ney	3,123
Center-piece	H. Berger	3,069
Center-piece	H. Berger	3,095
Center-piece	H. Berger	3,096
Chair	L. Heywood	2,858
Chair seat bow	H. C. Knowlton	3,263
Churn body	A. D. Smith	3,018
Clock case	C. Müller	2,943
Clock case	N. Pomeroy	3,006
Clock case	G. B. Owen	3,042
Clock case	G. B. Owen	3,064
Clock case	P. Converse	3,098
Clock case	N. Müller	3,138
Clock case	S. C. Spring	3,211
Clock case	K. Müller	3,212
Clock case	G. B. Owen	3,224
Clock case	P. Converse	3,238
Clock case	C. Müller	3,249
Clock case	S. C. Spring	3,253
Clock case	N. Müller	3,274
Clock case front	I. Ingraham	2,969
Clock case front	C. Müller	2,976
Clock case front	C. B. Owen	2,977
Clock case front	G. B. Owen	2,978
Clock case sash	E. N. Welch	2,959
Clock front	A. Wilder and C. W. Stout	2,940
Clock front	I. Ingraham	2,968
Coffee urn	G. Jones	3,076
Coffin	W. G. Algeo	2,860
Coffin handle	C. L. L. Nieberg	3,047
Collars and cuffs, Ladies'	R. McDonald	3,247
Collars, Shirt	C. K. Brown	3,115
Collars, Shirt	R. S. Jennings	3,133
Corset	L. L. Chapman	3,186
Cuffs and collars, Ladies'	R. McDonald	3,247
Cuffs, Shirt	R. S. Jennings	3,134
Cuspador	J. P. Connolly	2,942
Cuspador	S. and J. Roebuck	3,252
D.		
Desk and seat, school, Frame of a	H. M. Sherwood	3,057
Desk, School	W. P. Uhlinger	3,297
Desk, school, Standards of a	C. W. Sherwood	3,262
Disk, Scale	J. W. Kissam	3,246
Drawer pull	J. E. Parker	3,140
E.		
Emblem, Army and navy	P. Reynolds	3,103
Envelope, Scroll to be applied to	M. S. Chapman	3,082
F.		
Fabric, Knitted	J. P. Delahenty	3,062
Fabric, Knitted	T. Dolan	3,132
Fabric, Pattern for knitted	J. D. McKee	3,191

Alphabetical list of designs—Continued.

Invention or Discovery.	Name of Patentee.	No.
Fabric, Pattern for knitted	J. D. McKee	3,192
Fabric, Stocking	T. Dolan	3,105
Fabric, Stocking	T. Dolan	3,106
Fabric, Stocking	T. Dolan	3,107
Figure	C. Müller and J. Deacon	3,040
Figure	C. Müller and J. Deacon	3,041
Figure	C. Müller	3,109
Figure	C. Müller	3,296
Figure and base	C. Müller	2,944
Figures, Group of	J. Rogers	2,983
Floor cloth pattern	C. T. Myer	2,974
Floor cloth pattern	C. T. Myer	2,975
Floor cloth pattern	H. Christie	3,061
Floor cloth pattern	C. T. Meyer	3,089
Floor cloth pattern	V. Meyer	3,209
Floor cloth pattern	V. Meyer	3,210
Floor cloth pattern	C. T. Meyer	3,248
Floor cloth pattern	C. T. Meyer	3,293
Floor cloth pattern	C. T. Meyer	3,294
Floor cloth pattern	C. T. Meyer	3,295
Fork and knife handle	J. Hill	3,148
Fork and spoon handle	H. H. Hayden	3,292
Fork and spoon handle	H. H. Hayden	3,300
Fork and spoon handle	A. Hubbard	3,053
Fork or knife handle called "Elizabethian"	G. Wilkinson	3,112
Fork or knife handle called "Ivy"	G. Wilkinson	3,111
Fork or spoon handle	J. Polhamus	2,954
Fork or spoon handle	G. Wilkinson	2,993
Fork or spoon handle	G. Wilkinson	2,996
Fork or spoon handle	G. Wilkinson	2,994
Fork or spoon handle	G. Wilkinson	2,995
Fork or spoon handle	G. Wilkinson	2,997
Fork or spoon handle	G. Wilkinson	2,998
Fork or spoon handle	G. Wilkinson	2,999
Fork or spoon handle	A. Couradt	3,084
Fork or spoon handle	J. Polhamus	2,954
Fork or spoon handle	A. Couradt	3,085
Fork or spoon handle called "Bridal"	G. Wilkinson	3,110
Fork or spoon handle	C. F. Richers	3,275
Fork or spoon handle	G. Wilkinson	3,276
Fork or spoon handle	H. G. Reed	3,302
Fork, Table	J. W. Gardner	3,202
Fountain, Soda water	C. W. Anderson	3,072
Frame	W. J. Lusk	2,863
Frame, Picture	G. L. Underwood	3,125
Frame, Picture	G. L. Underwood	3,126
Frame, Picture	G. L. Underwood	3,127
Furnace door	A. H. Mershon	2,973
G.		
Gasolier	J. F. Travis	3,124
Gasolier, Branch of a	J. Travis	3,256
Gasolier, Branches of a	J. Frederick	3,235
Glass, Coach lamp	J. H. Downs	3,239
Glassware, Feet and stems of	T. Cutter	3,154
Glassware, Ornamentation of	H. C. Fry	3,221
Goblet	J. S. Palmer	3,152
H.		
Harness trimmings	C. M. and J. H. Theberath	3,255
Hinge, Blind	H. N. Baker	3,228
I.		
Inkstand, sponge cup, and pen rack	T. S. Hudson	2,937
Ink tray	G. L. Underwood	3,128
Ink tray	G. L. Underwood	3,129
J.		
Jar, Fruit	F. Houghton	2,936
Jar, Fruit	A. French	3,243
K.		
Key socket	L. Hillebrand	2,966
Key tag	A. Staffor	3,303
Knife and fork handle	J. Hill	3,148
Knife handle	R. H. Fisher	3,108

Alphabetical list of designs—Continued.

Invention or Discovery.	Name of Patentee.	No.
Knife or fork handle called "Elizabethan"	G. Wilkinson	3,112
Knife or fork handle called "Ivy"	G. Wilkinson	3,111
L.		
Label	M. J. Hays	2,914
Label	S. Crump	3,073
Label, Axle	J. H. Mann	2,948
Lamp, Coach	J. H, Downs	3,240
Lamp foot	H. Whitney	3,068
Lamp post, Street	R. H. Smith	3,065
Lamp shade	C. Binzer	2,951
Lantern	J. Alexander	2,905
Latch, Cupboard	S. D. Arnold	3,049
Letters, Alphabet of	W. H. Page	2,979
Letters, Alphabet of	W. H. Page	2,980
Level, Spirit	L. L. Davis	3,195
M.		
Machine frame or housing	F. D. Pastorius	3,301
Masonic hall	J. McArthur, jr.	2,866
Match safe	F. W. Brocksieper	3,034
Medallion	G. Erkson	3,035
Medallion head of General Grant	W. M. Marshall	3,012
Mortising machine, Base of a	D. L. Gibbs	3,189
Moulding	W. Baker	2,906
Moulding, Show case	P. Sum	2,987
Muff	F. Booss	2,907
O.		
Oil cloth, Floor	C. F. Meyer	3,161
Oil cloth, Floor	C. T. Meyer	3,162
Oil cloth, Floor	C. T. Meyer	3,163
Oil cloth pattern	J. Robley	2,957
Oil cloth pattern, Floor	A. E. Powers	2,938
Oil cloth pattern, Floor	C. T. Meyer	2,916
Oil cloth pattern, Floor	A. E. Powers	2,939
Oil cloth pattern, Floor	J. Robley	2,955
Oil cloth pattern, Floor	J. Robley	2,956
Oil cloth pattern, Floor	J. T. Webster	2,859
Oil cloth pattern, Floor	C. T. Meyer	3,036
Oil cloth pattern, Floor	C. T. Meyer	3,037
Oil cloth pattern, Floor	C. T. Meyer	3,038
Oil cloth pattern, Floor	C. T. Meyer	3,039
Oil cloth pattern, Floor	C. T. Meyer	3,088
Oil cloth pattern, Floor	C. T. Meyer	3,090
Oil cloth pattern, Floor	C. T. Meyer	3,091
Oil cloth pattern, Floor	C. T. Meyer	3,092
Oil cloth pattern, Floor	C. T. Meyer	3,093
Oil cloth pattern, Floor	R. Haskin	3,161
Oil cloth pattern, Floor	H. Christie	3,215
Oil cloth pattern, Floor	H. Christie	3,216
Oil cloth, Stair	E. Dwight	3,217
Organ case, Cabinet	F. Doorschuek	3,291
Organ case, Reed	J. Sehatz	2,949
P.		
Paper, &c., Embossed	E. F. Price and E. A. Murphy	3,142
Perambulator body	C. Lyne	3,159
Pipe, Tobacco	F. W. Burrows	3,214
Pistol barrel	E. Goddard	2,912
Pitcher	H. C. Wileox	2,946
Printers' border	W. H. Page	2,932
Printers' border	W. H. Page	2,981
Printers' border	W. H. Page	2,982
Printers' flourishes	C. Reuter	3,250
Pump, Steam boiler	L. Eggleston	3,259
R.		
Rack	H. P. Conant	2,935
Range, Plates for portable	J. Martino, J. Beesly, and J. Currie	3,190
S.		
Sad iron	A. Niffeler	3,005
Scarf pin	C. A. Flesehe and J. Perpente	2,861
Scarf ring	R. S. Jennings	3,149

Alphabetical list of designs—Continued.

Invention or Discovery.	Name of Patentee.	No.
Scarf ring	R. S. Jennings	3,150
Scarf ring, Medallion	R. S. Jennings	3,086
Scarf ring, Medallion	R. S. Jennings	3,087
Screen	C. L. Hubbard	3,075
Seat and desk, school, Frame of a	H. M. Sherwood	3,057
Sewing machine frame	H. J. Hancock	3,158
Shovel and tongs stand	C. Zeuner	3,226
Show case	J. H. Frazer	3,299
Show-case frame	F. A. Howell	3,074
Skate runner	A. C. Tallman	2,933
Skirt, Hoop	C. S. Chaffee and C. H. Vandercook	2,947
Skirt, Lower portion of a gored	T. Dolan	3,196
Sleigh, Exterior of the body of a	C. P. Kimball	2,952
Sponge cup, pen rack, and inkstand	T. S. Hudson	2,937
Spoon and fork handle	A. Hubbard	3,053
Spoon and fork handle	H. H. Hayden	3,292
Spoon and fork handle	H. H. Hayden	3,300
Spoon handle	B. D. Deiderhase	3,194
Spoon or fork handle	L. S. White	2,992
Spoon or fork handle	G. Wilkinson	2,993
Spoon or fork handle	G. Wilkinson	2,994
Spoon or fork handle	G. Wilkinson	2,995
Spoon or fork handle	G. Wilkinson	2,996
Spoon or fork handle	G. Wilkinson	2,997
Spoon or fork handle	G. Wilkinson	2,998
Spoon or fork handle	G. Wilkinson	2,999
Spoon or fork handle	A. Conradt	3,084
Spoon or fork handle	A. Conradt	3,085
Spoon or fork handle	G. Wilkinson	3,276
Spoon or fork handle	C. F. Richers	3,275
Spoon or fork handle	H. G. Reed	3,302
Spoon or fork handle, called "Bridal"	G. Wilkinson	3,110
Stake to mark graves	G. Arnd	3,009
Stand or base	N. Müller	2,920
Stand, Shovel and tongs	C. Zeuner	3,226
Statuary, Group of	J. Rogers	3,169
Statuette	C. Müller	2,919
Statuette of W. E. Channing	T. R. Gould	3,011
Stocking fabric pattern	T. Dolan	3,197
Stocking fabric pattern	T. Dolan	3,198
Stocking fabric pattern	T. Dolan	3,199
Stove	W. Hailes	2,913
Stove	F. Leibrandt and W. L. McDowell	2,970
Stove	I. J. Baxter	3,001
Stove	W. N. Moore	3,137
Stove	W. Hailes	3,203
Stove	W. Hailes	3,205
Stove	W. Hailes	3,204
Stove	W. Hailes	3,206
Stove	C. Harris and P. W. Zoiner	3,227
Stove, Base of a	T. J. Hodgkins	3,164
Stove, Box	A. Snyder	3,043
Stove, Cooking	H. Eaton	3,155
Stove, Cook's	J. Martino, J. Beesley, and J. Currie	2,953
Stove, Cook's	J. Martino, J. Beesley, and J. Currie	2,971
Stove, Cook's	G. Smith and H. Brown	2,985
Stove, Cook's	G. Smith and H. Brown	2,986
Stove, Cook's	N. S. Vedder and F. Ritchie	2,990
Stove, Cook's	J. Steffe	3,153
Stove, Cook's	J. G. Anderson	3,055
Stove, Cook's	T. S. Mitchell	3,056
Stove, Cook's	J. A. Price	3,079
Stove, Cook's	W. C. Davis	3,116
Stove, Cook's	W. C. Davis	3,117
Stove, Cook's	C. S. Lord and W. N. Walker	3,223
Stove, cook's, Door and leg of a	N. S. Vedder	2,989
Stove, cook's, Door of a	J. Martino, J. Beesley, and J. Currie	3,046
Stove, cook's, Door of a	C. J. Woolson	3,080
Stove, cook's, Plates of a	D. S. Colby and R. Scorer	3,050
Stove, cook's, Plates of a	G. Smith and H. Brown	3,058
Stove, cook's, Plates of a	J. D. Flausburgh	3,188
Stove, cook's, Plates of a	L. W. Harwood	3,222
Stove, cook's, Plates of a	J. R. Rose and E. L. Calely	3,193
Stove door	D. S. Colby and R. Scorer	2,963
Stove door	J. R. Rose and E. L. Calely	2,984
Stove door	T. Walker	2,991
Stove, Fire cylinder cap for	J. R. Rose and E. L. Calely	3,015
Stove, gas, Lubricating ring for	G. Smith and H. Brown	3,059
Stove, hop, Plates of a	N. S. Vedder	2,958
Stove, Leg and door of a	D. S. Colby and R. Scorer	2,964
Stove, Ornaments of a	J. Dwyer	3,218

Alphabetical list of designs—Continued.

Invention or Discovery.	Name of Patentee.	No.
Stove, Ornaments of a	J. Spear	3,234
Stove, Parlor	J. B. Geyser	3,099
Stove plate	N. S. Vedder	2,988
Stove plate, Parlor	D. S. Colby and R. Scorer	3,051
Stove, Tinman's	D. W. Pepper	3,014
Stove urn	D. S. Colby and R. Scorer	2,965
Sun-dial, Pocket	D. W. Wright	3,185
T.		
Table leg	W. Tefts	3,004
Tablet, Ivory	W. C. Comstock	3,131
Top	J. Pusey	2,927
Top, Frame of a gyroscopic	C. P. Arnold	3,114
Toy	R. S. Jennings	3,135
Toy gun	S. H. Brown and C. H. Willets	3,081
Trade mark	T. G. Meier	2,867
Trade mark	T. G. Meier	2,868
Trade mark	C. J. Miller	2,869
Trade mark	C. Gautier	2,911
Trade mark	J. H. Armbruster	2,929
Trade mark	W. C. Walker	2,934
Trade mark	S. and S. Hainemann and D. Steiner	2,931
Trade mark	H. Parker and J. C. Sleeper	2,945
Trade mark	J. Schenck	2,950
Trade mark	J. H. Hoagland	2,967
Trade mark	S. S. Marvin	2,972
Trade mark	D. D. Mallory	3,102
Trade mark	J. H. Garnhart	3,003
Trade mark	G. L. Witsil	3,007
Trade mark	J. Fahnestock	3,010
Trade mark	C. Schultz and T. Walker	3,017
Trade mark	J. S. Walters	3,044
Trade mark	D. F. Stevens	3,048
Trade mark	G. P. Farmer	3,052
Trade mark	G. W. Waitt	3,054
Trade mark	G. S. McKenzie	3,071
Trade mark	S. M. Clark	3,083
Trade mark	H. Albers	3,113
Trade mark	H. M. Myers	3,118
Trade mark	J. M. Mumford	3,139
Trade mark	B. L. Fahnestock	3,156
Trade mark	W. H. and E. Winslow	3,184
Trade mark	F. A. Hasenclever	3,207
Trade mark	J. H. Jessop	3,308
Trade mark	E. Faber	3,219
Trade mark	A. Perney	3,222
Trade mark	W. I. Peake	3,225
Trade mark	A. Edwards	3,233
Trade mark	E. A. Robbins	3,251
Trade mark	D. W. Stover	3,254
Trade mark	E. H. Turner	2,257
Trade mark	M. Werk	3,258
Trade mark	D. Foerster	3,260
Trade mark	D. Foerster	3,261
Trade mark	B. B. Wilcox	8,264
Trade mark	L. L. Coleman	3,265
Trade mark label	J. M. Taft	2,870
Trunks, &c., Ornamenting	H. Wolf	3,008
Twine holder	E. M. Judd and R. L. Smith	3,136
Type, Printers'	A. Little	3,070
Type, Printers'	D. Bruce	3,236
Type, Printers'	H. Ilenburg	3,070
Type, Printers'	H. Ilenburg	3,271
Type, Printers'	P. A. Jordan	3,272
Type, Printers'	A. Little	3,273
Type, Printers' ornamental	J. Herriet	3,244
Type, Printers' ornamented	J. Herriet	3,445
Type, Printers' ray-shaded	D. Wolf	3,237
Type, Printing	E. C. Ruthven	3,170
V.		
Valve case, Steam	J. Johnson	3,045
Vise	Q. S. Backus	3,130
W.		
Watch, Top plate for a	E. Paulus	3,167
Watch, Top plate for a	E. Paulus	3,168
Water closet, Container of	W. S. Carr	2,962

Alphabetical list of designs—Continued.

Invention or Discovery.	Name of Patentee.	No.
Water closet receiver	W. Smith	3,060
Weather glass	C. F. Martino	3,013
Well curb	D. Benson	3,230
Well curb	D. Benson	3,231

REISSUES.

A.		
Acid for use in the preparation of soda powders, farinaceous food, &c., Pulverulent.	The Rumford Chemical Works	2,979
Acid, Carburetting	E. L. Mix and the Monumental Automatic Gas Machine Company.	3,225
Acid or gas, Carburetting	J. A. Bassett	3,124
Anchor	F. Wittram	3,137
Axle	T. Bakewell and J. Lippincott	3,083
Axle box, Railroad car	T. B. Stewart	3,243
B.		
Basket	L. Marble and T. North	2,892
Basket or box, Fruit	J. W. Hayes	2,894
Bed bottom, Spring	Tucker Manufacturing Company	3,081
Bedstead	W. Heath	2,950
Beehive	J. M. Beebe	2,984
Bell attachment	A. E. Taylor	3,234
Belt fastening	J. A. Green and H. A. Tweed	3,064
Belt fastening	J. A. Green and H. A. Tweed	3,065
Belt lacing	H. C. Babcock	3,236
Bolt or nut, Cutting threads on	Schweitzer Patent Bolt Company	2,889
Blower, Cross head for	P. H. and F. M. Roots	2,900
Boats, Construction of	A. Van Order	2,873
Boiler	E. Whitely	3,058
Book cover protector	C. L. Alexander and V. A. Osburn	2,886
Boot and shoe, Metallic shank for	E. Heaton	2,935
Boot and shoe tip	The American Shoe Tip Company	3,070
Boring machine	A. Wyckoff	3,133
Bottles, Nursing	M. S. Burr	2,831
Boxes, &c., Material for the manufacture of	M. Fitzgibbons	3,230
Brace, Bit	G. Stackpole and J. N. Winslow	3,005
Brick machine	H. Dueberg	2,985
Bridge, Suspension	C. Bender	3,073
Bristles, Cleaning and assorting	N. H. Spofford	3,220
Bristles, Cleaning and assorting	N. H. Spofford	3,221
Brush	J. L. Whiting	3,235
Brush, Dusting	J. O. Adams and A. Warfield	2,903
Bucket, foot tub, &c	J. W. Kendall	3,053
Buckle	The West Haven Buckle Company	2,955
Buckle	T. G. Bailey	3,072
Buckle, Polishing	E. Andrews	2,927
Burner, gas, Lighting street	E. P. Russell and P. Tremain	3,195
Burner, Hydrocarbon	J. Lee	3,146
Burner, Lamp	W. and C. Painter	2,854
Burner, Lamp	R. H. and H. W. Childs	2,901
Burner, Lamp	J. Downing	3,158
C.		
Can, Fruit	W. W. Lyman	2,988
Can, preserve, Sealing	S. B. Rawley	3,115
Can, Tin	C. Barry	3,143
Cans, Opening sealed and other	E. H. Bourne, E. Damon, jr., and H. M. Knowles.	2,851
Cane fibre from cane	S. C. Long, F. Schumaker, and J. Warner.	2,983
Cannon, Breech loading	C. F. Brown	3,211
Carpet linings, Sewing	J. F. Fales	3,247
Carriage, Check brace for	I. D. Johnson	3,067
Carriage, Children's	F. Boylston	3,224
Carriage, Children's	A. Christian	3,074
Car, Sleeping	J. M. Pullman	2,862
Car, Sleeping	J. Swan	3,160
Car starting apparatus	J. Steger	2,830
Cement for fixing door knobs	P. Kennedy	2,916
Cement from slags, Preparing	J. J. Bodmer	2,933
Chair, Folding	B. J. Harrison and J. Condier	2,891
Chair legs, Tip for the feet of	E. S. Winchester	3,187
Chemicals, paints, &c., Rubbing and mixing	R. Poole	3,233

Alphabetical list of reissues—Continued.

Invention or Discovery.	Name of Patentee.	No.
Chimney, Lamp	M. Sweeney	3,149
Churn	J. B. Raynor	3,012
Cigar machine	G. Moebs	3,011
Cigar, Making the body of	G. Moebs	2,989
Cigar, Putting on the wrapper of	G. Moebs	2,990
Clamp, book, Portable	A. J. Manchester	3,141
Collars, paper, Manufacture of	G. W. Ray	3,132
Compound for treating hides and skins	L. F. Robertson	2,947
Cosmetic	J. M. Wilson	3,166
Cotton gin	H. Valentine	3,013
Coupling	A. Broadnax and R. B. Gray	3,062
Coupling, Carriage circle	G. G. Larkin	3,105
Crank-pin box	T. Welch	2,857
Cultivator	J. S. and I. Rowell	2,909
Cultivator teeth	D. C. Matterson and T. P. Williamson	3,097
Cutter, Straw	F. B. Hunt	2,837
Cutter, Straw	F. B. Hunt	2,838
Cutter, Wood molding	J. Whitworth and W. H. Hawkins	3,040
D.		
Desk and seat, School, (Div. A)	C. W. Sherwood	2,865
Desk and seat, School, (Div. B)	C. W. Sherwood	2,866
Ditching machine	D. Whistler	2,923
Door plate, Index	E. M. Montague	2,860
Dredging machine	J. H. McLean	2,853
Dredging machine	E. B. Bishop	3,028
Drill bit	H. T. Love	3,142
Drill, grain, Lifting apparatus for	C. E. Patric	3,172
Dryers	F. H. Smith	3,017
Drying apparatus, Steam	W. Ryner and H. Hopwell	2,978
Dye, Aniline	B. Block	3,103
E.		
Ears for attaching handles to pails and like vessels, Metallic.	T. Evans	3,063
Elevator, Grain	L. S. Chichester, G. H. Nichols, and C. W. Mills.	3,206
Elevator, Water, (Div. A)	W. B. Wadworth	3,056
Elevator, Water, (Div. B)	W. B. Wadworth	3,057
Engine, Fire	The Gould Machine Company	2,954
Engine, rotary, Steam	Metropolitan Rotary Engine Company.	3,131
Eyeglass	C. Parker	2,908
Eyeleting machine	W. N. Ely	2,875
Eyeleting machine	W. N. Ely	2,876
Eyeleting machine	W. N. Ely	2,877
Eyeleting machine	W. N. Ely	2,878
Eyeleting machine	W. N. Ely	2,879
Eyeleting machine	W. N. Ely	2,880
Eyeleting machine	W. N. Ely	2,959
Eyeleting machine	W. N. Ely	2,960
Eyeleting machine	W. N. Ely	2,961
Eyeleting machine	W. N. Ely	2,962
F.		
Fabric, Corded elastic	W. Smith	3,014
Fagot for railroad rail	T. E. Purchase	2,902
Faucet, (Div. B)	A. Fuller	3,135
Fence post	R. Ramsey	2,945
Fertilizers, Treating mineral phosphate for the manufacture of.	J. Commins	3,008
File blanks, fliers, &c., Rolling and shaping	D. Blake	2,904
File, Paper	H. E. Woodbury	2,930
Filter, Sirup	M. Washburn & Co	3,056
Fire annihilator	C. T. Jerome	2,839
Fire-arms, Breech-loading, (Div. A)	Berdan Fire-arms Manufacturing Co	3,117
Fire-arms, Breech-loading, (Div. B)	Berdan Fire-arms Manufacturing Co	3,118
Fire-arms, Breech-loading	F. E. Boyd and P. S. Tyler	3,245
Fire-arms, Magazine	Winchester Arms Company	3,227
Fireplace	W. D. Guseman	2,924
Flask, Vulcanizing	A. B. Woodard	2,938
Fluids under gaseous pressure, Bottling	P. Schmitt	3,175
Fluted puffing	G. E. King	3,001
Fluting machine	G. E. King	3,000
Fork, hay, Horse	M. J. Laird	2,850
Fork, hay, Horse	S. and D. A. Harris	2,937
Frame, Picture card	G. P. Bergen	3,125
Fruit box or basket	J. W. Hayes	2,894
Fruit gatherer	V. H. Lyon	3,060

Alphabetical list of reissues—Continued.

Invention or Discovery.	Name of Patentee.	No.
Fruits, meats, &c., Preserving	W., S. H., and D. W. Davis	3,119
Furnace, Blast	G. Asmus	3,204
Furnace, Boiler	J. T. Hancock	2,835
Furnace, boiler, Steam	H. McClure and J. Ellis	2,975
Furnace for roasting ores	C. Mellinger	3,107
Furnace for treating iron, &c., (Div. B)	J. Green, T. H. and H. Willson, C. R. Adams, and S. Munn.	3,178
Furnace, Smelting and melting	J. Green, T. H. and H. Willson, C. R. Adams, and S. Munn.	3,177
G.		
Galley, Printers'	R. Hoe & Co	3,066
Gas apparatus	C. Deanes	3,042
Gas or air, Carburetting	J. A. Bassett	3,124
Gearing	The Metropolitan Washing Machine Company.	2,920
Generator, Steam	H. L. Stuart	3,102
Glass ware with handles, Manufacture of	J. S. and T. B. Atterbury	3,116
Glue	G. Guenther	2,971
Glue, Article of	G. Guenther	2,972
Glue, Drying	G. Guenther	3,129
Glue, Drying	G. Guenther	3,130
Grain and grass cutting machine, (Div. A)	L. R. Ketchum	3,033
Grain and grass cutting machine, (Div. B)	L. R. Ketchum	3,034
Grain, Weighing and bagging	H. M. Fish	2,870
Grass and grain cutting machine, (Div. A)	L. R. Ketchum	3,033
Grass and grain cutting machine, (Div. B)	L. R. Ketchum	3,034
Grate bar	S. Vansyckel	2,980
Grater, Nutmeg	J. L. and D. H. Coles	3,134
Gunpowder	P. A. Oliver	3,209
H.		
Harness, Securing buckles to rings to	R. B. Anderson	3,216
Harrow, planter, and cultivator combined	P. P. Runyon, J. Letson, G. J. Janeway and T. E. McDonald.	3,173
Harvester	J. A. Dodge	2,905
Harvester	J. V. A. Wemple	2,931
Harvester	W. H. Stevenson	3,093
Harvester	M. Vance and Company	3,006
Harvester	J. F. Seiberling	3,049
Harvester	J. G. Perry	3,055
Harvester	W. Gage and A. Whiteley	3,128
Harvester	A. Rank	3,155
Harvester	W. Gage and A. Whiteley	3,189
Harvester, Combined rake and reel for	S. Johnson	2,951
Harvester, Crank pin and box for	T. Welch	2,868
Harvester cutter	J. G. Perry	3,163
Harvester, Grass	J. Haines	2,986
Harvester, Grass	J. Haines	2,997
Harvester, Grass	J. Haines	2,998
Harvester pitmen	J. W. Doty	3,084
Harvesting machine, (Div. A)	W. A. Kirby	3,198
Harvesting machine, (Div. B)	W. A. Kirby	3,199
Hat bodies	E. Wells	2,942
Hat bodies, Stretching	Eickemeyer Hat Blocking Machine Co.	3,217
Hay raker and loader	H. Baker	2,911
Hay spreader	E. W. Bullard	2,992
Heater, car, Railroad	E. H. Ashcroft	2,917
Heater, car, Street	J. Gibson, jr	3,029
Heating apparatus	T. S. Clogston	2,832
Heel stiffener	A. B. Ely	2,969
Hides and skins, Compound for treating	L. F. Robertson	2,947
Hogs from rooting, Preventing	G. O. and W. L. Nixon	3,021
Hogs, Slaughtering	J. Parker	3,180
Hook, Self mousing	The Middleton Wool Company	2,867
Hoop skirt	W. S. Ryerson	2,842
Hoop, Skirt	E. Wooster and Co. and F. Hull and Co.	2,946
Horse power	W. H. Wiley	3,059
Horses, Raising and securing the legs to shoe them	J. P. Champion	3,104
Hydrocarbon vapor apparatus	F. S. Pease	2,893
I.		
Iron and steel, Refining	The First National Refined Iron and Steel Manufacturing Company.	3,249
Iron, cast, Refining and converting, into cast steel	E. and P. E. Martin	3,096
Iron into steel, Converting	The Barrows Patent Steel Manufacturing Company.	3,222
Iron, Refining	C. Shunk	3,036

Alphabetical list of reissues—Continued.

Invention or Discovery.	Name of Patentee.	No.
J.		
Jar, Fruit	S. B. Rawley	2,977
Jar, Fruit	J. J. Squire	3,080
Jar, Fruit	S. B. Rawley	3,111
Jug tops	H. Wright, H. H. and B. F. Collins	2,921
K.		
Kiln, Circular	F. E. Hoffmann	3,237
Knife, Hay	P. O. Soper	2,884
Knitting machinery	M. L. Roberts	3,242
Knob to spindle, attaching	D. Skidmore	2,941
L.		
Lamp	C. W. Cahoon	2,874
Lamp	W. N. Ely	2,882
Lamp	P. Hannay and H. Taylor	2,974
Lamp	P. Hannay and H. Taylor	2,973
Lamp	L. J. Atwood	3,019
Lamp	C. A. Kleeman	3,068
Lamp	R. S. Merrill and W. Carleton	3,082
Lamp, Coal oil	J. Ridge	2,855
Lamp, Glass	Ripley and Company	3,035
Lamp, Glass	Ripley and Company	3,078
Lamp shade	J. Emery	3,016
Lantern	F. Marands	2,861
Lard, Stirring, mixing, heating, cooling, &c	E. M. Allen	3,183
Lard, Manufacture and preservation of, (Div. A)	C. L. Tucker	3,037
Lard, Manufacture of, (Div. B)	C. L. Tucker	3,038
Lard, Putting up for storage and transportation (Div. C.)	C. L. Tucker	3,039
Lard, Stirring	W. J. Wilcox	3,196
Last	A. Taylor	2,885
Latch, Door and gate	J. A. Parks	2,976
Lath machine	J. C. Brown	2,858
Leather, Punching	J. M. Bent	2,956
Leather, Rubber coated	J. J. Fields and A. H. King	3,112
Leather, Splitting and stripping	C. S. Stearns and T. Corey	3,026
Lightning rod	W. Hall	2,888
Life preserving apparatus	J. B. Stoner, L. Mendelson and T. Crommelin.	3,232
Lock, Alarm	J. S. and R. Porter	3,120
Loom	G. Crompton	3,246
Loom, Operating the treadle of	R. W. Andrews	2,928
Lounge, Convertible	L. H. Baker	3,150
Lubricating device	B. H. Jenks	2,964
Lubricator	E. Miller	3,154
Lubricator for steam engines	J. Storer	2,890
M.		
Malt, mash, &c., Fermenting and oxidizing	R. D'Heureuse	3,045
Material for various structures	J. K. Mayo and A. and G. B. Cushing.	3,085
Material for constructing bridges, arches, beams, &c	J. K. Mayo and A. and G. B. Cushing.	3,086
Material for constructing ships, boats, &c	J. K. Mayo and A. and G. B. Cushing	3,087
Material for constructing and finishing houses, &c	J. K. Mayo and A. and G. B. Cushing.	3,088
Material for decorations, furniture, &c	J. K. Mayo and A. and G. B. Cushing.	3,089
Material for constructing boxes, trunks, buckets, &c	J. K. Mayo and A. and G. B. Cushing.	3,090
Material for constructing, pipes, tubes, funnels, &c	J. K. Mayo and A. and G. B. Cushing.	3,091
Material for constructing carriages, cars, &c	J. K. Mayo and A. and G. B. Cushing.	3,092
Meat chopping machine	Metropolitan Washing Machine Co	2,913
Meat chopping machine	Metropolitan Washing Machine Co	2,914
Meats, fruits, &c., Preserving	W., S. H. and D. Davis	3,119
Medical vacuum chamber	G. Halfield	3,139
Medicinal preparation	C. L. Lege	2,912
Melodeon	L. Louis	2,944
Metal, sheet, Bending	O. W. Stow	3,069
Meter, Fluid	N. Aubin	2,918
Mill, grist, Grinding plate for	H. Shaw and W. D. Leavitt	3,122
Mill, saw, Circular	G. and C. Place	3,101
Mill, saw, Head block for	S. F. Stanton	2,924
Mill, saw, Head block for	D. Lane	2,872
Mop head	Colby Brothers and Company	2,957
Mop head	Colby Brothers and Company	2,958
Mop head	Colby Brothers and Company	3,188
Mop head	L. Taylor	3,192
Mop head	L. H. Taylor	3,215
Moulds for rubber goods, Filling cylindrical	J. W. Cobb and E. A. Hill	3,193

Alphabetical list of reissues—Continued.

Invention or Discovery.	Name of Patentee.	No.
Mold, Glass	M. Sweeney, J. E. Mathews and T. Hartley.	3,181
Mold, sugar, and other articles, Manufacture of	T. A. Havemeyer, J. L. Elder and C. F. Loosey.	2,919
Mower, Lawn	A. M. Hills	3,030
Mower, Lawn	S. W. Sears	3,048
Mowing machines, Grinding the cutters of	H. W. Whitall	3,109
Mowing machines, Grinding the cutters of	H. Richardson	3,159
Musical instrument, Wind	L. Louis	3,185
N.		
Nail and screw, Attaching ornamental head to	T. C. Richards	2,936
Nail, Attaching ornamental head to	Turner, Seymour, and Judds	2,967
Nut, Making	The Union Nut Company	3,050
Nut, Making	M. H. Foster and H. C. Hart	3,223
Nut or bolt, Cutting thread on	Schweitzer Patent Bolt Company	2,889
O.		
Ores, Separating	S. R. Krom	3,182
Oyster dredge	T. P. Sink	2,856
P.		
Packing, Steam, engine	W. H. Miller	3,108
Paint	D. R. Averill	3,051
Paints, chemicals, &c., Rubbing and mixing	R. Poole	3,233
Paper, &c., water-proof, Composition for the manufacture of.	R. O. Lowrey	2,940
Paper, Polishing enamelled	S. Shepherd and J. Greeley	3,203
Paper stock, Manufacture of	H. Betts	3,228
Pattern for cutting boots	E. Shopbell	2,922
Pavement, Wooden	D. McKenzie	3,208
Pawl, Friction	J. Moore	3,200
Pegging machine	W. N. Ely	2,833
Petroleum, Refining	F. Huot	3,145
Phosphate for the manufacture of fertilizers, Treating mineral.	J. Commins	3,008
Photographic pictures, Printing	J. Velin	2,952
Piano-fortes	G. C. Manner	3,004
Piano with melodeon and tremolo attachment	L. Louis	3,184
Pipe, Drain	B. F. and M. R. Pierce	2,841
Pipe, Tobacco	G. Lautenschlager	2,859
Pitcher, Ice	H. G. Reed, G. Brabrook and H. H. Fish	3,194
Planer chuck	C. H. Riggs	3,121
Planing machine	J. A. Woodbury	3,110
Planter, Corn	J. Selby	3,148
Planter, harrow and cultivator combined	P. P. Runyon, J. Letson, G. J. Janeway and T. E. McDonald.	3,173
Planter, Seed	A. R. Reese	2,863
Planter, Seed	D. S. Holman	3,031
Planter, Seed	J. Case	3,144
Planter, Seed	J. H. Thomas and P. P. Mast	3,164
Planter, Seed	J. H. Thomas and P. P. Mast	3,210
Plow	G. Watt	3,071
Plow	Nixon and Company	3,077
Plow	D. C. Matteson and T. P. Williamson	3,179
Plow	J. C. Bethea	3,094
Plow	M. Richards and J. Vandegrift	3,098
Plow easting, Grinding	J. Gibbs	2,963
Plow, Gang	W. B. Ready	2,991
Plow, Gang	D. C. Matteson	3,114
Plow, Gang	R. Baxter	3,244
Plow, Subsoil	C. R. Hartman	3,076
Pot, Coffee	G. R. Chittenden and C. A. Smith	3,176
Pot, Tea and Coffee	A. C. Kasson and N. C. Gridley	3,238
Press, Die	J. Mays and E. W. Bliss	3,231
Printers' chase	R. Yeoman	2,846
Propeller	F. G. Fowler	3,113
Pulley attachment for raising weights	G. W. Gregory	2,939
Pump	W. Shoup	2,949
Pump	E. Perry	3,025
Pump, Rotary	J. O. Joyce	3,190
R.		
Rack, Card	J. Adair	3,061
Rail and splice, Railway	Z. B. Wakeman	3,123
Rake, Harvester	A. J. Holman	2,871
Rake, Harvester	C. Aultman	2,996

Alphabetical list of reissues—Continued.

Invention or Discovery.	Name of Patentee.	No.
Rake, Harvester	O. Dorsey	2,982
Rake, Harvester	S. Johnston	2,999
Rake, Harvester	J. L. Rohrer	3,047
Rake, Harvester	J. Dick, jr. and E. Glen	3,127
Rake, Horse	G. Deal	2,848
Rake, Horse	C. Siters	2,937
Rake, Horse	H. B. Hawkins	2,993
Rake, Horse	G. Whitcomb	2,994
Rake, Horse	G. Whitcomb	2,995
Rake, Horse	J. L. F. King and W. W. Watson	3,136
Rake, Horse	D. Strock	3,213
Rake, Horse	A. R. Reeso	3,219
Roofing compound	O. N. Bartholomew and J. S. Thurston.	2,932
Rubber fabric	J. Haskins	3,100
Rule, printers', Mitering	R. Hoe and Company	2,899
S.		
Sash stop	C. Clapp	3,229
Saw	H. Disston	3,052
Saw, Scroll	R. J. Camp	3,126
Saw, Grinding	J. G. Baker	3,138
Saw, Grinding and polishing	J. Lippincott, T., B. P., and B. Bakewell, jr.	3,147
Scale pivots, Grinding	F. Meyer	2,966
Scale platform	J. F. Keeler	3,032
Screw and nail, Attaching ornamental head to	T. C. Richards	2,936
Screw, Casting	W. A. Ingall	2,849
Scythe fastening	P. Frost	2,834
Seat and desk, School, (Div. A)	C. W. Sherwood	2,865
Seat and desk, School, (Div. B)	C. W. Sherwood	2,866
Seeding machine	A. R. Reese	2,864
Seeding machine	W. M. Jones and D. H. Hall	3,191
Seeding machine, (Div. A)	W. M. Jones and D. H. Hall	3,197
Separator and threshing machine	H. W. Matthows	2,852
Sewing machine	J. S. Conant	3,214
Sewing machine, Boot and shoe mechanism for	W. N. Ely	2,906
Sewing machine, Tuck creasing attachment for	H. W. Fuller	3,218
Shot, Separating	W. A. Shaw, G. Willard, L. and J. Colwell.	2,910
Skate	J. Lovatt	3,186
Skate fastener	E. H. Barney and J. Berry	3,007
Skate, Marking	H. W. Holly	3,095
Sower, Broadcast	T. G. and E. A. Floyd	3,075
Spinning machine, Ring for ring and traveler	J. W. Wattles	3,165
Spring, Car	J. J. Gest	3,161
Spring, Carriage	A. Buzzell	3,205
Spring, Carriage	J. G. Reiff	3,241
Spring, Corset	F. L. Barnes	2,929
Spring, elliptic, Head for	J. Palmer	3,046
Squares, Metallic	S. Darling	2,869
Stamp, Hand	B. B. Hill	2,836
Stamp, Hand	E. D. Chamberlain and C. H. Brown	2,847
Steel and iron, Refining	The First National Refined Iron and Steel Company.	3,249
Steering apparatus	C. H. Sawyer	2,948
Still, Petroleum	C. Lockhart and J. Gracie	3,002
Still, Petroleum	C. Lockhart and J. Gracie	3,003
Stone, Artificial	W. K. Boyle	3,151
Stove, Base burning	D. G. Littlefield	2,881
Stove, Base burning	J. Easterly	3,009
Stove, Base burning	J. Easterly	3,010
Stove, Base burning	J. Gray	3,044
Stove, Coal	J. J. Savage	2,895
Stove, Cooking	P. P. Stewart	2,915
Stove, Cooking	P. P. Stewart	3,027
Stove, Cooking	P. P. Stewart	3,041
Stove, Cooking	A. P. Stiles	3,248
Stump extractor	S. M. Longley, E. J. Genet, S. B. Smith and A. C. Getty.	3,054
Stump, extracting and building walls, Apparatus for	G. W. Packer, jr	3,022
Sugar and other substances, Draining	D. M. Weston	2,845
Sugar, Draining	H. W. and R. Lafferty	3,153
Sugar, Starch	N. Pigeon	3,201
Supporter, Female	A. D. Reeves	3,023
Syringe, Enema	M. Mattson	3,106
T.		
Tackle block	I. E. Palmer	3,226
Tanning composition	I. Wood	3,157

Alphabetical list of reissues—Continued.

Invention or Discovery.	Name of Patentee.	No.
Teeth, artificial, Plate for	A. B. Ely	2,968
Threshing machine and separator	H. W. Matthews	2,852
Tie, Neck	H. Bendix and J. H. Fleisch	2,943
Trellis for strawberry and other plants	W. W. Wilcox	2,896
Truck, Safety	S. Y. Bradstreet	3,024
Tube, Well	F. A. Mack	2,965
Tub, foot bucket, &c	J. W. Kendall	3,053
Tumbler washer	J. Solter	2,883
V.		
Vacuum chamber, Medical	G. Hatfield	3,139
Valve, Float	J. H. Guild	3,212
Valve, Globe	J. G. French and R. A. McCaulay	2,898
Valve, Oscillating	G. Davis	3,152
Valve, Refitting stop	C. S. and C. F. Hall	3,020
Vapor, Collecting and condensing metallic	F. Fornihals	3,043
Velocipede	B. P. Crandall	3,207
Vessel for holding liquids	J. M. Colburn	2,981
Vessels, Ballasting	J. B. Stoner, L. Mendelson and T. Crommelin	3,167
Vulcanizing vessel	G. E. Hayes	3,141
W.		
Walls, building, and extracting stumps, Apparatus for	G. W. Packer, jr	3,022
Washing machine	W. M. Doty	2,897
Washing machine	A. Lamb, M. E. Layman, and W. H. Morse.	3,162
Watch	N. B. Wallace	2,887
Watch	S. D. Engle	2,907
Watch	O. F. Stedman	2,953
Water and carbonic acid, Charging	R. Grant	2,970
Weather strip	E. S. and J. Torsey	3,174
Weather strip for doors and windows	B. B. Savery and F. O. Raymond	3,202
Weaving	W. Smith	2,843
Weaving	W. Smith	2,844
Wheel, Carriage	J. D. Sarven	3,079
Wheel, Water	J. Tyler	3,015
Wheel, Water	J. Tyler	3,018
Wheel, Water	R. Dunbar	3,099
Wheel, Water, (Div. A)	J. S. Goode and J. W. Bookwalter	2,168
Wheel, Water, (Div. B)	J. S. Goode and J. W. Bookwalter	3,169
Wheel, water, Case for, (Div. A)	J. S. Goode and J. W. Bookwalter	3,170
Wheel, water, Gate for, (Div. B)	J. S. Goode and J. W. Bookwalter	3,171
Whip, Covering	C. C. Pratt	2,925
Whip, Covering	C. C. Pratt	2,926
Wool and other fabrics, Cleaning	O. McDaniel	3,239
Woolen and other fabrics, Cleaning	O. McDaniel	3,240
Wringer, Clothes	C. H. Knox	2,840

DESCRIPTIONS.

DESCRIPTIONS AND CLAIMS OF PATENTS

ISSUED IN THE YEAR 1868.

ILLUSTRATED WITH ENGRAVINGS.

72,959.—Henry W. Adams, Milton, Pa.—*Churn.*—January 7, 1868.—The cream box is secured to rockers, and is oscillated in the direction of its length. At each end is a perforated board, against the under side of which the cream is dashed.

Claim.—1. The construction and arrangement of the two dashers D D, in combination with the churn B, substantially in the manner and for the purposes described.

2. The rockers R R, in combination with the churn B, when connected and operated substantially in the manner and for the purposes herein set forth.

72,960.—Joseph Barbian, Chicago, Ill.—*Ice-House Floor.*—January 7, 1868.—The wooden floor has a transverse strip cut away between the central joists, and the floor is covered by sheet zinc, which is bent downward to form a trough where the floor is cut away. The metal is protected by strips of wood.

Claim.—An ice-house floor, composed of the grooved zinc plate F, strips C C, and strips E, connected by metallic bands D, all constructed and arranged substantially as described.

72,961.—John Barbier, Boston, Mass.—*Fastening for Shoes.*—January 7, 1868.—The lace is passed behind anti-friction rollers, whose arbor pins are secured to the bent arms and the strips. The arms and strips are riveted together and secured to the sides of the opening in the shoe front.

Claim.—The bent arms or plates C, when constructed and attached as set forth, in combination with the entire strips B, as herein described, as and for the purpose set forth.

72,962.—Samuel W. Barr and Edwin McGuire, Beloit, Wis.—*Well-Tube.*—January 7, 1868.—The gauze cylinder surrounds an inner perforated tube, to which it is soldered. The conoidal point has a drill plate let into it axially.

Claim.—The combination and arrangement of the well-tube, soldered filter, and drill-point, all substantially as and for the purpose set forth.

72,963.—George Beaty, Middlebury, Ohio, assignor to W. W. Kitchen, West Union, Iowa.—*Boot and Shoe Heel.*—January 7, 1868.—The heel is made separate from the boot, and attached by flattened spikes and screws.

Claim.—Constructing a metal boot-heel hollow, when its upper face is beveled, so as to form a broad bearing for the shoe to rest in, and also having a series of spikes arranged in the center thereof, as herein described and for the purpose specified.

72,964.—Ira Bicknell, Cincinnati, Ohio—*Fire-Kindling and Fuel.*—January 7, 1868.—Composed of screened slack, ½ bushel; rosin or pitch, 25 pounds; crude coal oil, 1 gallon; sawdust, 1 bushel; heated, mixed, and cast in molds.

Claim.—The fuel combination, using for that purpose the aforesaid compound of rosin or pitch, fine coal, sawdust, and coal oil, or any other substantially the same, and which will produce the same effect.

72,965.—Virgil W. Blanchard, Bridport, Vt.—*Baggage-Check.*—January 7, 1868; antedated January 2, 1868.—Explained by the claims and illustration.

Claim.—1. The circular plate A, with the names of the stations of any particular railroad stamped upon its surface, near its periphery, with notches or recesses, cut in the periphery of a circular opening in the central portion of said plate, said notches or recesses corresponding with the names, figures, letters, or other symbols stamped upon the surface of the plate, near its periphery, in combination with the bolt or dog D, for the purpose of fixing the pointer B at any particular name, station, or symbol, on the outside of the plate.

2. A plate, bearing the number of the check attached to the plate bearing the pointer, the circular plate having the names of the stations of any particular road stamped upon its surface, near its periphery, revolving between them, when not locked by the bolt or dog, for the purpose specified.

3. A bolt or dog, playing freely in a recess between the plate bearing the pointer and the one bearing the number of the check, in combination with the notches or recesses cut in the periphery of the circular opening in the central part of the circular plate, for the purpose of fixing the pointer at any particular name, number, or symbol.

4. A bolt or dog in combination with a slit or opening cut in the plate bearing the pointer, and the one bearing the number of the check, so arranged, with a strap connecting the check to the baggage or freight, that when the strap is withdrawn from the said slit or opening the weight of bolt or dog will cause it to fall into said opening or slit, relieving the circular plate, so that the pointer may be turned to any particular name, station, or symbol, when the pointer may be locked in its place by passing the strap through the opening or slit, and attaching it to a piece of baggage or freight in the usual way.

72,966.—John W. Boynton, East Hartford, Conn., and John A. McGaw, Newark, N. J.—*Removing Burs and other Vegetable Matters from Wool.*—January 7, 1868.—The wool after scouring is placed upon slats within a tight chamber, and subjected to the fumes from burning sulphur in a receptacle beneath a pan containing nitrate of soda, moistened with sulphuric acid. Steam is also admitted to assist the action of the nitrous gases and to heat the chamber.

Claim.—1. The employment of chemical vapors in the process of destroying burs and other foreign vegetable substances in wool, substantially as described.

2. The employment of steam as a joint agent in diffusing the vapor and heating the apartment to produce the result described.

3. The process of destroying burs or other foreign vegetable substances in wool, substantially as set forth.

72,967.—Darius C. Brown, Lowell, Mass.—*Harness for Looms.*—January 7, 1868.—Explained by the claim.

Claim.—Hanging the heddles in their frame at one end to a common bar, but at their opposite ends to two or more bars, substantially as and for the purpose described.

72,968.—T. Yardley Brown, Reading, Pa.—*Fastening Artificial Teeth.*—January 7, 1868.—After the plate is swaged and fitted to the mouth, the gauge is taken in the usual way. The teeth are then arranged according to gauge, the wax covers only so much of the plate as is to be occupied by the alloy. The case is then inserted in a packing flask. After the wax is removed and the plate cleansed holes are punched through the plate over the teeth and countersunk on the palatine surface, to receive the fusible alloy which secures the teeth to the plate; holes are made through the plaster for passage of the alloy. The flask is heated before pressing the metal, and allowed to cool before removing the denture.

Claim.—The attachment of artificial teeth to swaged plates by means of a fusible metal or alloy, as herein described.

72,969.—E. Brunswick, Chicago, Ill.—*Billiard Cue Rack.*—January 7, 1868.—The holder turns on brackets. The cue ends are received in radial recesses, the lower recesses opening to allow the cues to be removed. A simpler form has an upper socket plate and a lower rest with peripheral flanges.

Claim.—The revolving billiard-cue rack, constructed and operating substantially as and in the manner herein described and specified.

72,970.—Daniel Bull, Amboy, Ill.—*Table Leaf Support.*—January 7, 1868.—The brace is hinged to the frame, and when the leaf is raised, the stop bar falls before its upper end and locks the leaf. To lower the leaf the stop bar is raised.

Claim—1. The combination of a link A, a recessed bar D, provided with a spur *f*, and a movable stop-bar E, arranged and operating substantially as and for the purposes herein set forth.

2. The combination of the bar D, or its equivalent, provided with the spur *f*, and the movable bar E, provided with the prong or fork *g g*, arranged in the manner and for the purposes described.

3. The recess *l* in the bar D, and the projection *m* on the bar E, arranged substantially as specified, to prevent the longitudinal displacement of the bar E, as described and shown.

4. Providing the bar D with slots *d d*, to admit of the adjustment thereof, as and for the purposes specified.

72,971.—Henry Bundel and James Williams, Dayton, Ohio.—*Seed Planting Machine.*—January 7, 1868.—The shoes are connected by chains to a bar turning on eccentries, which rotate so far in raising the shoes that the strain upon the chain prevents the returning of the eccentrics and the descent of the shoes.

Claim.—In combination with the lifting bar D, for raising, supporting, or lowering the shoes, the arms or brackets *c b*, for forming its hinged connection with the main frame, substantially as and for the purposes herein described and represented.

72,972.—H. C. Burk, Mineral Point, Ohio.—*Mechanical Movement.*—January 7, 1868.—The motive wheel is traversed eccentrically by an arbor parallel with the axis, and having a spur wheel secured to one end and a pitman rod to the other. The spur wheel engages a pinion turning on the shaft of the motive wheel. The wheel and pinion being of the same size, a double rotation of the latter ensues to each revolution of the former, and a reciprocation is given to the pitman.

Claim.—The combination of the main wheel A, spur-wheel B, with its pitman E and pinion-wheel C, all arranged to operate substantially as and for the purpose set forth.

72,973.—Peter D. M. Carmichael, Le Roy, N. Y.—*Match Safe.*—January 7, 1868.—The matches are put into the box in a single course with a spring forwarder beneath them, tending to keep the upper one in contact with the forwarding slide. This slide has a trigger projecting from the top of the box, and has a catch which engages the upper match and causes its end to project from the box. The forward movement of the slide is accomplished by a spring. The match is drawn out through a serrated hole and is ignited thereby.

Claim.—1. The propelling arm B, constructed substantially as described, in combination with the actuating lever *e*, spring *f*, and mouth *k*, arranged and operating substantially as and for the purpose set forth.

2. In combination therewith, the dog *g* and spring *h*, arranged and operating substantially in the manner and for the purpose specified.

72,974.—William Chicken, Chelsea, Mass.—*Sewing Machine.*—January 7, 1868.—Improvement on patents of D. W. G. Humphrey, August 29 and October 3, 1865. The object is to provide a means by which the movement of the disk may be made whatever is desired instead of being confined to fixed divisions of a circle like those of ratchet teeth. The device is explained by the claim and illustration.

Claim.—In combination with a disk provided with gear teeth, and having a cam for working in connection with a stationary plate cam, as described, a pinion which meshes into the teeth of the disk, and on which pinion a friction clamp or gripe operates to impart intermittent rotative movements to said disk, for the purpose of giving movement to a stock or or cloth clamp, substantially as described.

72,975.—Daniel Churchill, Ionia, Ill.—*Cultivator.*—January 7, 1868.—The frame has two bars projecting downwardly and outwardly from the tongue, and giving attachment for the short axles. The horses are hitched to the out-turned ends of two levers which are connected to the inclined bars, and whose upper ends have holes receiving the down-turned ends of a connecting bar. By means of the position of the connecting bar in the holes the relative draught of the horses is adjusted. The plow beams are connected to the frame by side plates hinged on end plates, allowing vertical movement to the beams, and the side plates embrace between them studs upon plates attached to the frame, the connection being such as to allow lateral swing.

Claim.—1. The plates I and F, when constructed and arranged to operate substantially as described.

2. The plates J provided with the studs *c*, for securing and holding the beams to the main frame, and having also the slots for adjusting them, as set forth.

3. The combination of the bent rods T and cross-rod H, pivoted to the main frame, and arranged to operate as described.

72,976.—William D. Clark, Ottawa, Ill.—*Farm Gate.*—January 7, 1868.—The rear end of the gate is attached to an inclined frame carrying antifriction rollers tracking along the upper and lower rail of the fence. A roller whose bracket is attached to the post, supports the gate by its lower rail, and a catch takes over its upper one.

Claim.—The peculiar and particular arrangement of the guides and rollers described when attached to the gate, operating and constructed as set forth.

72,977.—A. Cody, James Bartlett, and H. M. Jones, Ukiah City, Cal.—*Composition for Roofing.*—January 7, 1868.—Clay is ground clear of lumps, made into bricks, and afterward thoroughly pulverized. Pulverized brick 2, pulverized shale 1, and coal tar, 2 parts, are made into a mortar and spread over tight sheathing.

Claim.—A compound cement for roofing purposes, prepared and applied substantially in the manner and for the purposes set forth.

72,978.—E. Merritt Cole, Southbridge, Mass.—*Eye Glass.*—January 7, 1868.—The lips of the frame have suitable sockets and projections to render unnecessary any but a single screw.

Claim.—The arrangement and application of the tenon and mortise with the lips, and with respect to the joint screw or pin of the spectacle or eye-glass frame, substantially as specified.

72,979.—William Cover, Jenner's Cross-Roads, Pa.—*Animal Trap.*—January 7, 1868.—The

rat enters the open part of the cylinder. In eating the bait the bolt is so moved that its outer end enters the groove, when the weight causes the semi-rotation of the cylinder. The partition prevents the escape of the rat except into the condemned cell.

Claim.—A trap, consisting of a box, A, having one part closed by a cover, and a partition B, having an opening through it, and with the revolving wire cylinder C mounted in the open portion of the box A, all constructed and arranged for operation, as shown and described.

72,980.—F. W. CROSBY, Toledo, Iowa.—*Roasting Metallic Ores.*—January 7, 1868.—The roasting-chamber is placed preferably over the furnace and small perforations made through the separation between them. Small vertical rods are run through the top of the roasting chamber and into the said perforations. The pulverized ore is dampened and mixed with straw and placed in a chamber, and the rods withdrawn, leaving the mass open to the percolation of the caloric currents.

Claim.—The method, substantially as herein described, of obtaining a porous disposition of pulverized ores within the reducing chamber of a furnace, for the purpose set forth.

72,981.—WILLIAM G. CROSSLEY, Shellsburg, Wis.—*Combined Sulky Plow and Cultivator.*—January 7, 1868.—The frame has two cross-beams, between which is the axle. The plow beam is pivoted to the rear beam and secured to the front beam by a spring catch. A rod is attached to the shifting devices and to the beam of the plow, by which the latter may be raised from the ground when the beam has been loosened from the catch. The draw-bars of the outer cultivator shovels pass through loops upon the pendent arms of a bar, by which they may be simultaneously drawn from the ground by a lever. The inner shovel standards are attached to the bar, and raised with it.

Claim.—1. The arrangement and combination of the beam C, rod *i*, spring catch *y*, and lever *h*, for regulating the position of plow E, substantially as and for the purpose set forth.

2. The combination of rod S, having a lever S′, with arms Q Q, elbows T T, loops P P, and shanks M L, arranged to raise and lower shovels *f f f f*, and hold them in position as described, in conjunction with bars O O, as set forth.

3. The loops K H, in combination with a movable brace G, having the plate J arranged so as to fit either loop, as and for the purpose set forth.

72,982.—THOMAS CULLEN, San Francisco, Cal.—*Cartridge for Small Arms.*—January 7, 1868.—Formation explained by the claim and illustration. The paper cylinder is charged like a gun and used as long as the paper remains good, after which a fresh piece is substituted.

Claim.—The method and arrangement of securing the metallic base or cap *a* to the paper tube *d*, which holds the charge, by means of the nipple *c* screwing into the interior washer *b*, as substantially herein set forth and described.

72,983.—JAMES DAVIS, Buffalo, N. Y.—*Saw.*—January 7, 1868.—The rectangular sides of the teeth are toward the midheight, both above and below that point. The projections on the ends of the teeth are to lessen the amount of filing necessary in sharpening.

Claim.—1. Making the saw-teeth above and below the center line 1-2 with their cutting edges toward said line, and the rake or set above the reverse of that below the center line, in the manner and for the purpose described.

2. The projection D at the point of the saw-tooth, for the purpose set forth.

72,984.—FREDERICK DENGLER, North Vernon, Ind.—*Car Brake.*—January 7, 1868.—The brakes are suspended from the truck and connected to a lever in such manner as to be both applied or relieved together. The lever has a curved portion near its free end, and the operative lever has an anti-friction roller which acts on the curved part. To the free end of the lever is attached the chain through which it is operated. The brakes may be operated by a chain which is coiled around the shaft of a wheel, which may, through the medium of a friction wheel, be put in connection with a wheel on the axle.

Claim.—1. The lever B and roller C, acting on the curved lever A, all combined and operating substantially as described.

2. The wheel H′ fixed upon the axle, the wheel *u* and cogged wheel *v* and pawl, and the intermediate roller *w*, all constructed and operating in combination with each other, as described.

72,985.—DAVID DICK and O. W. PRESTON, jr., Corning, N. Y.—*Car Brake.*—January 7, 1868.—When the hand lever is thrown back and the kicker out of gear with the dog, but the dog in gear with the spur wheel, the brake may be used in the ordinary manner. When the hand lever and dog are out of gear, and the kicker down, while the cars are in motion, by turning the hand lever the worm is brought into gear with its wheel, which puts in motion the vertical chain bar, and thereby applies the brakes. By drawing the engineer's connection, the worm wheel is brought in gear with the endless worm, and the brakes applied throughout the train.

Claim.—1. The dog D, as constructed, in combination with spring *i*, operating conjointly, substantially as set forth.

2. In combination with dog D and spring *i*, we claim kicker *h* and spur wheel *g′*, substantially as described.

3, The engineer's connecting-rod W, when in combination with the brake apparatus, substantially in the manner specified.

4. Pitch-chain wheels *f g* and chain-loop M, in combination with rocking shaft *b*, chain-bar B′, and braking devices, substantially as described.

5. The rocking shaft *b*, worm wheel *d*, slide *c*, connecting rod *n*, chain-bars B′ E, and engineer's connecting rod W, all combined substantially in the manner and for the purpose set forth.

72,986.—JUSTUS DOERING, Philadelphia, Pa., assignor to self, A. F. SHELLY, and CHARLES DIXEY, same place.—*Stop Cock.*—January 7, 1868. (Antedated December 26, 1867.)—The plug turns in a frusto-conical sleeve which has wings fitting in grooves of the cock. The wings prevent the sleeve from turning, but allow it to be raised vertically from its socket.

Claim.—The combination of the case and conical valve of a cock, and a conical stationary sleeve, fitting the case, and in which the valve turns, and which is so constructed and connected to the valve that it may be withdrawn with the latter from the case without the necessity of detaching any nuts or other fastenings, all substantially as described.

72,987.—GEORGE DRAPER, Milford, Mass.—*Let-off Mechanism for Looms.*—January 7, 1868.—The loom is adjustable to prevent the strain upon the warp, engendered by beating up, from operating on the "let-off" mechanism, when weaving heavy goods; the let-off being only influenced by the steady strain on the warp. When weaving light material the loom is so adjusted that the beating up will assist in operating the let-off.

Claim.—1. The said combination of devices, substantially as above described, for operating the said ratchet, the warp guide and beam, in manner as specified.

2, Their combination with the warp beam and its gearing and ratchet, and with the warp guide, and the lay, the whole being substantially as explained.

72,988.—JONATHAN S. EATON, Roxbury, Mass.—*Trunk.*—January 7, 1868.—The top and sides of the trunk are covered by narrow strips of wood to strengthen the same.

Claim.—The combination, with the frame of a trunk, of the strips or pieces *a a*, substantially as and for the purpose set forth.

72,989.—WILLIAM H. ELLIOT, New York, N. Y.—*Brewing.*—January 7, 1868.—The vapor from the boiling wort is condensed in a surface condenser and returned to the wort before fermentation.

Claim.—1. The process herein described of brewing malt liquors, viz, condensing the vapor of

boiling wort, returning it to the wort in a liquid state, and fermenting the two liquids together, substantially as herein set forth.

2. Cooling the wort and condensed vapor separately, and afterward mixing the two liquids together, before fermentation, substantially as herein specified.

3. Employing a tank or reservoir *l*, with its cooling device, in combination with tank *b*, with its usual heating device, substantially as shown and described.

4. The combination with these two tanks of a surface condenser, *c*, as specified.

72,990.—VANDERLYN H. FELT, Rochester, N. Y.—*Harvester Rake.*—January 7, 1868.—The rake-head is connected by hinged rods to a bar extending across the platform and attached to a segmental slide bar. The slide bar is connected by a pitman rod to an endless chain stretched on two wheels, one of which receives rotation from the axle, when clutched thereto by a treadle lever. The rake-head has an arm coming in contact with a projection of the platform at the backward end of the stroke, and serves to lift the rake, a latch transferring a projection at the other end to a position beneath the guide, and raising the rake by that means during its forward stroke.

Claim.—In combination with the reciprocating rake F, provided with projections *q r*, the arrangement of the connecting and operating parts, consisting of the loose pulley H, provided with the reacting-spring *l*, and operated by lever K, the endless chain G, the hinged bar *o*, and the stop and projection *m' n*, the whole operating in the manner and for the purposes set forth.

72,991.—JESSE FEWKES, Newton, Mass., assignor to SILVER LAKE MANUFACTURING CO.—*Expansion Pulley for Braiding Machines.*—January 7, 1868.—The face of the expansible pulley consists of a series of jointed bars whose free ends are inclined inward and pass through the holes in a disk which is adjusted by a set screw.

Claim.—The combination of the rods *b*, pivoted to the pulley A, with the plate C, constructed as described, and the screw D, for governing positively the position of said rods, substantially as described, and for the purpose set forth.

72,992.—B. G. FITZHUGH, Sykesville, assignor to self and WILLIAM G. MAXWELL, Baltimore.—*India-Rubber Door Spring.*—January 7, 1868.—Explained by the claim.

Claim.—An India-rubber door-spring, that is vulcanized in a curved or circular form, and applied to a door in a straighter form than that in which it was vulcanized, substantially as and for the purpose herein described and represented.

72,993.—LEONARD FLECKENSTINE, Manor Township, Pa.—*Holder for Gum-scrubber.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—The arrangement of the two corrugated or fluted plates P R, for the purpose of folding the scrubbing-edges of India rubber, together with the use of a socket and screw-bolts, substantially in the manner shown and specified.

72,994.—LEWIS FRANCIS, New York, N. Y., assignor to himself and CYRUS H. LOUTREL, same place.—*Composition of Matter for the Manufacture of Emery Cloth, Polishing Wheels, &c.*—January 7, 1868.—Glue and glycerine, with or without saccharine matter, are combined with any of the metals or their insoluble compounds finely divided, or with solutions of their soluble salts.

Claim.—A composition of matter for various purposes, when the same shall be made substantially as herein described.

72,995.—LUCIEN M. GILBERT, Warren, Mass.—*Scissors-sharpener.*—January 7, 1868.—The cylindrical serrated cutter is attached by an eyelet to the brass guide-disk.

Claim.—A scissors-sharpener, consisting of the bevelled file A, combined and arranged with the circular guide-piece C, the parts being constructed and the whole arranged substantially as and for the purpose specified.

72,996.—GEORGE W. GISH and WILLIAM H. FERGUSON, Daviess County, Ky.—*Medicine for the Cure of Hog Cholera.*—January 7, 1867; antedated December 12, 1867.—Composed of sulphate of copper, 1, and extract of logwood, 2 parts.

Claim.—The medicine made by mixing, or by using at the same time, the ingredients described, for the purposes set forth.

72,997.—GEORGE D. GOODRICH, Joliet, Ill.—*Manufacture of Clay Pipes.*—January 7, 1868.—The carriage on which the trough is placed and moved is operated by a spring treadle, and standard. The mouth-piece of the die is made movable to better support the following pipe during the operation of cutting off a section. A water-box is placed over the orifice of the die by which it is kept moist.

Claim.—1. The improved method of fastening the trough-carriage in, and disengaging the same from, its rigid and described position on the frame on which it rests, substantially as herein described and specified, or other equivalent devices.

2. The movable mouth-piece H, arranged substantially as herein described and specified.

3. The combination, in a machine for the manufacture of clay pipes, of the trough for receiving the pipe, and the apparatus for lubricating the pipe as it issues from the mouth of the machine, substantially as described.

4. Each of three devices to be used in combination with the clay-pipe-making machines, running the pipe continuously, and using the metallic or metallic-lined troughs.

72,998.—WILLIAM C. GRISWOLD, New York, N. Y.—*Hat Blocking Machine.*—January 7, 1868.—The ring to which the clamps are hinged rests upon spiral springs which surround the three posts supporting the said ring. The lever, with its band ring, is lowered down upon the hat body, and the clamps raised into a horizontal position to "break" the band.

Claim.—The ring A, to which the clamps are hinged when elastically seated, substantially as and for the purpose specified.

72,999.—SAMUEL B. HAINES, Lewistown, Pa.—*Harvester.*—January 7, 1868.—The reel shaft is driven by chain connection with the leading wheel. The grain-wheel travels directly in the rear of the divider.

Claim.—1. The leading-wheel A, attached to the shoe G, as herein described and represented, and performing the double function of supporting the inner end of the finger-beam and operating either the rake or reel, or both, as and for the purpose set forth.

2. The grain-wheel M, in combination with the divider L, provided with the flanges of *d d''*, the latter being notched at *d'*, and adjustable bearing O, all constructed and arranged substantially as described, so as to admit of the adjustment of the wheel M, and secure the protection of the latter by the divider, as explained.

73,000.—I. R. HARMAN, Whitestown, Ind., assignor to himself and THOMAS J. MEGINNIS, same place.—*Sawing Machine.*—January 7, 1868.—The saw is attached to a bar whose fore end has an anti-friction roller reciprocating in guides at the free end of a beam which is pivoted to the frame at its rear end. The rear end of the saw-bar is connected by a pitman to the crank by which it has motion, and has an anti-friction wheel traveling in a cam-groove around a latch operated by a spring. This cam-motion causes the oscillation of the saw.

Claim.—The combination of the movable center 15 with slides 7 and 7, 4 and 6, and eccentric-cam 5, and spring 13, all constructed and operating substantially as set forth.

73,001.—L. P. HARRIS, Crestline, Ohio.—*Apparatus for Clarifying Saccharine Juices.*—January 7, 1868.—The top or pure portion of the juice is drawn off by the bell-mouthed siphons. The mouths of the

siphons are turned up and used as funnels, through which to fill the pipe.

Claim.—1. The adjustable float, and its combination with the siphon.

2. The combination of the adjustable float and siphon with the tube *c* and pipes *d* and *e*, substantially as described.

3. A cane-juice clarifier, constructed and operated substantially as described.

4, The combination of a cane-juice clarifier, when constructed and operated substantially as described, with heating and evaporating pans, for the purposes set forth.

73,002.—James Harsha, Circleville, Ohio.—*Plow and Harrow Combined.*—January 7, 1868.—The harrow is secured to the plow by the bars, and is held in such position as to harrow the freshly turned furrow.

Claim.—The bar or chain A, lever B *b*, and chain D, arranged and applied, substantially as described, for the purpose of combining an ordinary plow and harrow.

73,003.—Charles T. Harvey, Tarrytown, N. Y.—*Elevated Railroad.*—January 7, 1868.—Explained by the claims and illustration.

Claim.—1. The arrangement and combination with the column *a* of a false base *t*, made in sections, and secured around the column at the surface of the ground, substantially as described.

2. In a supporting column, the supplementary arc-shaped pieces V, in combination with the branching arms of the column *a*, with or without the triangular filling pieces *u*, substantially as described.

3. The base-plate *n*, in combination with the ears *m*, arranged to fit the triangular interspaces of the column as ribs or flanges 2, substantially as described.

4. The arrangement and combination, in one piece, of the plate *k*, the cap-plate *i*, and the connecting-cylinder *j*, substantially as described.

5. The construction of the cap-plate *i*, with its friction-rollers *l*, substantially as described.

6. The arrangement and combination, in the cable-guide *e*, of the wooden foundation 4 and wooden side beams 5 with the metallic bottom plate *f* and top right-angled bars *g g*, substantially as shown.

7. The return cable-guide *e'*, made substantially as described, by inverting the cable-guide *e*, and combining therewith the inverted cap *b*, substantially as described.

8. The arrangement and combination of the upper rail *b*, the I-shaped rails or beams *c c*, and the wooden filling *d*, substantially as above described.

9. Arrangement of the main rail *b* upon the top of an under rail or beam with a layer or cushion of wood interposed between them, substantially as described.

10. The column *a*, composed of ribbed segments *p*, in combination with the flanged bars *r*, which serve to unite the segments together, substantially as described.

73,004.—T. J. Hatfield, Warsaw, Ind.—*Vegetable Cutter.*—January 7, 1868.—The reciprocating bed has a series of oblique cutters, and is operated by a crank. The cabbage is placed in the hopper, and steadied, and crowded down by the cover, to which a lever is attached.

Claim.—The combination of the reciprocating-bed B, adjustable knives 1 2 3, plates B' B', arranged with set screws X X, box D, follower E, and spring-lever *o*, substantially as and for the purpose herein set forth.

73,005.—Charles J. Hauck, Williamsburg, N. Y.—*Flower Stand.*—January 7, 1868.—The stand has a series of rests with an upper guide ring connected thereto by standards.

Claim.—A flower stand, composed of one or more sections, each made of a platform *a*, with a ring *b*, and one or more standards *c*, supporting a guide ring *d*, all as shown and described.

73,006.—John E. Hawkins, Lansingburgh, N. Y.—*Toy.*—January 7, 1868.—The pocket is at the top of an axial pin, which is thrown upward to elevate the ball; the latter is then caught in the flaring cup.

Claim.—The combination and arrangement of the ball driver or pocket C, and its spindle B, with the stock or handle A and cup D, in manner substantially and for the purpose as herein described.

73,007.—Edward Hawthorne, Mountain View, Cal.—*Fire-Escape.*—January 7, 1868.—The supporting pieces are connected to the window-frame, and have a cross-bar with an eye through which the hoisting rope is passed from the car and brought down again to the car. The rope is operated by the occupant of the car, being passed around a belaying pin on the frame.

Claim.—The apparatus, constructed, arranged, and operated substantially as and for the purpose described.

73,008.—William Heath, Bath, Me.—*Invalid Bedstead.*—January 7, 1868.—The bed bottom has four jointed sections, and may be bent to change the couch into a chair by the operation of a windlass upon two side frames, upon which the lower two and the upper section rest; the raising of the head section simultaneously acting to lower the foot and leg rest. The knees may be raised by turning the right and left-hand screw rod, which draws the wedges up the inclines, and elevates the foot end of the seat section.

Claim.—1. The arrangement and the application of the windlass G, and its cord H, and the gear *g* and bolt *h* thereof, with the back frame B, and the main frame A of the bedstead, substantially as described.

2. The combination of the movable bracket N, and its supporting cord and weight O, with the seat-frame C, and its arm R, as set forth.

3. The seat-elevating mechanism, and its arrangement with the main frame and the seat frame, as specified, such seat-elevating mechanism consisting of the shaft H', its screw or screws *k k*, and one or more wedges I I, and inclined planes K K, to operate together, as explained.

4. The combination of the toggles P Q with the movable bracket N, its supporting weight O, and arm R, as hereinbefore described.

73,009.—John G. Hitchcock, New York, N. Y.—*Hay Fork.*—January 7, 1868.—Explained by the claims and illustration.

Claim.—1. Holding the tines against end pull by means of the projections or shoulders *b*, arranged to lock against the ferrule or cap C, while the latter is fixed on the handle by the screw D, or its equivalent, all substantially as herein set forth.

2. The within-described construction of the fork-tines B, with a shoulder *b*, at the commencement of the root of the tine, adapted to apply against a solid end of the cap C, substantially as and for the purpose herein set forth.

73,010.—James Holland, Conshohocken, Pa.—*Boot.*—January 7, 1868.—The pocket formed inside the boot top for reception of valuables is protected from being cut open by a wire running around the boot top, beneath the flaps.

Claim.—A metal ring or bent wire *d*, applied to the upper edge of the boot-leg, within the folds of the strips A and A', as set forth, for the purpose specified.

73,011.—D. S. Humphrey, East Townsend, Ohio.—*Field Fence.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—The combination of two or more wires B, with the posts A and slats or pickets D, when secured thereto by means of the hook-spikes C, as specified.

73,012.—John H. Irwin, Chicago, Ill.—*Lantern.*—January 7, 1868.—The air to support combustion is carried downward through the heated tubes at the outside of the lantern.

Claim.—In combination with the burner of a lamp, and a globe or protector thereof, one or more tubes or passages D, or their equivalent, arranged to operate substantially as specified and described.

73,013.—Anthony Iske, Lancaster, Pa.—*Alarm Lock for Doors.*—January 7, 1868.—The movement of the handle or latch draws in a hooked bar, and

releases the detent of the alarm attached beside the lock.

Claim.—The combination and arrangement of one or two hooked bolts C, lever D, sleeve E, with the arm B, on the vibrating plate, with or without its knob *b*, when applied to a lock for the purpose of connecting the same with the bell or alarm, in the manner specified.

73,014.—JEREMIAH F. JOHNSON, New York, N. Y.—*Fastening of Jar Cover.*—January 7, 1868.—The side of the metallic lid is pressed inward, forming inclines, which engage those formed on the neck of the jar.

Claim.—The use of two or more inclines in recess on the neck of the vessel, in combination with a metal cap or stopper, with corresponding inclines, substantially as described.

73,015.—P. M. KAFER and J. M. DE LACY, Trenton, N. J.—*Water Heater for Fire Engines.*—January 7, 1868.—When in the engine-house, the boiler of the fire engine is in communication with a heating coil, through which the water continually circulates. The engine in passing from the engine-house, automatically closes the communication, and diverts the current to the condensing coil.

Claim.—The arrangement of the cheeks A A and E, elastic pipes F F, condensing coil D, and with cocks B B and D D, levers *c d*, pin *e*, compensating levers *b b*, wrenches *a a*, constructed substantially as set forth.

73,016.—ISRAEL L. LANDIS, Lancaster, Pa.—*Farm Gate.*—January 7, 1868.—Cords pass from posts up and down the road to a lever by which the latch bar is drawn back, so that a draught upon the cord will serve to retract the latch and open the gate.

Claim.—1. The upright lever K, its spring N, clip M, and latch P, when arranged, combined, and operated by the rope S and pulleys T, as herein described, and for the purposes set forth.

2. The construction and combination of the bent hinge C with its inside block F, as herein described, and for the purposes set forth.

3. The diagonal rail X, with its clip Z, when combined and operated with the upper rail G, of the gate, as herein described, and for the purposes set forth.

73,017.—JOHN MADDEN and I. G. HASEROT, Cleveland, Ohio.—*Bread Cutter.*—January 7, 1868.—The knife has two plates, whose edges are inclined to each other, and form together an angular recess, into which the loaf is forced by the sliding plate. The height of the knife, and consequent thickness of the slices, is adjusted by the spiral cam beneath the table.

Claim.—1. Operating the hinged or jointed table F by means of the cam H, substantially as and for the purpose set forth.

2. The adjustable table F and cam H, in combination with the knife, substantially as and for the purpose set forth.

3. The arrangement of the knife in two sections D D, and jointing the same together, as seen at J, in combination with a table and slide, for the purpose set forth.

73,018.—WM. MANNING, Chelmsford, Mass.—*Confection or Cake.*—January 7, 1868.—Grated cocoanut and sirup in equal quantities are boiled together to cook the cocoanut. To this mass an equal quantity of pulverized parched corn is added.

Claim.—A new and improved combination cake, as herein described, using for that purpose the aforesaid ingredients or composition of matter, or any other substantially the same, and which will produce the intended result.

73,019.—LYMAN MARTIN, Indianapolis, Ind.—*Line Reel.*—January 7, 1868; antedated December 18, 1867.—The line is wound on the drum within the frame, and passes through the slot of the metallic plate. When sufficient of the line is paid out, the stop pin is put into the framework.

Claim.—The combination of the frame A, drum B, crank C, the plate D, and pin G, for the purpose of a line reel, all arranged and operating as set forth and described.

73,020.—HENRY S. MATTESON, Stockton, Cal.—*Seeder and Cultivator.*—January 7, 1868.—The metallic seed slide is operated by the lever at the end of the hopper. Above each seed aperture is a foot of the rocking agitator, which receives motion from a crank pin on one of the ground wheels.

Claim.—1. The beams C B, in combination with beams D, and cross-beams I with draw-bar L.

2. The chest A, wooden shaft *h*, and iron slide *i*, in combination with crooked pin *k*, handle O, crank *b*, connecting rod *c*, when used and arranged for the purpose herein specified.

73,021.—JAMES T. MCDOUGALL, San Francisco, Cal.—*Apparatus for Collecting Precious Metals.*—January 7, 1868.—An ordinary sluice box has tubes or bars of copper placed within it, in such a manner as to intercept the stream and cause it to form a succession of eddies, and bring the particles of gold in contact with the copper.

Claim.—1. A sluice containing obstructing standards, so placed as to convert the current into eddies, substantially as herein described.

2. The iron standards B C, together with the removable copper tubes D, or an equivalent device, constructed and arranged substantially as above specified.

3. The plugs *a a*, for raising and lowering the tubes, substantially as described.

4. The copper plates *b b*, when employed and attached to the sides of the sluice, as and for the purpose herein described.

73,022.—PATRICK MCISAAC, Waterloo, Iowa.—*Corn Planter and Plow Combined.*—January 7, 1868.—The seed hopper is secured between the moldboard and landside, and the seed slide is reciprocated by a crank on the shaft of a roller running in the furrow.

Claim.—The herein described arrangement of the several parts constituting the corn planter, and the mode herein described of attaching the same to a common plow, as specified.

73,023.—GABRIEL MCWILLIAMS, Fostoria, Ohio, —*Churn.*—January 7, 1868.—The cream is alternately drawn into and ejected from the lower end of the open-bottomed tube by the tightly fitting piston.

Claim.—The tube B, piston F, as arranged in combination with the case A, and operated in the manner as and for the purpose set forth.

73,024.—JOHN MERCIER, Detroit, Mich., assignor to ISRAEL KINNEY, same place.—*Harrow.*—January 7, 1868.—The beams are loosely connected by stay-chains and the strut-bars, whose ends enter deep radial sockets in the balls. The draft bar turns on a pin at the center of the harrow, but may be prevented from turning by a pin by which it is secured to the disk.

Claim.—1. The blocks or balls A A, &c., with holes cast or bored, and the rods B B, &c., when constructed substantially as and for the purpose described.

2. The combination of the above-described blocks or balls A A, &c., and rods B B, &c., in conjunction with harrows or cultivators, when constructed substantially as described and for the purposes set forth.

3. The disk G, the draught-bar H, and the pin I, when attached to cultivators or harrows, in the manner and for the purposes described.

73,025.—JOHN MIELER, Plymouth, Mich.—*Sleigh Runner.*—January 7, 1868.—One of the runners is connected to the rim of each wheel by the clips and gib and screw-key. The fore end of the rear sleigh is connected to the rear end of the fore sleigh by the straps, which allow the turning of the fore axle.

Claim.—1. The construction of metal runners, of the shape set forth, provided with clips B, and provided with means of connection, substantially as described, and for the purposes set forth.

2. The attachment, constructed from iron straps

H and I, provided with the adjusting bolt K and the slot J, operating substantially as and for the purpose described.

3. The combination of the above-described runners and attachments, when constructed substantially in the manner described.

73,026.—Carson Mudge, New Orleans, La.—*Cotton Bale Tie.*—January 7, 1868.—The usual tie plate for hoop iron has circular holes formed in its ends, to enable its use with wire or wire rope.

Claim.—The making of the two additional openings or holes A in cotton ties, designed for use in connection with hoop iron, so that the same may be used with equal ease for fastening together the ends of wire-rope or wire, as herein described.

73,027.—L. F. Munger, Rochester, N. Y.—*Lathe.*—January 7, 1868.—The sliding rest works on ways in front of the lathe, and has a forward, horizontal extension, giving support to the tool slide, which has longitudinal, transverse, and turning motion, and forms a table for the attachment of any article when the machine is used as a planer. For this latter purpose a stock is secured to the shears, the said stock having a tool holder sliding thereon, and receiving motion from an eccentric pin on the face plate of the lathe.

Claim.—1. In combination with the lathe-centers, placed vertically, or nearly so, over the front of the lathe, the ways *a b*, on said front of the lathe, for the slide-rest to move on, for the purpose of adapting the parts to the different operations, as herein described and represented.

2. The combination of the centering rod with the mandrel and its adjustable bearings, substantially as described.

3. In combination with a planing or chasing tool, that receives motion from the face-plate or mandrel of the lathe, a slide-rest or holder that has a vertical, horizontal, and swivelling motion with regard to said tool, as and for the purpose substantially as described.

73,028.—H. O. Nauen, New York, N. Y.—*Vise Clamp.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—A vise clamp, composed of two jaws, A, hinged together by means of shanks *a*, and a pivot or pivots *b*, and provided with lips *d*, on their backs *d*, removable lining *e*, on their working faces, and a spring *c*, which opens the jaws, substantially as herein set forth.

73,029.—Martin Newman, Unadilla, N. Y.—*Velocipede.*—January 7, 1868.—The pawls are jointed to sliding plates, and slip over the ice or ground while moving in one direction, but are effective to cause propulsion while moving in the other direction.

Claim.—The device for propelling velocipedes, constructed substantially as herein shown and described.

73,030.—I. W. Norcross, Boston, Mass.—*Pulley Block.*—January 7, 1868.—The cheeks, which are cast in separate pieces, are attached together by rivets, which pass axially through the studs, which may be cast with the eyes. The upper eye is cast open, so as to allow its insertion into the eye of the hook, a section of the stud being cast on each end of the eye-piece. Anti-friction rollers may be placed in recesses of the cheek-pieces to receive the bearing of the pulley journals.

Claim.—1. In pulley blocks, making the several cheeks by casting them independently and separate from the other parts, substantially as described.

2. The cast studs E, interposed between the cheeks, and held thereto by rivets or other suitable fastenings, substantially as described.

3. Dividing the stud E, and combining the same with the eye D, substantially as described.

4. The skeleton partition of cheek H, substantially as described.

5. Arranging anti-friction rollers I beneath the axles of the pulley, substantially as above described, in combination with a pulley block of any form or construction.

6. The hollow partition H, made substantially as described, for the purpose of containing the anti-friction roller, one or more, to support the axles of the pulleys, and to form a recess for the shank of the eye.

73,031.—C. D. Olmstead, Williamsport, Pa.—*Saw Mill.*—January 7, 1868.—The lower end of the saw is connected to the "section of a ball" which fits into a suitable socket in that side of the stirrup which is fast to the cross-head, and is adjusted by set screws traversing the detachable part. The slide head has a convex back resting against the stationary column, and is adjusted by side wedges.

Claim.—1. The stirrup, with its fast and loose sides, holding in one side the section of a ball, and provided with set screws for adjusting purposes, all arranged and constructed as shown and described, and for the purposes indicated.

2. In connection with the stirrup, as shown, the construction and arrangement of the various parts which constitute my muley-block, as described and for the uses indicated.

73,032.—Charles E. Palmer, Manchester, N. H.—*Steam Trap.*—January 7, 1868.—The coupling is formed of non-oxidizable metal, and is screwed to the end of the escape pipe.

Claim.—The movable valve-seat C, constructed with a partitioned coupling A B, substantially as set forth.

73,033.—George Patterson, Augusta, Mich.—*Rail Set.*—January 7, 1868.—The hooked ends of the frame take over the rail, and the press-screw is brought against a point between the ends of the frame to straighten the rail.

Claim.—The within described device, C D E, adapted for bending or straightening railroad rails, substantially as specified.

73,034.—Joshua L. Phillips, Washington County, Miss.—*Cotton-Bale Tie.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—The device herein described, consisting of the central bar A, when provided with the wings B B′, in which, at the points *a a′*, are grooves to receive the band, a longitudinal opening for the ends of the band, and holes *d d′*, as and for the purpose herein set forth.

73,035.—D. C. Pierce, Clayton, N. Y.—*Anchor.*—January 7, 1868; antedated December 28, 1867.—The side frame keeps the anchor in proper position for engaging the bottom, and is attached as stated in the claim.

Claim.—The fenders or rods C C D, constructed as shown, attached to the flukes and stock of the anchor substantially in the manner as and for the purpose set forth.

73,036.—D. C. Pierce, Clayton, N. Y.—*Anchor.*—January 7, 1868; antedated December 25, 1867.—The fluke is pivoted to the frame so that its point will decline and engage the bottom on whichever side the frame may lie. Projections on the head of the fluke hold the same to position for entering the bottom.

Claim.—The shackle E, in combination with the bars C C, and the pivoted fluke A, all arranged substantially as and for the purpose specified.

73,037.—Joseph Pilkington, Frankford, Pa.—*Picker Motion for Looms.*—January 7, 1868.—The horizontal arm at the lower end of the picker-staff is slotted to receive a cross-pin at the end of a weighted lever, by which its back-stroke is effected.

Claim.—The combination of the weight 2, shaft O, arm *g*, and staff *d*, all constructed and arranged as and for the purpose described.

73,038.—William H. Pollard, Seneca Falls, N. Y., assignor to Downs & Co.'s Manufacturing Company, same place.—*Pump Valve.*—January 7, 1868.—The device is intended specially for driven wells. The disk is of rubber, or other elastic material, so as to make a tight joint upon the raised valve seat when sand is present in the water.

Claim.—The combination of the concave disk *g* of the valve with the elevated seat *a*, arranged as described, and operating in the manner and for the purpose specified.

73,039.—THOMAS L. REED, Providence, R. I.—*Lock Coupling for Gas Fixtures.*—January 7, 1868; antedated December 26, 1867.—One portion of the coupling has a socket with an annular recess at its inner end to receive a packing ring, and a spiral groove in its side to engage a pin projecting from the cylindrical end of the other part of the coupling, whose end bears upon the packing.

Claim.—The coupling, constructed substantially as described, with a male and female sleeve, and an annular packing cavity, and a helical groove, and a peg or stud, in combination, all as and for the purpose set forth.

Also, the packing ring, composed of India rubber and leather united together, substantially as described, for the purpose specified.

73,040.—THOMAS L. REED, Providence, R. I.—*Gas Socket.*—January 7, 1868; antedated December 26, 1867.—The lower end of the gas burner is tapering, and fits into the annular packing of the socket.

Claim.—The shell of the socket, constructed with a cylindrical cavity and a shoulder *c*, and a lip or ledge *i*, as described, and in combination with the packing *n*, constructed substantially as and for the purpose set forth.

73,041.—THOMAS RHOADS, Ottawa, Ill.—*Apparatus for Separating Gold from Ores.*—January 7, 1868.—By the described arrangement the crushed quartz is fed continuously into the separator or amalgamator, and beneath the body of lead or mercury. It is maintained for a long time in contact with the metal forming the bath, and is kept continuously moving. When lead is used the ore is previously heated, to avoid chilling the lead.

Claim.—The inside double helix C, the helix B, inside kettle A, the feed pipe F, and the heating flue H, when in combination with each other, constructed substantially as and for the purpose described in the foregoing specification.

73,042.—ARCHIBALD RICE and LEWIS LEACH, Fresno, Cal.—*Driving Bridle.*—January 7, 1868.—The reins pass through eyes of snap hooks upon the bit rings, and through the gag loops to the check hook. The gag straps pass over the poll and diagonally down the face to the bit rings.

Claim.—The combination and arrangement of the straps *a a* with loops or pulleys *c c* and *d d*, with the reins A hitched to the post hook, and running through the loops or pulleys *c c*, and to the hames or saddle, substantially as described.

73,043.—WILLIAM H. RICHARDS, Auburndale, Mass.—*Device for Securing Stoppers to Bottles.*—January 7, 1868.—The hasp collar encircles the bottle neck beneath the bulb, and has a series of staple slots to render it adjustable to suit the size of the neck. It is connected to a cap which receives the top of the cork, and is secured by a padlock.

Claim.—A device for securing corks or stoppers to bottles, demijohns, &c., substantially as described.

73,044.—JOHN C. RICHARDSON, Newark, N. J., assignor to himself and JAMES H. PRENTICE, Brooklyn, N. Y.—*Machine for Pouncing Hats.*—January 7, 1868.—The block frame and the frame of the pouncing disk have partial rotation to bring every portion of the surfaces in contact. The pouncing disk shaft is elevated somewhat above that of the block. The sand paper is confined to the bevel edge of the disk by an inclosing ring having grooves to receive the latches at the rear side of the disk.

Claim.—1. Mounting the partially-revolving frames B and C, and their connections on the centers *b* and *c* arranged out of line with the shafts D and M, and arranged to operate relatively to each other, substantially as and for the purposes herein set forth.

2. In pouncing machines, the sand paper W, or its equivalent, the bevelled parts P and R, and the buttons V and grooves *r*, or their equivalents, combined and arranged for joint operation as a pouncing wheel, substantially as and for the purposes herein set forth.

73,045.—ELISHA ROBBINS, Worcester, Mass.—*Check for Picker Staff.*—January 7, 1868.—The spring brake binds on the top of the picker staff when it is in its backward position, thus holding it to place and serving to prevent its blow against the shuttle box.

Claim.—The arrangement and application of the adjustable spring brake with the picker staff and shuttle box, as described.

Also, the combination and arrangement of the adjustable spring brake and the arch spring with the shuttle box, the picker, and the sword of the lay, the whole being substantially as specified.

73,046.—JOHN B. ROBERTSON, New Orleans, La.—*Stump Extractor.*—January 7, 1868.—The frame is supported on broad-tread wheels when moving from place to place, and has legs to let down for additional support when in operation. The hoisting hook is connected to a screw rod, engaged by a nut, which is turned by a sweep.

Claim.—The truncated pyramidal frame structure B C, when the same is supported at its front end by the axle of the wheels A, and at its rear end by the pivoted adjustable standards E, in combination with the rod F, screw, collar, or nut N, metallic plate M, circular collar *b*, and pivoted standards *b*, when these several parts are constructed and arranged for conjoint operation, substantially as herein described, for the purpose set forth.

73,047.—D. D. ROBINSON, Niles, Mich.—*Hook for Whiffletrees.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—The hook C, pivoted in the groove at the outer end of the socket A, connecting closely to the projection B, forming a perfect loop, and held in place by the spring *a*, when all are constructed and arranged as herein set forth.

73,048.—ICHABOD R. ROGERS, Lynn, Mass., assignor to GEORGE E. BARTLETT, same place.—*Lasting Boots and Shoes.*—January 7, 1868; antedated July 8, 1867.—Improvement on the patent of Gilbert Hawks, June 26, 1866. A line of loop stitches is run along the middle of the insole; the edge of the upper, when "lasting," is connected to the line of stitches by sewing.

Claim.—An inner sole, A, of any suitable material, provided with a row of stitches *a*, by which the upper leather is united to it by stitches, substantially as and for the purpose set forth.

73,049.—WILLIAM H. ROGERS, Harlen, Ill.—*Gate.*—January 7, 1868.—The top rail of the gate is extended backward and weighted so as nearly to balance the gate. The uprights and posts are connected to the bars by pivots. The rear end of the top bar has ropes which pass around pulleys at the bottom of the guide posts, and from thence to posts up and down the road. In opening, the gate is tilted backward, and closes together on the principle of the lazy tongs.

Claim.—1. The combination of the gate *a a'* with the cord *n* and the roller *u*, sheaves *v w*, and handle *m*, or an equivalent, arranged for the purpose of opening the gate substantially as described.

2. The combination of said gate with the cord *e* and the sheaves *h i*, and handle *l*, or an equivalent, for closing the gate, substantially as described.

73,050.—GEORGE E. RUST, Boston, Mass.—*Horseshoe Cushion.*—January 7, 1868.—Explained by the claim.

Claim.—The double pad or cushion, composed of leather and felt or other fibrous cloth, and interposed between the hoof of the horse and the shoe, substantially as herein described.

73,051.—THEODORE SCHEFFLER and HENRY MORRISON, Paterson, N. J.—*Traction Engine.*—January 7, 1868.—Double clutches are attached to the driving shaft in connection with levers acted on by a steam piston. The clutches are connected with

the driving wheels by chains. The driving engine and truck for the forward wheels turn together on a frame through which the steam and exhaust pipes of the cylinder pass. The steering is accomplished by hydraulic power operating the forward truck through chains and a drum.

Claim.—1. In traction engines for common roads, supporting each wheel on an independent short axle, running in suitable bearings, situated on each side, and close to the wheel, in the manner and for the purpose described.

2. The arrangement of the loose clutch J and the internal and external clutches K and L, in combination with the levers *a* and *b*, or their equivalent, operated by the steam cylinder M, the whole being arranged and combined in the manner and for the purpose substantially as set forth.

3. Connecting the driving wheels H with the driving shaft F through chains, or their equivalents, passing over clutches, arranged and operating substantially as specified.

4. Driving the forward wheels P P by a separate and independent cylinder or cylinders attached to the movable truck Q, and turning with said truck and wheels.

5. The center pin R, fast to the truck Q, with suitable passages for the steam and exhaust through said center pin in combination with the socket S and guide frame T, supporting the smoke box C, or end of the boiler, the whole being constructed and arranged in the manner and for the purpose described.

6. Operating the ropes or chains that turn the forward truck and wheels of the engine, to guide or direct its movements by means of hydraulic cylinders operated by a force or steam pump, substantially in the manner and for the purpose set forth and described.

73,052.—Adolph Schlingman, Alexandria, Ohio.—*Bed Bottom.*—January 7, 1868.—The longitudinal cords pass through transverse slats, and are tightened by a roller at the head.

Claim.—1. A bed bottom, consisting of the cord F and transverse perforated slats G^1 G^2 G^3 G^4, with or without the longitudinal stiffening slats H, the cord being rove forth and back through said slats, and held at the ends by pins, substantially as described and represented.

2. The combination, with the cord F and transverse G^1 G^2 G^3 G^4, of an adjusting or tightening rail E or K, applied and operating substantially as described and represented.

73,053.—Carl Schumann, Freiberg, Saxony, assignor to Edward H. Jackson, Boston, Mass.—*Rock Drilling Machine.*—January 7, 1868.—The drill is automatically partially rotated at each stroke, and is moved forward as the hole deepens.

Claim.—1. Imparting a forward and rotating movement simultaneously to the valve rod of a rock drill, by means of the levers *e′e′*, and their connections, substantially as described.

2. The rotating device, consisting of the levers *e′ e′*, operated by means of the guide b^1 on the piston rod E′, the link *f*, guide rod *f′*, pawl *o*, pivoted on the guide rod *f′*, pawl o^2, pivoted on the guide piece *n*, and the guide pieces *m n* and ratchet wheel H, substantially as described.

3. The device for operating the valve rod, consisting of the levers *e′ e′*, operated as described, the forked lever *h*, toothed wheels *k k*, screw rod *j*, bar *i*, and bar *l′*, provided with shoulders *l*, substantially as described.

4. The device for rotating the piston rod and rock drill, consisting of the levers *e′ e′*, operated as described, lever *g*, slotted guide rod *g′*, pawl *p*, pivoted to the guide piece *m*, guide pieces *m* and *n*, shoulder *d*, and the piston rod E′ and slotted ratchet wheel *c′*, substantially as described.

5. The combination of the pieces I I′, with the mortised shoulders J, cylinder K, with tongue *s*, clamp L, and ratchet wheel H, operated substantially as set forth.

6. The arms *e e*, extending from the back plate G′ of the valve chest G, forming the bearing of the main shaft of the device, substantially as described.

73,054.—A. B. Sharp, Paincourtville, La.—*Defecating Cane Juice.*—January 7, 1868.—The fumes of sulphur are passed through the agitated water to cause a more thorough purification of the fumes.

Claim.—The supplemental or additional revolving cylindrical water cistern B, when constructed and operating in connection with Patterson's cylinder A, or any other cylinder substantially the same, and specially employed for purifying the fumes of sulphur to be subsequently used in the defecation of cane juice, as set forth.

73,055.—Calvin D. Smith, Baldwinville, Mass.—*Journal of Axles or Shafts.*—January 7, 1868.—A circumferential groove is formed in the journal, and a longitudinal groove extends from this groove in each direction. A hole is bored from the end of the journal to the intersection of the grooves. The hole has a screw stopper at the outer end.

Claim.—The arrangement of the inclined passage *c* and the grooves *a* and *b*, together and with the journal, as specified.

73,056.—John Stark and Michael Stark, Buffalo, N. Y.—*Machine for Mashing and Boiling Wort for Beer.*—January 7, 1868.—The boiler has steam pipes beneath the lower perforated false bottom. A second false bottom consists of a perforated plate which is connected to the mash-bucket wheels, and is raised therewith by means of the vertical screws. The vertical screws engage by screw gearing with a shaft made to rotate by clutching to one of two loose pulleys revolving in opposite directions upon it. One of the mash-bucket shafts engages by a bevel-gear wheel with a similar wheel having vertical movement on a vertical shaft, and connected thereto by a spline key. This bucket shaft drives the other by spur wheels.

Claim.—The combining of a beer mashing and boiling apparatus, in the manner and for the purpose set forth, or any other principally the same.

73,057.—Levi Stevens, Washington, D. C.—*Manufacture of Illuminating Gas.*—January 7, 1868.—The steam space of the generator communicates with an annular chamber surrounding the exit flue, and the hydrocarbon is forced into this chamber by an injecting apparatus. The mixed gases are taken through a retort filled with coke or iron parings.

Claim.—1. The use of a close chamber for mixing a hydrocarbon and hydro-oxygen under heat and pressure, which mixture is to be afterward retorted, to convert it into a fixed gas for illuminating purposes, as described.

2. In combination with the close heating or mixing chamber, an injecting apparatus, worked by a volume of escaping steam, to force the hydrocarbon into said chamber against the pressure of steam therein, substantially as described.

73,058.—Isaiah Tillson, South Abington, Mass.—*Railway Chair.*—January 7, 1868.—The ends of the rails are held by the jaws, which have bearing against the web from the lower to the upper flange, and are held in their recesses by the covering plates, which slide in dovetail grooves. The jaws are somewhat inclined to the horizon, and hold the rail ends slightly above the bottom of their recess in the chair; the passing wheel serving to depress them to their bottom bearing, and causing the jaws to clamp tightly.

Claim.—The arrangement and combination of the jaw arms and their chambers in the chair with the jaws and the rails arranged within the chair, as set forth.

Also, the combination of the covering plates with the jaws, their arms, and the chambers for receiving such arms, as set forth, such covering plates serving to prevent the jaws and their arms from being thrown out of the chair by vertical movements or vibrations of the rails.

Also, in combination with the chair, movable jaws to act against or grasp opposite sides of the rail or rails, and be pressed against such by a weight or wheel while resting on or passing along on such rail or rails, or either of them, as set forth.

73,059.—Lafayette L. Treman, Ithaca, N. Y.—*Windlass.*—January 7, 1868.—Explained by the claims and illustration.

Claim.—1. The enlarged ends of the levers extending and bifurcating over the ratchet wheels E, so as to embrace the said ratchet wheels by a sliding surface at F‴, as set forth.

2. The adjustment of the said levers and ratchets, made as described, on the shaft C within the bits A, for the purposes specified.

3. The combination and arrangement of the levers, ratchets, and clicks, constituting the working parts of the windlass, within or inside of the bits, for the purpose of giving free scope to the chain, cable, or rope on the heads, and avoiding their interference with the said moving parts, with the heads on the ends of the shaft, outside of the bits, as set forth.

73,060.—CHARLES VOLKMAR, Baltimore, Md.—*Painters' Canvas.*—January 7, 1868.—The canvas has applied to it a compound of albumen and white lead, or of albumen alone, and the latter is then coagulated by boiling.

Claim.—A canvas or other material prepared for receiving colors or other substances by means substantially as herein described.

73,061.—JOHN N. WALLIS and THEODORE WALLIS, Fleming, N. Y.—*Harrow.*—January 7, 1868.—The tooth is fixed in a thimble which turns in a bisected nut screwed into the frame, and forming the box of the said thimble.

Claim.—1. The flanged cylinder C, when used as and for the purpose specified.

2. The double nut or shell piece F, when used in the manner and made to subserve the purpose above set forth.

3. Supporting the teeth of drags or harrows by means of a cylinder which shall allow the teeth to rotate as and for the purpose specified.

73,062.—PRESTON WARE, Newton, and CALVIN R. TILTON, Tisbury, Mass.—*Mode of Closing up Boot Legs.*—January 7, 1868.—Explained by the claim.

Claim.—Making a boot leg whose diverging edges are united by a lap seam by machinery, substantially as described.

73,063.—ALBIN WARTH, Stapleton, N. Y.—*Sewing Machine.*—January 7, 1868.—Explained by the claims and illustration.

Claim.—1. Making the needle slide M and the guide rod P, either or both, in the form of tubes, closed below, so as to prevent oil used in lubricating them from falling on the table, substantially as described.

2. The combination of the guide rods O and Q, with the holding plate S, substantially as and for the purpose described.

3. Making the needle and pressure guide rods O and Q, either or both, hollow, to allow the escape of air, substantially as described.

4. The combination of the thread guide s^7 with the presser foot, substantially as described.

5. The hook 28, formed substantially as and for the purpose described.

6. The combination of the grooved shuttle with the hook 28, as and for the purpose set forth.

7. The disconnected friction pins in the shuttle, arranged substantially as described.

8. The shuttle S′, constructed as shown and described.

9. The spring L, arranged so as to bear upward against the needle slide, substantially as described.

10. The combination of the eccentric r^7, universal joint G I, rod F, and needle lever C, constructed and operating substantially as and for the purpose described.

11. The tension device X *y*, and the take-up W, arranged and combined substantially as described.

12. The combination of the reversible slide *r*, the nut *n*, having arms *p p*, and the rock-shaft *u*, having toes *t t*, substantially as described.

13. The lever *w*, provided with two shoulders, 1 1, in combination with the spring *x*, substantially as described.

14. The adjustable plate 7, for regulating the length of the stitches, in combination with the jaws 5 5 of the feeding apparatus, substantially as described.

15. The box that holds the feed wheel, composed of the rigid plate 11, the spring plate 12, and the elastic rings 14 and 16, substantially as described.

16. The hollow axis in which the feed wheel turns, in combination with the hollow hub, closed at one end, substantially as shown and described.

73,064.—ALBIN WARTH, Stapleton, N. Y.—*Sewing Machine.*—January 7, 1868.—The sewing mechanism is secured to the table by a swivel shaft beneath the throat piece to admit of turning in either direction. The pulley through which motion is imparted is mounted on the cam shaft, around which the mechanism turns. The sewing devices are explained by the claims and illustration.

Claim.—1. The arm D and brace H, in combination with each other and with the shaft C, table A, and platform G, substantially as and for the purpose described.

2. The independent take-up K and cam E, in combination with the double-pointed shuttle S, constructed and operating substantially as and for the purpose set forth.

3. Making the shoulders *h* of the double-pointed shuttle S radiating from the center of the shuttle race, substantially as and for the purpose described.

4. The arrangement of the winding attachment *m*, in combination with the elastic center *j*, substantially as and for the purpose set forth.

5. The cap *k′*, in combination with the elastic center *j*, and with the shuttle race, constructed and operating substantially as and for the purpose described.

6. The hooked pin *p′*, in combination with the pin *p* in the shuttle, substantially as and for the purpose set forth.

7. The movable center *v*, in combination with the adjustable center point *r*, constructed and operating substantially as and for the purpose set forth.

8. The adjustable cam M on the main cam E, combined and operating in connection with the feed bar L, substantially as and for the purpose set forth.

9. The recess *w* in the presser foot, in combination with the adjustable spring *x*, constructed as described, which keeps the braid up against the shoulder *y*, substantially as and for the purpose set forth.

73,065.—JACOB D. WHITE, Kilbourne, Ohio.—*Sheep Rack.*—January 7, 1868.—The rack is pivoted at bottom and settles down as hay is withdrawn.

Claim.—A feeding-rack or manger *a a a*, *b b*, *c c*, I I, provided with an inclined hinged lid or cover, *d d*, and a self-adjusting feed rack, *g g* g^2, J J, which is held in a vertical position by the pieces of leather h^2 h^2 affixed to each end of the rack, and so arranged as to press backwardly on the feeding material by its own gravity, without any auxiliary appliances, constructed and arranged substantially as herein shown and described, for the purpose set forth.

73,066.—JOHN B. WOOD, Cranston, R. I.—*Attaching Handles to Dippers.*—January 7, 1868.—Radial, wedge-formed pieces are removed from the end of the handle entering the socket, to prevent the fracture of the latter by expansion of the wood owing to moisture.

Claim.—Slitting or otherwise removing a portion of the material of the stick or handle which is held in the metal socket piece, when combined with the metal socket, substantially as and for the purpose described.

73,067.—ENOCH S. YENTZER and ALFRED K. MCCAIN, Ottawa, Ill.—*Feller for Sewing Machines.*—January 7, 1868.—The "feller" is attached to the presser foot. One of its edges is bent so as to form a tapering, turning position. A gauge lies close to the seam first made.

Claim.—1. The attachment of both the single turner *a* and the gauge or guide *b* to the presser-foot, by the means and in the manner substantially as herein described.

2. The single turner *a*, in combination with an adjustable gauge or guide *f*, adapted for felling seams, substantially as described.

3. The attachment of the turner *a* of a feller to an elastic holding plate B, substantially as described.

73,068.—John Allen and Charles E. F. Lewis, Washington, D. C.—*Lamp Chimney Fastening.*—January 7, 1868; antedated December, 24, 1867.—The annular chimney catch is bisected, and one section hinged to the other at one end, and engaged to it at the other by a thumb screw.

Claim.—1. The circular and grooved holder, divided into segments, operating on hinges, and held by fastenings, as herein described and for the purposes set forth.

2. The use of an elastic or rubber ring, fitted into the groove of the holder, for the purposes set forth.

73,069.—John F. Allen, New York, N. Y.—*Valve Gear.*—January 7, 1868.—The two eccentrics are connected to a link-motion, which is adjusted by connection to the governor stem.

Claim.—The arrangement of the governor and link-motion with reference to the wrist-motion, constructed as described, to produce an automatic control of the induction valves, substantially as specified.

73,070.—Thomas A. Ballou, Cleveland, Ohio.—*Friction Roller for Band Saws.*—January 7, 1868.—Annular pieces of raw hide (edge outward) are confined between the flange of the pulley and the annular follower.

Claim.—The roller A, consisting of the head A′ and follower piece D, and pieces of raw hide C, clamped between the head and follower by means of clamp screws I, all constructed to operate substantially as described.

73,071.—Truman G. Beecher, Beaver Dam, N. Y.—*Railway Switch.*—January 7, 1868.—The device forms a raised connection between one track and a parallel track beside it.

Claim.—1. The rails of a portable switch, constructed with flanges, for attaching them to the main track of a railroad, and locking them in position, substantially as set forth.

2. In combination with such rails the ties D, constructed substantially as described.

3. The ties D, formed with flanges, arranged substantially as set forth, to form locks to hold the tie on the bed rail, when in proper position to sustain the temporary track.

4. So constructing the rails of a temporary switch that the temporary track may be carried over the bed rail, said portable rails being formed substantially as set forth.

5. In combination with the tie D, the brace D^1, so arranged as to act both to support the rail laterally and to form a chair to hold the rail down, substantially as described.

73,072.—Jonas Berger, Knoxville, Ill.—*Key Coupling for Musical Instruments.*—January 7, 1868.—Improvement on his patent May 14, 1867. In operating the octave the first key of the same is pressed down, the lever of the coupling depresses the slide in the groove of the standard, and thus operates the valves without depressing the octave key.

Claim.—1. The construction of a key coupling, in which the octave is operated without depressing its key, substantially in the manner and for the purpose as herein specified.

2. The construction of the key-board F with standards E, and providing the same with grooves and slides *d* in combination with the straps G, cross-pieces *f* and *c*, standards D, valves C C, and springs *a a*, all arranged substantially in the manner and for the purpose as herein specified.

73,073.—William W. Bierce, Cleveland, Ohio.—*Apparatus for Carburetting.*—January 7, 1868.—Improvement on his patent April 1, 1867. The carburetting vessel is immersed in water in the tank, into which the lower end of the gravitating air holder dips. The air from the holder passes into a chamber communicating with the central chamber of the float, and passes radially through the perforated plates forming the sides of the annular chamber, containing the fibrous material, which is supplied with the hydro-carbon through vertical tubes passing through the sustaining chamber. From the annular carburetting chamber the carburetted air passes to the exit pipe.

Claim.—The immersed carburetting vessel Z, with its contained float D, in combination with the gravitating air holder M, tank L, and inverted siphons F I Q R, when arranged and employed substantially as and for the purpose set forth.

73,074.—Georg Bockstaller, New York, N Y., assignor to Lewis Schneider and W. W. McKay.—*Cane and Umbrella Combined.*—January 7, 1868; patented in Bavaria July 17, 1862.—The cover has a hole for traverse of the stick end and eyes to pass over the ends of the ribs. It is detached when the article is used as a cane, in which case the sheath is drawn over the frame-work.

Claim.—The combination of the cover, detachable from the stretchers and from the stick and the sheath F, arranged to take the place of the cover, and to give to the umbrella the appearance of a walking-stick, all as set forth.

73,075.—Elisha Broad, St. Anthony's Falls, Minn.—*Cant Hook.*—January 7, 1868; antedated July 8, 1867.—Explained by the claim and illustration.

Claim.—The plate D, with its ears and stops *x x*, as shown and described, whereby the hook C, as constructed, is hinged to the handle A and prevented from falling too far back or forward, substantially as herein specified.

73,076.—Stephen D. Carpenter, Madison, Wis.—*Construction of Lumber Wagons.*—January 7, 1868.—The tongue and coupling reach are connected to an iron frame between the bolster, by which the hounds and ordinary fifth wheel are dispensed with. The reach is adjustable in length, having upper and under parts engaging each other by ratchet faces, held in contact by a ring and wedge. The end boards have pins entering the box bottom, and transverse rods which enter recesses in the sides, and are engaged by links hinged to the box sides.

Claim.—1. The rocker block and the coupling block attached to the pole, for the purposes and substantially as herein described.

2. The manner of fastening the stakes to the bolster, for the purposes and substantially as herein described.

3. The manner of fastening the reach together and operating the same, the cast-iron socket C, the sleeves and wedges, the shank E, and the wrought-iron fillet for strengthening the same, for the purposes and substantially as herein set forth.

73,077.—A. J. Chase, Boston, Mass.—*Watch-key Protector.*—January 7, 1868.—The loop engages the ring of the key and retains its point within the bolt.

Claim.—A vulcanized India-rubber key guard consisting of the bulb *d* and loop *f*, made substantially as and for the purposes herein shown and set forth.

73,078.—Pascal P. Child, St. Louis, Mo., assignor to S. R. Fox Manufacturing Company, same place.—*Combined Latch and Bolt.*—January 7, 1868.—The latch is slotted where pivoted, so that it can be moved endways into the staple of the striker and perform the office of a bolt.

Claim.—The sliding-bolt latch C, in combination with the keeper and striker D, the latter being constructed as described, with rebated projections d^2, which act as strikers for the latch when it is used as such, and the hasp rail *d*, which confines the latch when acting as a bolt, as shown and described.

73,079.—William H. Coombs, Fort Wayne, Ind.—*Machine for Pressing Brick.*—January 7, 1868.—The partially-dried brick is placed before the feeder, and by it moved into the course of the plunger, by which it is forced into the mold. On the return movement the bottom plunger is drawn forward and ejects the pressed brick from the mold.

Claim.—1. The improved brick-pressing machine, constructed and operating substantially as herein described.

2. In combination with the mold in which the bricks are pressed, and a plunger or piston, ope-

rated by a crank and pitman, to press the briek in the mold, the movable baek piston P′, moved by the means and in the manner substantially as herein described, to remove the pressed brieks from the mold.

3. In eombination with a plunger or piston, operated by a crank and pitman to press the brieks in the mold, the feeder *i*, operating in the manner and by the means substantially as herein described, and for the purpose set forth.

4. In eombination with the mold, and a pressing plunger or piston, the elastie backing O′, substantially as and for the purpose set forth.

73,080.—William Cooper, Deposit, N. Y.—*Melodeon.*—January 7, 1868.—The dip of the lower keys is automatieally regulated by the pressure of air in the reeeiver. The two bellows have eaeh a reeeiver, by whieh one portion of the seale may be played loud and the other soft. Communieation may be opened between the reeeivers.

Claim.—1. Graduating the dip or depression of the keys by meehanism eontrolled by the reeeiver, substantially such as herein deseribed, for the purposes specified.

2. The two reeeivers A and the two exhausters, with their operating pedals so eombined that the aforesaid reeeivers may be worked either together or separately, at the pleasure of the player, substantially as herein set forth.

3. The slide *b*, or equivalent device, arranged in such relation with the two receivers that the latter may be either separated or made to communicate with each other, substantially as and for the purpose herein set forth.

73,081.—William H. Damron, Robert H. Massey, and Lorenzo F. Whitman, Maeomb, Ill.—*Cultivator and Plow.*—January 7, 1868.—The wheels are adjustable laterally and vertieally in relation to the frame, so that the maehine may be adjusted to operate either as a gang or snbsoil plow.

Claim.—1. The combination of the wheel *a* with the wrist *e*, sliding ehases *e′*, and eross beam *a′*, as and for the purpose deseribed.

2. The eombination of the plow beam *c* with the sliding crotehes *i*, the cross beam *a′*, the guide *n*, and slotted eross beam *o*, substantially as set forth.

3. The eombination of the plow beam *c* with the crotches *i*, provided with the holes *i′* and pins *k*, as and for the purpose set forth.

73,082.—Samuel Darling, Bangor, Maine.—*Straight Edge.*—January 7, 1868.—Explained by the claims and illnstration.

Claim.—1. A straight edge, hardened at its edge or edges and not at its eenter, snbstantially as deseribed.

2. Straight edge, having a hardened edge or edges, and admitting, when warped by hardening, of being brought into true, substantially as deseribed.

3. A straight edge, made of two or more thin pieees, having one or both edges hardened, for the purpose of making it thieker, substantially as deseribed.

4. A straight edge, eomposed of a thin plate, with hardened edge or edges, and a supporting bed or plate, substantially as deseribed.

5. A straight edge, eomposed of two or more hardened straight edges, secured end to end, upon a supporting bed-plate.

6. A straight edge, when eonstructed as herein set forth, whether the same be used as a single edge or with two opposing edges, as in a gauge, substantially as deseribed.

7. The mode herein deseribed of under-graduating the straight edges to eompensate for the stretch in hardening.

8. The process herein deseribed of reducing the graduated edges to the proper standard by tempering.

73,083.—John H. Duhme, Cincinnati, Ohio.—*Steam Generator.*—January 7, 1868.—Explained by the claim and illnstration.

Claim.—The steam boiler eonstrueted as deseribed, consisting of the seetions C placed one above the other, and eonneeted together at the ends by means of the pipes *a*; said sections eonsisting each of the corrugated longitudinal plate *c* and corrugated transverse plate *d*, seeured together at their points of interseetion, all arranged as deseribed, as and for the purpose speeified.

73,084.—Charles R. Ellis, Brooklyn, N. Y.—*Boiler for Heating Apparatus.*—January 7, 1868.—Eaeh one in the vertieal series of pipes has an upper and lower thimble at eaeh end, communieating with the pipes immediately above and below. The pipes are held together by stay rods traversing all the thimbles. The pipes are somewhat inclined, and pipes from the heaters eommunieate with the lowest and highest eorners of the series.

Claim.—A series of pipes for a hot-water heating apparatus, formed with the water-way thimbles near the ends of the tubes, in combination with the pipe (*g* or *h*,) having a range of thimbles on one side, the whole being connected together by tie-rods, as set forth.

73,085.—John P. Ellis, Flushing, N.Y.—*Waterproof Safe.*—January 7, 1868.—One or more eases or bags are inelosed in an outer ease, and the whole may be immersed in water or buried.

Claim.—A water-proof safe or reeeptaele for papers and other valuable doeuments, eonstrueted substantially as herein specified.

73,086.—Henry Farmer, Pontiac, Mieh.—*Potato Planter.*—January 7, 1868.—The earriers are on an endless belt, and consist of eurved forks, whieh, in rising into the hopper, pass up through a grate.

Claim.—The arrangement and combination of the said iron fingers, hopper, and plows, aeting together, as and for the purpose above specified.

73,087.—William Frantz, Piqua, Ohio.—*Cultivator.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—The eombination of the standards D D′ and shovel plows E E′, adjustably attaehed to eross beams C C′, and the adjustable rake F, arranged to operate substantially as set forth.

73,088.—John Gardner, New Haven, Conn., assignor to Samuel Peck & Co.—*Picture and Curtain Knob.*—January 7, 1868.—The knob is eomposed of gum shellae and rosin, in about equal proportions, mixed with sufficient sawdust or fibrous material to give tonghness, and eoloring matter for the tint. The material is molded and the shank inserted while the former is soft. The knob and shank may be made of the same material.

Claim.—As a new artiele of manufaeture, a pieture or curtain knob, or knob for like purposes, made of the material and in the manner substantially as herein speeified.

73,089.—E. J. Gerdom and C. W. Schindler, Albany, N. Y.—*Lubricating Compound.*—January 7, 1868.—Composed of tallow, 100; potash, 3; borax, 5; and alum, 3 parts. The chemicals are dissolved in water and boiled with the tallow nntil incorporated therewith, and the water evaporated.

Claim.—A lubricating compound, made of the ingredients above specified, and having the property that it will melt at a temperature of from 100° to 110°, as set forth.

73,090.—I. A. Gormly, Bueyrus, Ohio.—*Field Fence.*—January 7, 1868.—The metallic standards are attaehed to foundation bloeks, and have sockets for reception of the metallie pins by which the bars are attached to them. The pins have at one end a head, at the other a hole for a key.

Claim.—The combination of metal posts, anehors, and braces, with dowel-pins and wedges, substantially as deseribed.

73,091.—James Gray, Albany, N. Y.—*Base Burning Hot-Air Furnace.*—January 7, 1868.—Explained by the elaims and illustration.

Claim.—1. In a base-burning stove or furnace, which has a supply eylinder, an eseape passage from the chute J through the horizontal pipe *d′*, or the hollow ring *e′*, into the flue F′, substantially as deseribed.

2. Providiug chute J, leading through one side of the exterual casing into the cylinder E, with a damper or valve *g*, substantially as described.

3. The construction of the double wall cylinder D D′, annular chamber *d d*, and air-passages *f f*, substantially iu the manner shown and described.

4. The combination of the magazine E, outer casing H, with the hollow open-work section F, and the annular chamber *d d*, with air passages *f f*, crossing it, of a base-burning air-heating furnace, substantially as described.

5. The combination of the magazine E, central exit-flue F′, and ascending aunular flue *d*, leading from the fire-chamber, substantially as and for the purpose described.

6. Conducting the heated products of combustion, rising from the fire-pot C, around aud over the coal-supply cyliuder, (and discharging them into a central flue, directly over the center of the said supply cyliuder,) in combination with warm-air chamber G and G′, such chamber being inclosed by wall H, all for the purpose of heating air which is to be used for warming apartments, substantially as described.

7. Making the iron protector or the guard-plates *k k* of the fire-bricks (or their equivalents) portable in segments, so that they may be removed through the lower end of the magazine E, substantially as described.

8. In the construction of a base-buruing air-heating furnace, having a magaziue E, an anuular circulating-air chamber, and an annular smoke-passage, both surrounding said magazine, and situated between the same and the annular wall D, the iuclined chute or passage J, provided with a valve *g*, and gas-escape conduit, and adapted to serve as a meaus for introducing coal into the magazine from a point which is below the top of the outer casing, substantially as described.

9. The flaring arched opening of the ash-pit A′, formed by the inclined plate a^2, substantially as described.

10. The combination of the sectional lining *h h* with annular circulating space G and jacket or wall D′, substantially in the manner described aud shown.

11. The combination of the magazine E, damper or valve *g*, the horizontal pipe or pipes *d′*, and the hollow ring *e′*, substantially as described.

12. The arrangement of flues *d′* and *e′* so that they can be cleaued by using a flexible-handled brush from inside of the door leading into the coal-supply cylinder or reservoir, substantially as described.

13. Iu a base-burning air-heating furnace, having a magazine E, a doorway or passage, provided with a door or window, and opening into the combustiou chamber through the outer casing of the furnace, substantially as described.

14. In a base-burniug air-heating furnace, having a magazine E, a passage, covered by a door or window, and leadiug into the combustion chamber, through and across the air chamber formed by the exterior case or wall and the outer wall of the furnace, substantially in the manner and for the purposes described.

73,092.—Calle Gresiuchna, New York, N. Y.—*Apparatus for Distilling and Rectifying.*—January 7, 1868.—Improvement ou patent of C. Gresiuchna aud L. Jarchow, July 2, 1867, (No. 66,323.) The vapors from the still pass into an inverted cup whose edges descend below the top of the conducting pipe, and enter the low wine in the receiver. The vapor is thereby washed in the low wine, in passing beneath the cup edge. After impinging against the condensing surfaces of the receiver, the upper one of which is cooled by water contained in a vessel to which it forms the bottom, the vapor passes into the rectifier, in which it passes through a series of wash-basins. The top and side of the rectifier are cooled by water contained iu vessels each of which overflows into the one next beneath. A radial pipe connecting with the bottom of each basin communicates with an outer vertical pipe, by which water may be flowed through the basins to wash away the impurities which collect in them.

Claim.—The blow-off pipe P, in combination with the cups d^1 d^2 d^3 d^7 iu the rectifier G, substantially as and for the purposes described.

73,093.—Theodore D. Haehnlen, Philadelphia, Pa.—*Reciprocating Ball Toy.*—January 7, 1868.—The ball is at the end of an elastic cord, and by the movement of the handle may be thrown upward through the ring, and may descend through the same.

Claim.—The combination of the ring A, the elastic cord C, the ball D, and handle B, substantially as specified.

73,094.—W. O. Hargrave, Ripon, Wis.—*Cultivator.*—January 7, 1868.—The draw bars are pivoted beneath the axle, and have a transverse bar beneath them, which is attached to a frame running forward of the axle, and connected by toggle levers to the lower side of the tongue. By straightening the toggle levers, which is accomplished by a sliding bar, the fore end of the frame is depressed, and the cultivator shares raised by the transverse bar.

Claim.—1. The board H, connected to the tongue C by the hinge H′, so that the drill teeth can be elevated by the driver, in the manner as set forth.

2. The axle A, with its blocks D D D, between which are hinged the beams E E E, provided with their shovels *e e e*, when used in connection with the board H, bars *d d*, securing the horizontal resting bar G, and operated by the rod *b* upon the beam E, by the hinge H′, the whole constructed aud used in the manner substantially as specified.

73,095.—Dennis Harrigan and Joel Whitney, Winchester, Mass.—*Worm for Gears.*—January 7, 1868.—The thread in contact with the driven wheel projects toward the center of the latter, and the general outline of that portion of the thread is concentric with the wheel.

Claim.—An endless screw or worm, with its threads so formed as to have their general direction from root to summit such that, if prolonged, they would meet at a point distant from the roots of the threads equal to the radii of the wheel they are intended to drive.

Also, the forming of these threads upon a body whose bounding lines, in a direction parallel with the axis of the worm, are concave, the radius of the concavity being equal, or nearly so, to the radius of the wheel to be driven.

73,096.—Charles Hastings, Dowagiac, Mich.—*Bee Hive.*—January 7, 1868.—The sides are double. The movable frames have paper spread above them, and the upper bars of the frame have apertures cut transversely across them to allow passage to the bees.

Claim.—The combination of the box A with an air chamber *a*, and a series of movable comb frames B B, with recesses *x x*. Said frames and recesses are covered with paper C, or equivalent material, as aud for the purposes specified.

73,097.—Napoleon B. Heafer, Bloomington, Ill.—*Brick. Truck.*—January 7, 1868.—The truck wheels are made sufficiently wide to act as rollers. The thills have hooked irons, which engage eyes in a frame attached to the axle. The hand tongue is arranged to slide beneath the box.

Claim.—A truck which is adapted for general use in a brick-yard, consisting of a platform A, with removable head and tail boards A′ A′, mounted upon rollers C C, and provided with a sliding hand tongue E, aud also means for attaching thills F, substantially as described.

73,098.—L. F. Henderson, Freeport, Ill.—*Portable Fence.*—January 7, 1868.—The uprights taper upward, and each consists of two pieces attached to a transverse base piece, and also held together by cleats. The top rails have cleats which take over the ends of the uprights, and serve to hold them in longitudinal position.

Claim.—The uprights A A, secured with cleats F F, and to bases B B, in combination with top rails D, stakes C, and lower rails G, substantially as and for the purpose set forth.

73,099.—Jacob C. Horton, New York, and James Milligan, Brooklyn, N. Y.—*Spirit Meter for Distilleries.*—January 7, 1868.—Explained by the claims.

Claim.—1. The method of ascertaining the quantity of spirits produced in a distillery in a given time, by using, in combination with an automatic meter to measure the spirits passing from the worm, another automatic meter to measure the beer passing from the fermenting cisterns to the still, said meters being arranged and provided with automatic registers, substantially as described.

2. The method of ascertaining the quantity of spirits produced by a distillery in a given time, by passing the beer through an automatic registering meter on its way from the fermenting cisterns to the still, whether in combination with a meter to measure the distilled spirits or not, substantially as herein described.

73,100.—GEORGE W. HUBBARD, Philadelphia, Pa., assignor to CRESSON & SMITH, same place.—*Shaft Coupling.*—January 7, 1868.—The cylindrical coupling is cut through longitudinally, and the opening closed by set screws so as to closely embrace the shaft end. A key lies in seats in the shafts and coupling cylinder, and its inturned ends occupy recesses in the shafts.

Claim.—The combination of a clamp or griping-coupling A, constructed substantially as described, and provisional safety key D, with the shafts B and B′, as and for the purpose set forth.

73,101.—EZRA HUTSON, Brockport, N. Y.—*Pushing Jack for Railroad Cars.*—January 7, 1868.—The pawl bar is placed against a tie and the hinged jaw against the car, and the latter moved by depression of the lever.

Claim.—The hinged jaw *g*, in combination with hinged lever C and hand-lever A, substantially in the manner specified.

73,102.—WILLIAM M. JONES, Horicon, Wis.—*Device for Sharpening Horseshoe Calks.*—January 7, 1868.—The file has two plates, whose beveled faces are turned toward each other to form an angular recess, into which the end of the calk is received.

Claim.—The within-described V-shaped file, constructed and used substantially as and for the purpose specified.

73,103.—JOEL LEE, Galesburg, Ill.—*Washing Machine.*—January 7, 1868.—The pins depend from a head which has reciprocating rotary motion from its vertical journal shaft, but has vertical movement on the latter, limited by a spiral spring. The shaft has a pinion engaged by a rack upon a pitman reciprocated by a crank.

Claim.—In combination with the box, with wheel B and crank shaft for operating the pitman, rack bar, and pinion E, the arrangement of the self-adjusting pins G G directly over the pedestal I, constructed as described, and placed over the bottom of the box, as specified.

73,104.—WILLIAM H. LEWIS, New York, N. Y.—*Bread Board.*—January 7, 1868; antedated December 24, 1867.—The board is arranged to hang up, and has a recess in one edge, in which the bread knife is held by a pin and spring catch.

Claim.—The cutting board for bread, &c., formed with a recess or case for receiving the knife, as set forth.

73,105.—JOSEPH N. LIGHTHALL, Joliet, Ill.—*Filter.*—January 7, 1868.—The filter is placed within a barrel and the water passes through a coarse filter beneath it, and up a central tube to an upper chamber, and from this chamber through the filtering material contained between two perforated diaphragms. The water is drawn from the lower annular chamber by a siphon having a stop-cock.

Claim.—A filter, consisting of a vessel A, provided with a central inlet pipe C, a removable cover B, perforated partitions F G, and an outlet pipe G′, substantially as described.

73,106.—EDWARD LINDSLEY, Cleveland, Ohio.—*Pantaloon Protecting Guard.*—January 7, 1868.—The guard is a flat metallic ring, which is placed inside each leg of the pantaloons at their lower end, and attached to the hem by pins which pass through metallic loops.

Claim.—First, the guard plate A, loops B B, and pins C, when combined and arranged in relation to the pantaloons, substantially as and for the purpose described.

Second, the button D and guard A, arranged as described, in relation to the boot and pantaloons, substantially as and for the purpose set forth.

73,107.—HENRY LUMBARD, Chicago, Ill., assignor to himself, GEO. E. GERTS and JOHN SCHMIDT, same place.—*Broom.*—January 7, 1868.—The reeds are doubled around the wedges, which are inserted in the grooves of the head, and held therein by transverse pins and vertical nails, as well as by nails which secure the metallic tips to the head.

Claim.—The arrangement of the reeds on the wedges B B, and the manner of securing them to the block A by means of said wedges, substantially as and in the manner herein set forth.

In combination with the above, the rivets C C and plates D D, arranged as described and specified.

73,108.—T. J. MARINUS, Independence, Iowa.—*Curtain Fixture.*—January 7, 1868.—The hoisting cord passes through a hole in the top of the case, and through an eye at the lower end of the pendent arm of the weighted clamp. The latter has a projection, which is pressed against the cord by the weight of the clamp, and relieved therefrom by drawing the cord away from the window frame.

Claim.—1. The automatic clamp G, when constructed substantially as and for the purpose specified.

2. The combination of the automatic clamp G, wire H, and cord E, all arranged and operating in the manner and for the purpose set forth.

73,109.—HENRY A. MARTIN, Roxbury, assignor to JOSEPH H. ADAMS, Boston, Mass.—*Fibrous Material for the Manufacture of Rope, Cord, and for Covering Wire, Cord, &c.*—January 7, 1868; antedated December 28, 1867.—Gutta-percha is rolled into thin sheets and then separated into fibers which are subsequently spun into cords.

Claim.—A fiber formed from gutta-percha for the purposes set forth.

73,110.—BENJAMIN A. MASON, New York, N. Y.—*Screw Machine.*—January 7, 1868.—A ring-formed blank-carrier is moved intermittingly, and through this carrier, and at right angles to the same, passes a second ring that carries the cutting tools, and is revolved gradually and continuously. The cutters only occupy a portion of this ring, and the movement of the blank-carrier ring takes place during the time that the cutters are not in contact with the screw.

Claim.—1. The receiver *n* and pusher 11, in combination with the blank carrier *f*, substantially as and for the purposes set forth.

2. The ring-blank carrier *f*, in combination with the ring-tool holder *d* and cutters *r*, the holder passing through the carrier, as and for the purposes set forth.

3. The arrangement of devices, as described, for operating the pusher 11, as and for the purposes set forth.

4. The removable chucks, constructed and applied as set forth, in combination with the ring-blank carrier *f*, as and for the purposes specified.

5. The delivery-slide *w*, actuated as specified, in combination with the ring-blank holder and ring-tool holder, as set forth.

6. A machine for cutting screws, in which the tools and their supporting-ring are moved continuously by gearing that is connected with the screw-driver by a changeable gearing, all arranged substantially as set forth, so that the pitch of the screw-thread may be varied, as specified.

7. The cams *k* and 8, or projections applied to the ring *d*, substantially as specified, in combination with the parts that supply the blank, force it into the blank-holder and move the blank-holder and the screw-driver, the parts being arranged and operating substantially as set forth.

73,111.—Thos. B. McConaughey, Newark, Del.—*Governor.*—January 7, 1868.—The tripping lever is connected by a hook and staple to the pivoted arm carrying the governor-pulley, and in case the belt becomes broken the arm descends and trips the lever, which applies the stopping-brake to the periphery of the main wheel.

Claim.—1. The hinged arm D, in combination with hook *c* and tripping-lever E, when constructed and operating substantially as set forth.

2. The governor-pulley *h*, when driven by and combined with pulley *g* and belt H, in the manner substantially as specified.

73,112.—E. O. Melvin, Brooklyn, Wis.—*Grain Measure.*—January 7, 1868.—A measure is placed under each branch of the chute, and as the gate is moved to direct the grain into either branch the act is denoted by the register.

Claim.—The combination of the bifurcated chute A *a a'* with the gate B, lever L, rod S, and the registering apparatus above described, substantially as described, for the purpose herein set forth.

73,113.—I. Ferguson Morsell, Stamford, Conn.—*Railway-switch Alarm.*—January 7, 1868.—A clock movement is connected to the lever operating the switch. When the main line of track is unbroken the alarm is at rest, but when the main line is broken the alarm continues to sound.

Claim.—The combination, with the switch-bar and lever, capstan, or other device for operating the same, of a clock movement, provided with an alarm-gong attachment, substantially as and for the purposes herein specified.

73,114.—William Munroe, Cambridge, Mass.—*Reed for Organs.*—January 7, 1868.—The reed plate has upward projections, which are grooved to receive the fixed ends of the tongues.

Claim.—As an improved manufacture, musical reeds, in which the tongue is secured in place between two projections, in the manner substantially as described.

Also, the combination with the tongue secured in place, substantially as described, of a depression in the middle, or elevation at the ends of the bed, to which it is secured, substantially as and for the purpose set forth.

73,115.—George G. Noah, Boston, Mass.—*Machine for Making Paste.*—January 7, 1868; antedated December 26, 1867.—The vertical shaft is tubular at the lower end, and receives steam through its step-block, which is screw-threaded for coupling to the steam pipe.

Claim.—1. Introducing steam into the perforated arms and into the contents of the tub, for the purpose above described, and in the manner substantially as set forth, or by any equivalent means.

2. The combination of arms attached to the shaft, wholly perforated or partly perforated, and partly not perforated, for the purpose above described, and in the manner substantially as set forth.

73,116.—David L. Peacock, Rockport, Ind.—*Shingle Machine.*—January 7, 1868.—The bolt is held in the hopper, and on the reciprocation of the knife table a shingle is cut off, which falls into a recess and is carried between the upper and lower rotary planers. The upper planer is journaled in arms, which are raised by projections of the table, so that this cutter shall form the taper of the shingle.

Claim.—1. A cutter frame, composed of two parallel plates *m m'*, the upper one holding a knife N, and the lower one having a raised bed *m'''*, arranged and combined substantially as and for the purpose specified.

2. The combination of a cutter frame, having tapering arms *t t*, with the movable planer G, bearing in hinged arms H H, substantially as and for the purpose specified.

73,117.—Charles W. Pierce, Albany, N. Y.—*Friction Roller.*—January 7, 1868.—The ends of the shafts have collars upon them that are recessed to receive the opposite ends of the friction rollers which are journaled in them, and roll both on the shaft ends and against the inner surface of a surrounding box.

Claim.—The collars A A, made in two parts, and provided with slots or openings, in which the rollers D D are held, as and for the purpose set forth.

73,118.—B. F. Prettyman, Alexandria, Va.—*Skate Sharpener.*—January 7, 1868.—The concave-faced rotary cutter is flanked by adjustable guide blocks, between which the skate runner is passed.

Claim.—1. The adjustable guides B B, in combination with the adjustable file or cutting-tool E, substantially as described and for the purpose set forth.

2. The combination of the file or cutting tool E and key F, when the same are constructed and arranged substantially as described.

73,119.—George Rehfuss, Philadelphia, Pa., assignor to the American Button-Hole, Cording, Braiding, and Embroidering Machine Company, New York, N. Y.—*Sewing Machine.*—January 7, 1868.—The needles are arranged to form an embroidery or button-hole stitch. The thread of the upper needle is conducted through an eye in the needle arm, to the eye at the needle point. The thread of the lower needle is passed through an eye near to its lower end, and in a spiral groove to the eye at the point. The upper needle has a regular and the lower needle an irregular reciprocation, the slide being operated by the lever; a vibrating motion is thus imparted to the lower needle shaft.

Claim.—The combination of the upper and lower eye-pointed needles, when the movements herein described are imparted to the two needles, so that by their joint action they may produce, with two threads, the stitch herein described, in the body or on the edge of a fabric.

73,120.—Reuben Reiber, Lebanon, Pa.—*Hinge*—January 7, 1868.—The pintle is removable with a plate secured to its head and to the blind.

Claim.—1. The pivoted plate *c*, with screw hole to fasten it to the shutter or other object, in combination with the leaves A A' and pins *a a'*, all constructed and arranged and operating substantially in the manner and for the purpose described.

2. The right and left-hand hinge leaves A A' *b b'*, fastened together by a pin *a*, which has a head *a'*, and to which head a plate *c* is pivoted, all substantially in the manner and for the purpose described.

73,121.—E. J. Richardson, Lowell, Mass.—*Ticket Holder.*—January 7, 1868; antedated January 2, 1868.—The holder is attached to the coat and the ticket held therein by the spring wire.

Claim.—1. As a new article of manufacture, a ticket-holder, formed of a single wire, in the manner described.

2. The holding-spring or clamp E, arranged and operating as described.

73,122.—Daniel C. Ripley, Pittsburg, Pa., assignor to Ripley & Co., same place.—*Glass Lamp.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—A lamp which is constructed with a pressed base A, and one or two handles B, and a globe C, blown thereupon, substantially as described.

73,123.—James Sangster, Buffalo, N. Y.—*Machine for Handling or Piling Brick.*—January 7, 1868.—When the handles are extended, the partitions are forced outward by the springs and the divisions are filled with bricks from the machine. The handles are then raised and operate to drive the partitions in and clamp the bricks.

Claim.—1. The partitions B, when made movable by means of the handles C and pins D, substantially as and for the purposes herein described.

2. In combination with the above, the springs G, so arranged as to force said partitions B apart substantially in the manner and for the purposes herein described.

73,124.—Daniel F. Scheaf, Dayton, Ohio.—*Apparatus for Generating Gas.*—January 7, 1868.—The gasoline passes through a strainer consisting of

a perforated plate which supports a sheet or mat of fibrous material, and forming a diaphragm within the tank. A pipe, having a stop-cock, leads from the bottom of the tank to a coil within a stove; the coil pipe is extended and conveys the gas to the upper part of the tank from whence it is carried to the reservoir. The rising top of the reservoir is connected by a chain to the weighted lever operating the stop-cock between the tank and stove to shut off the supply when the reservoir is nearly filled.

Claim.—1. The arrangement of the tank A, pipe C, and stove B, in such a manner that the made gas is passed back through the oil tank, the various parts being constructed and operating substantially as set forth.

2. The arrangement of the receiver top with chain N, lever P, and pipe C, provided with a stop-cock, in such a manner that the flow of oil to the generator is regulated by the rise and fall of the receiver top, substantially as and for the purposes specified.

73,125.—CONRAD SCHIFFERLY, Bourbon, Ind.—*Churn.*—January 7, 1868.—The disk upon the dasher rod is to prevent escape of cream through the orifice in the lid.

Claim.—In combination with the dasher *b*, the saucer-shaped disk *e*, as and for the purpose described.

73,126.—ELIPHALET S. SCRIPTURE, Brooklyn, N. Y.—*Dividers and Calipers.*—January 7, 1868.—One of the head plates has an annular, wedge-formed rib which enters a suitable annular depression in the other head. One leg of the inside caliper is nicely adjusted by a set screw.

Claim.—1. The wedge-shaped circular rib R and groove R′, secured by a set-screw *s*, or an equivalent thereof, for the purpose substantially as described.

2. Adjusting the leg B″ of the caliper, by means of a set-screw *e*, in the manner as above set forth, and shown in the drawings at Fig. 1.

3. A universal divider, with braces 1, 2, 3, 4, and having the inner surfaces or disks of the head A corrugated, or ribbed and grooved, as shown at Figs. 3 and 4, for the purpose as above set forth.

73,127.—J. K. SEEM, Canton, Pa.—*Clock Calendar.*—January 7, 1868.—The month, the day of the month, and the day of the week are exhibited through apertures in the face. The plates having the names thereon are connected to the clock-work.

Claim.—The construction and arrangement of the wheels B C D, and the plate *d*, substantially as described, for the purposes set forth.

73,128.—BENJAMIN F. SHAFFER, Dayton, Ohio.—*Swing.*—January 7, 1868.—A treadle bar is attached to cords secured to a fixed object and afford means of oscillating the swing.

Claim.—In combination with the seat *g g′* of a swing, the hinged pedal, attached to the swing, and the cords *e c′*, fastened to the pedal and carried over pulleys on the swing-frame *h h′*, and then fastened in front of the point of suspension of the swing, said several parts being respectively constructed and arranged substantially as set forth.

73,129.—FRANKLIN R. SHERMAN, Dowagiac, Mich.—*Gate.*—January 7, 1868.—The gate is supported in a slot of the pivoted post, and may be slid back to a balance in the post, and then swung around; or it may be swung on the pivot post without sliding. In the latter case a latch at its heel engages the bottom bars. The gate is raised by the pivoted angular frame when slid backward, and therefore tends to shut.

Claim.—The frame E, used in combination with the gate, the wheels G and H, and the post C, substantially as and for the purpose set forth.

73,130.—WILLIAM SHIRES, Cincinnati, Ohio.—*Garbage Can or Vessel.*—January 7, 1868.

Claim.—A garbage vessel, consisting of the sheet-metal body A, wooden staves B, and base C, for the purpose set forth.

73,131.—PHINEAS L. SLAYTON, New York, N. Y., assignor to self and ALMET REED, same place.—*Machine for Braiding Whip Lashes.*—January 7, 1868.—The stationary, spherical frame is open at top and bottom. It is divided into segments with channels between them for a series of fingers, which are moved around to lay the strands, by segments of an external shell which rotate on their own axes.

Claim.—1. The circular disks F, with slots *h* gearing into each other to carry the braiding fingers herein described, constructed, arranged, and operating as set forth.

2. The braiding fingers herein described, traveling in guide-ways *a a*, with their ends pointing inward, and approaching near to the center of the hollow sphere herein described, all constructed, arranged, and operating substantially as and for the purpose set forth.

3. The oscillating guide blocks *s s*, the curved plates *n n′*, and the pin *o*, in combination with the plates *i i′*, constructed, arranged, and operating substantially as described.

73,132.—GEORGE R. K. SMITH, Brooklyn, N.Y.—*Wagon Protector.*—January 7, 1868.—The points are on rock-bars, and may be depressed out of the way, or raised, to act as a guard around the wagon box.

Claim.—The construction, application, and arrangement of a protecting guard, substantially as and for the purposes described.

73,133.—GEORGE W. STEVENS, Albany, N. Y.—*Safety Padlock for Railroad Cars.*—January 7, 1868.—The notches at each end of the yoke are engaged by spring catches on insertion, and can only be disengaged by turning the blank side to the spring-catch, which is precluded by their connection, so that the yoke must be destroyed to effect an entrance.

Claim.—The lock composed of the shell A, yoke B, and springs or spring catches C, combined and operating in such manner that the lock may be detached only by severing the yoke, substantially as herein set forth.

73,134.—SAMUEL H. SWASEY, Morristown, Vt.—*Barrel Churn.*—January 7, 1868.—The float frame nearly fills the cavity of the barrel, and has radial floats extending inward nearly to the central arbor. The central dasher has radial arms alternating with those on the frame, and may be rotated therewith, or held stationary. The dashers may be held in the same plane while rotating, or at right angles to each other.

Claim.—1. A float frame, made to fill or nearly fill the diameter of the barrel or churn, when provided with floats extending to or nearly to the central float arbor, and operating in connection with said float arbor, substantially as described.

2. The central float arbor, provided with floats alternating with those on the float frame, so arranged that it may be made to rotate with the float frame, or held stationary, when desired, substantially as and for the purposes described.

3. The means for adjusting or setting the float frame and float arbor, whereby the floats may be set or held in the same plane with or at right angles to each other, for the purposes and substantially as described.

4. The adjustable shaft *b*, provided with the squared end, and with the grooves *e* e^1, for controlling the relative operation of the float arbor and frame, substantially as described.

5. The grooved perforated pivot b^1, provided with the squared end fitting in the float arbor, whereby said arbor may be held stationary for working the butter, substantially as described.

73,135.—DANIEL W. TAYLOR, Bell County, Texas.—*Medical Compound.*—January 7, 1868.—For destruction of "screw worms" in cattle and other live stock. Composed of concentrated extract of tobacco, 16 oz.; potash, 8 oz.; camphor, 2 oz.; oil of turpentine, 4 oz.; asafetida, 2 oz.; sulphur, 2 oz.; and lard oil, 4 oz.

Claim.—The preparation or medicine herein described, for the purpose set forth.

73,136.—M. P. THATCHER, Pontiac, Mich.—*Padlock.*—January 7, 1868.—One of the side plates has at each end a cylindrical tube projecting rectan-

gularly therefrom, and the other plate has bolts which enter the cylinders. One of the cylinders is slotted to admit the passage of a spline upon the bolt which is inserted therein. The spline has projections entering annular recesses within a series of wheels turning on the cylinder. The rings have each a single notch admitting the passage of the projections, so that the bolt cannot be withdrawn unless all the rings are in proper position, which is determined by letters or figures upon their periphery.

Claim.—The arrangement of the plates A and B with their shafts and cylinders, as constructed and used, in combination with the wheels F F, as and for the purpose specified.

73,137.—WILLIAM A. THOMPSON, New York, N. Y.—*Machine for Treating Ores of Gold and Silver with Vapor of Mercury.*—January 7, 1868.—The cylinder is supported on tubular radial trunnions, and has an axial shaft turned by a wineh, and carrying radial arms with floats to stir the powdered gold-bearing quartz. The cylinder has windows for observing the contents, and apertures closed by slides, and serving to ladle out a small quantity; or when the cylinder is tilted, to allow the contents to discharge. The quartz is supplied through hoppers. Vaporized quicksilver is furnished through one trunnion and steam through the other.

Claim.—1. The cylinder A, when suspended upon hollow trunnions H, one of which is connected with a retort for vaporizing mercury, and the other with a steam generator, and so suspended that one end may be turned down to allow the contents to be drawn off, substantially as set forth.

2. The cylinder A, suspended upon hollow trunnions, and constructed with opposite windows G, and openings D, E, and F, and used in combination with the stirrer B, substantially as and for the purpose set forth.

73,138.—JOEL TIFFANY, Albany, N. Y.—*Apparatus for Preparing Paper Stock.*—January 7, 1868.—The stock, after cutting and bruising, is packed in the reducing vessel, and treated to the caustic solution at a pressure of from 200 to 500 pounds on the square inch, and at an equivalent heat. From this vessel the stock and solution are blown out into the washing tub.

Claim.—1. The use of a strong, close vessel for heating the entire liquor to be used in the reducing vessel to its maximum heat before introducing the same into the reducing vessel, in combination with the reducing vessel, substantially in the manner and for the purpose above described.

2. The use of a close vessel B, in combination with a reducing vessel G, to be used with their several connecting pipes, substantially in the manner and for the purpose above described.

73,139.—WILLIAM H. TOWERS, Boston, Mass.—*Water Proof Fabric for the Manufacture of Traveling Bags, Trunks, Carriage Tops, and other Artides.*—January 7, 1868.—Strong paper is cemented to a woven fabric, and the paper coated with enamel similar to that used in manufacture of "patent leather."

Claim.—1. The improved fabric, made substantially as herein described.

2. The combination of one or more thicknesses of paper with a woven fabric, and finishing the same with enamel, substantially as herein described.

3. The manufacture of traveling bags, trunks, valises, table covers, carriage tops, and similar articles, by combining enamelled paper with other textile fabric, substantially as described.

4. The application of glycerine to compound fabrics of paper and cloth, such as herein described, to render them tough and pliable, substantially as set forth.

5. The combination of gums, resins, paraffine, collodion, drying oils, and the like, with a fabric composed of paper and cloth, substantially as described.

73,140.—JACOB N. VANDEGRIFT, S. T. VANDEGRIFT, S. D. FRENCH, and E. S. STONE, Wabash, Ind.—*Car Coupling.*—January 7, 1868.—Explained by the claims and illustration.

Claim.—1. The method and means described for self-coupling cars of a railroad train, to wit, by forcing the link held by the coupling bolt of the bumper of one car up to and past the beveled coupling bolt D of the bumper of the other car, which coupling bolt is fixed by a rivet, P P, to an attachment, E, which tilts as the coupling bolt rises and falls, and which attachment is kept in place by the spring *b t*.

2. The method and means, above described, for uncoupling and detaching railroad cars at will, whether the cars are in motion or at rest, viz, by the use of a cord or chain, R, in reach of the conductor, and attached to a compound lever, U *m* T, affixed at U to the side of the bumper, and at T to the attachment by which the coupling bolt is raised or depressed, so that the coupling bolt may be raised and depressed at will.

3. The method and means, above described, for uncoupling and detaching railroad cars when run off the track, viz, by using corresponding couplers, as above described, on the bumpers of each car, and so that when the forked lever F of the bumper of one car rests on top of the spring *i* of the forked lever on the bumper of the other car, and, being moved laterally, pushes the wheel I, at the end of the attachment of the coupling bolt, against the inclined planes O of the forked lever, the effect will be to depress the coupling bolt and detach the cars.

73,141.—JACOB VIGEANT, Marlborough, Mass.—*Shoemakers' Hammer.*—January 7, 1868.—The plane of the faces if extended would cut the handle at its point of oscillation within the hand.

Claim.—Constructing the hammer with the inclined striking-face set at an angle with the handle, substantially as shown and described.

Also, combining with the handle, having uniform opposite sides, the two inclined faces, arranged with respect to each other and to the handle, substantially as shown and described.

73,142.—DAVID C. WALTERS, Warsaw, Ind.—*Attachment for Hoppers of Grinding Mills.*—January 7, 1868.—The "float" is a hinged flap at the hopper bottom, and it raises when the weight of grain has been removed from it, and causes the opening of a spout of an upper hopper, from which the grinding hopper is supplied.

Claim.—1. A bell, so operated and arranged within the hopper that, when surrounded by the grain, it will be held stationery, but when uncovered will be caused to ring, substantially as and for the purpose specified.

2. The loaded lever D and connecting rod *d*, so combined with the float B, in the bottom of the hopper, that the said lever may operate when the float is released from the weight of grain in the hopper, substantially as and for the purpose specified.

3. The bell F, wire *f*, and adjustable annular block E, in combination with the standard C, rod *g*, and bar G, substantially as and for the purpose specified.

73,143.—JOSEPH WARWICK, Springborough, Ohio.—*Sulky Plow.*—January 7, 1868.—Explained by the claims and illustration.

Claim.—1. The device for lowering and raising the plow beam, consisting of the plates *g* and *i*, the former being slotted, pivoted as described, adjusted by means of the set screws *k*, and operated by means of the lever G and bow rack H, substantially as described.

2. The screw shank *s* of the sheath *k*, and nut *t*, in combination with the standard P, attached to the land side L by means of the bolt *p*, for the purpose of lowering the plow point, substantially as described.

3. The mold board I J, with its part J bent around the sheath and secured to the same, substantially as and for the purpose described.

4. The share M, with its bent part N connected to the land side L, and with the latter forming the point, attached and constructed substantially as described.

5. A plow with separate mold-boards and share, both attached to the sheath in such a manner that no bolt or rivet is used on their surface, substantially as described.

73,144.—Miles Waterhouse, Passaic, N. J.—*Floek-Duster.*—January 7, 1868.—The flock is fed into the hopper at one end of the case, and is discharged at the other end. It is dusted and loosened by the inclined brushes which impel it forward. The dust escapes through a semi-cylindrical screen.

Claim.—The rotating brush cylinder *d*, with its spirally-arranged brushes and beaters *d' d' d'*, when combined together, and with the screen *e* and the openings *c* and *f*, in the manner and for the purposes shown and described.

73,145.—H. B. Wellman, Allegheny City, Pa.—*Lamp.*—January 7, 1868.—A tube connects with the bottom of the oil receptacle of the lamp, and water occupies both the lamp and tube to a slight distance above the point of communication. The oil is supplied through the tube, in which it has sufficient elevation to force it through the water.

Claim.—The pipe C for oil, and the pipe E for water, having chamber D between them, when arranged in combination with the lamp A, and used for the purposes set forth.

73,146.—Samuel Wetherill, Philadelphia, Pa.—*Proeess of Manufaeturing White Oxide of Zinc.*—January 7, 1868.—The vapors of combustion from coal, charcoal, or wood nsed in the manufacture of white oxide of zinc are passed through incandescent charcoal, whereby the coal-black and oxygen are consumed and the oxide of zinc vapor is reduced to a metallic vapor of zinc, which is supplied with oxygen by a hot blast that is intended also to consume any speck of coal-black which would otherwise injure the color.

Claim.—Passing the products of combnstion from the furnace into an anxiliary chamber or chambers containing incandescent carbon, and thence, through the incandescent coals, into contact with a hot blast, snbstantially as and for the purposes described.

73,147.—Samuel Wetherill, Philadelphia, Pa.—*Apparatus for the Manufaeture of White Oxide of Zinc.*—January 7, 1868.—This relates to an apparatus for the mannfacture of the oxide of zinc with bituminous coal, coke, or charcoal as fuel, and is described in his previous patent, (No. 73,146.)

Claim.—The combination, with the furnace, of one or more chambers, communicating with said furnace, and adapted to contain incandescent coals, and permit the passage of the products of combnstion from the furnace through the said coals, substantially as and for the purposes described.

Also, in combination with the incandescent chambers, hot air flues, into which the vapors of zinc may pass from said chambers, to mingle with and be carried off by a hot blast, substantially as described, for the purposes set forth.

Also, the arrangement of the blast-tnbes *g* immediately over the furnace, and communicating with the chambers E E, as and for the purposes described.

73,148.—Ludwig Wetzell, Washington, D. C.—*Hames-Tug Buckle.*—January 7, 1868.—The hame clip is riveted between two plates, the outer one of which has another plate hinged to it and with it, forming the loop for the end of the trace. It has an apertnre to receive the end of the pin passing through the trace, and is held down by a frame, beneath whose outer transverse bars the trace passes.

Claim.—The hames-tug buckle *g*, with loop-cover *a* and pin *f*, when the parts are constructed, connected, and fitted to produce the result substantially as described within.

73,149.—Ezra Wilder, South Hingham, Mass.—*Carriage Harness.*—January 7, 1868.—The sides of the saddle are adjustable to conform to the contour of the horse. The tugs are adjustable vertically on the harness.

Claim.—Making the parts of the saddle relatively adjustable, substantially as shown and described.

Also, making the parts of the hames relatively adjnstable laterally, snbstantially as above described.

73,150.—Courtland B. Wilson and Abner S. Houghton, Trenton, N. J.—*Water-Wheel.*—January 7, 1868.—The top plate is attached to a central drum and to the lower rim, which latter revolves in an annular groove of the bed-piece. The buckets have gudgeons entering the top plate and rim, and are turned outward by the abutments which stand in the space between the rim and drum ascending to the top plate. The water is discharged through vertical pipes, which, being carried downward, act by suction on the buckets.

Claim.—The combination of the top plate E F and the rim G H with the movable self-adjustable buckets L L, stays K K, the groove or channel O O, and stops or abutments P P, all substantially as above described and for the purpose set forth.

73,151.—Frank H. Wilson, Wethersfield, N. Y.—*Cheese-Box and Butter-Tub.*—January 7, 1868.—The projections on the outside of the box and inside of the lid rim, engage by turning the latter on the former.

Claim.—The arrangement of the box or tub A with its cover B, box A having a flat metal shoulder, *d*, on each side, near its top, and cover B having similar metal shoulders, *e*, on its inner flange, as and for the pnrposes set forth.

73,152.—Linus Yale, jr., Cooperstown, N. Y.—*Vise.*—January 7, 1868; antedated December 21, 1867.—The nut has a ratchet engaging in a ratchet rack at the lower side of the socket. When the nut is at its most extended position upon the screw, it is raised clear of the ratchet, and the jaw may be slid in or outward; the screw being then turned forward the nut is bronght down on the rack.

Claim.—1. A screw capable of operating the moving jaw of a vise, in combination with a nut having an inclined plane thereon, and an inclined plane attached to the moving jaw, these parts being and operating in combination, substantially as described.

2. In combination with a rack attached to the stationary jaw of a vise, and an inclined plane attached to the moving jaw thereof, a racked nut, provided with a screw, and an inclined plane, the combination being substantially such as described, and operating substantially as set forth.

3. In combination with the jaws of a vise, a screw, a rack, and a racked nnt, a spring, located as described, and operating in combination with the parts with which it is combined, substantially as described, to control the position of the rack, substantially in the manner and for the purpose specified.

4. A sectional collar, in combination with a moving vise jaw, and the screw which operates it by means of recesses therein, the combination being and operating snbstantially as hereinbefore set forth.

73,153.—Frederick Yeiser, Danville, Ky.—*Pump.*—January 7, 1868.—The agitator rods are connected to the pump rod and agitate the surface of the water to effect its purification.

Claim.—The rods or shafts D D, provided with agitating cross-pins, and used with the stock A, substantially as and for the purpose set forth.

73,154.—Louis Baum, Washington, D. C.—*Time Alarm.*—January 7, 1868.—The weight is elevated by coiling its supporting cord upon the shaft, and is raised so high that when the shaft is connected to the spindle of the minnte hand the required time shall elapse before the weight descends sufficiently to depress the detent of the alarm. A scale on the post indicates the height to raise the weight.

Claim.—An alarm, arranged to be operated by an ordinary watch, through the medium of the weight T, cord *l*, and revolving shaft F, arranged to operate substantially as described.

73,155.—G. W. R. Bayley and John McCluskey, Algiers, La.—*Car Seat Loek.*—January 7, 1868.—The seat backs have projecting lips which engage pins on a turning bar, and the bar is locked in position by a staple which engages its square end and is secured by a padlock. The device is intended to prevent inversion of the seat backs.

Claim.—1. The bar A and pins *a*, disposed on the said bar *a*, substantially as above described, in combination with the lips E, or their equivalent, in manner and for the purpose substantially as above set forth and described.

2. The said bar A, in combination with the half

cap F and padlock G, in manner and for the purposes above set forth and described.

73,156.—JOSEPH BAYSORE, Freeport, Ill.—*Buckwheat Hulling Machine.*—January 7, 1868.—The spindle at its lower end is journaled in a box, within which the step block is loosely held; the box thus serving to hold the spindle and step to place without cramping them in their vertical adjustment. The "runner" is balanced on the segmental cross-heads of the bail by set screws. The suction pipe of the blower is curved over the top of the mill, and its end forms the discharge spout of the same, so that the hulls and finely broken grain are sucked up and discharged with the air.

Claim.—The arrangement of the tightening bar N, spindle-step *c*, knockers *d*, for operating the trash-screen, spindle *a*, bail *g*, fan-blower E, and curved spout G, as herein shown and described.

73,157.—A. J. BELL, Bloomingburg, N. Y.—*Straw-Cutter.*—January 7, 1868.—The inclined top bar of the sash gives bearing to a series of angular cutters. The sash is operated by a transversely projecting handle, and has a horizontal lower bar whose slot is traversed by a wrist pin on a balance wheel.

Claim.—The toothed cutter-blade C, in combination with the frame G, guides F, and box B, all constructed, arranged, and operating substantially as described.

73,158.—WILLIAM BENNETT, Rushville, Ind.—*Attachment for Plows.*—January 7, 1868.—The fender is for protection of small plants from rolling earth, but gives way to heavy clods.

Claim.—1. The vertically adjustable fender H attached to the bar E, sliding in the guide F, when such bar is attached to the spring J, whose forward end is secured to the beam A in such a manner that the fender shall yield to a clod of earth, and be thrown into the proper position by the spring J, after passing such clod, as herein shown and described, for the purpose specified.

2. The spring J, when secured to the sliding bar E, bearing the pendent arm G and fender H, for the purpose of allowing a yielding movement to the fender when brought in contact with clods of earth, as herein shown and described.

73,159.—H. BESSE, Delaware, Ohio.—*Automatic Water Gate.*—January 7, 1868.—The water gate is hinged at the bottom and is secured by a drop latch. The drop latch is connected to a float by which it is raised to free the gate when the water in the stream is high. The gate is connected to a heavy float by which it is opened as the water rises, and closed on its subsidence.

Claim.—1. A water gate A, pivoted at or near its lower margin, and provided with a projecting float B, all substantially as shown and described, and operating as and for the purpose set forth.

2. The latch *e*, or other equivalent device, operated by a float *m*, or other equivalent device, substantially as shown and described, and in combination with the water gate A, all as and for the purpose set forth.

73,160.—ABRAHAM BLOCK, San Francisco, Cal.—*Sluice Blanket.*—January 7, 1868.—A heavy thread is thrown in at intervals in weaving so as to project upward from the body of the cloth. The ribs are intended to arrest the escape of metallic particles in the sluice.

Claim.—A sluice blanket provided with woven ribs, substantially as herein described.

73,161.—GEORGE A. BOWEN, Trenton, assignor to himself and SAMUEL C. PARROTT, Bordentown, N. J.—*Watch.*—January 7, 1868.—The ring has a spring catch which engages the drum. On breaking of the main spring the catch is released and prevents damage to the machinery.

Claim.—The ring C, formed within the drum A, and fastened to the main spring B, when combined with the catch E and shoulder *a*, substantially as and for the purposes herein shown and described.

73,162.—ALBERT BRUSH, East Constable, N. Y.—*Hollow Auger.*—January 7, 1868.—The boring bit has adjustable cutters which make a cylindrical recess at the inner end of the hole in the felloe to receive a shoulder upon the spoke.

Claim.—1. The hollow auger D, provided with the knives *e e'* for forming upon spokes the tenons *b* and shoulder *s*, adapted to fit into the recess in the felloes formed by the auger C, having the extended cutting lips *c* and adjustable guide *d*, constructed to operate as herein shown and described.

2. The auger C when provided with the projecting cutting lip *c* and adjustable gauge *d*, constructed and operating as herein described, for the purpose specified.

73,163.—JAMES CARTWRIGHT, Youngstown, Ohio.—*Process of Mixing Iron and Steel.*—January 7, 1868.—After preparing the bottom of a puddling furnace with sand or iron "fixing," an inch thick layer of wrought and cast-iron turnings is spread, and above this a layer of cast steel and wrought iron cut small, the layers alternating in this manner; the mass is heated to a white heat, rolled into a ball, and then rolled out into bars.

Claim.—The process of mixing and combining steel and iron, substantially as herein described.

73,164.—JOHN CHANTRELL, Bristol, Conn.—*Knitting Machine.*—January 7, 1868.—A flat web is knit by two sets of hooked needles combined with sinkers playing between the horizontal needles. The yarn is taken from a single spool, is laid over the bodies of the horizontal needles, and is then depressed between the needles by the sinkers. The loops thus formed are taken up by the vertical needles and cast off the ends of the latter upon loops held between the vertical and horizontal needles, and thus locked.

Claim.—1. The manner herein shown and described, of connecting the arms of the sinkers *m* by means of annular plates *r'* and rivets, as set forth.

2. The needle carrier G, when connected with the sliding rack F and with the plate H, in such a manner that a combined longitudinal and transverse sliding motion is imparted to it, substantially as herein shown and described.

3. The reciprocating thread carrier R, when arranged as described, in combination with the arms e^1, needles I and J, and sinkers W, all made and operating substantially as herein shown and described.

4. The device herein shown and described, for communicating motion from the needle carrier G to the bar P, holding the thread carrier, said devices consisting of the spring plates a^1 b^1, cams c^1, and stationary cams d^1, all made and operating substantially as herein shown and described.

5. The devices herein shown and described for adjusting the stroke of the sinkers W, consisting of the grooved plate V, vertical slides *g'*, eccentric shafts *h'*, gear wheels *i'*, and sliding rack *j'*, all made and operating substantially as herein shown and described.

6 The combination of the perforated disk *d*, adjustable connecting rod *g*, and the segment D, as and for the purpose set forth.

73,165.—J. S. COOK, West Groton, Mass.—*Whip.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—A whip having its lash secured or hung to its stick, through a swivel ring or eye, substantially as and for the purpose described.

73,166.—S. H. COX and W. H. PENCE, Mattoon, Ill.—*Corn Plow.*—January 7, 1868.—Explained by the claims and illustration.

Claim.—1. Connecting the forward ends of the plow beams H to the frame C by means of the clevis I, constructed as described, and the long adjustable bolt J, substantially as herein shown and described and for the purpose set forth.

2. The combination of the lever O and toothed pawl P with the shaft N, grooved segments M, chains L, and beams H, in connection with the clevises I and long bolts J, for raising the plows vertically from the ground, substantially as herein shown and described.

3. The combination and arrangement of the plows

V, having cutters v' attached to them, and turning the dirt from the hills, plows W running at a lower level than the plows V, and turning the dirt toward the hills, standards R and T and beams H with each other, substantially as herein shown and described, and for the purpose set forth.

73,167.—WILLIAM CRAIG, Uniontown, Pa.—*Flour Bolt.*—January 7, 1868.—The bolt has two hexagonal bolting cloths arranged one within the other, and having between them a closer cloth. These annular spaces receive the meal from the different runs of stones and deposit the products in separate compartments.

Claim.—The bolt, constructed as described, having the partitions v^2 between the outer and inner bolting cloths v v^1, operating substantially as described for the purpose specified.

73,168.—F. S. DAVENPORT, Jerseyville, Ill.—*Low-water Alarm for Boilers.*—January 7, 1868.—The valve stem has a float at bottom which sinks with the depression of the water and allows the escape of steam when the water falls below the proper level.

Claim.—1. The construction and arrangement of the hollow tube C, provided at its upper end with the screw-plug D, having valve seat g, the hollow tube E fitting in tube C, and having the opening j communicating with the interior of the float, and provided at its upper end with the pointed valve h, all operating as described for the purpose specified.

2. In combination with the outer and inner tubes C and E, when arranged as described, the valve seat g, the valve h, and the orifice j, substantially as and for the purposes set forth.

73,169.—ANTHONY G. DAVIS, Watertown, Conn., assignor to himself and AUGUSTUS N. WOOLSON, same place.—*Broom or Brush Holder.*—January 7, 1868.—The spring jaws are attached to the wall and operate to clasp and sustain the broom handle.

Claim.—The broom-brush holder, constructed as described, consisting of the curved spring arms A, made in one piece, and secured in position under the bar B, and slotted to receive the sliding bar C, as herein described for the purpose specified.

73,170.—EDWARD B. DECKER, Bedford, Ill.—*Tire Shrinker.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—The combination of the operating lever or handle D, pivoting straps C and E, pivoted levers or bars A and B, having clamps with stationary jaws F G, and pivoted eccentric jaws H I attached to them with each other, substantially as herein shown and described, and for the purpose set forth.

73,171.—GEORGE DITTENHAVER, Napoleon, Ohio.—*Extension Clothes Post.*—January 7, 1868.—The post is extensible vertically, and has a catch for the cord, operated by a thumb screw. A bent plate at top turns the rain. The standard has a ratchet on one side engaged by a spring catch on the raising portion of the post.

Claim.—The combination of the sliding part B, provided with the spring pawl b, and having the removable clamp D secured to its upper end, and adjusted by means of the thumb screw F, all constructed and operating substantially as described for the purpose specified.

73,172.—EDWIN DOOLITTLE, Pawnee, Ill.—*Cultivator.*—January 7, 1868.—The fore ends of the plow beams are connected by gimbal joints to clevises having anti-friction rollers running on the front cross-bar of the frame. The fore ends of the beams are also hung by pendulous links to the frame, so that they admit of lateral movement by the driver.

Claim.—1. The hinged slides M, friction wheels N, and bent bar E, with each other and the plow beams I, and with the beams or bars D, substantially as herein shown and described, and for the purpose set forth.

2. In combination with the above, the knees or bars O, cross-bar P, and lever R, all arranged and operating in the manner and for the purpose set forth.

3. The combination of the adjustable connecting and brace bars W, uprights V, and plow beams I, when arranged to operate in the manner herein described and represented.

73,173.—JOHN W. DOUD, Forrestville, Iowa.—*Cultivator.*—January 7, 1868.—Explained by the claims and illustration.

Claim.—1. The combination of the frame C, strengthening braces D, and diagonal plow beam E, to which the standards F of the plows G are attached, with each other, the said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

2. Connecting the axle B to the tongue I of the frame C by the inclined bars J, and jointed or link connection K, substantially as herein shown and described.

3. The combination of the cross-bar M and adjustable chains L with the inclined bars J and frame C, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the lever N, chain P, and bail or bar R, with the frame C and axle B, substantially as herein shown and described, and for the purpose set forth.

5. The combination of the levers S and T with the frame C, axle B, and inclined bar J, substantially as herein shown and described, and for the purpose set forth.

73,174.—CHARLES DUPRÉ, Louisville, Ky.—*Door Hinge.*—January 7, 1868.—The hinges are secured to the top and bottom of the door, and have out-turned ears by which they connect with the parts attached to the jambs. The lower hinge turns on a set screw which is stepped in a block, and by which the door is adjusted vertically.

Claim.—The hinge plates a and b, furnished with the arms or ears E, E', and e, in combination with the pin C, screw D, and socket F, or their respective equivalents, in manner substantially as and for the purposes described.

73,175.—JAMES ELLIOTT, Milford, Wis.—*Tire Shrinking Machine.*—January 7, 1868.—The tire is clamped between the curved serrated bars and the serrated cams, and the carriages are moved toward each other by the levers to upset the tire.

Claim.—1. The combination of the connecting rod or chain G, for opening the carriages, with the carriage E and cam levers F, substantially as described.

2. The slot b in the bed piece B, and the groove a in the platform A, making together a T-shaped groove, in combination with a T-shaped lug upon the carriages, all as substantially specified and described.

73,176.—LOUIS ELSBERG, New York, N. Y.—*Buckle.*—January 7, 1868.—The strap is engaged by the numerous serrations upon the lateral bar of the tongue.

Claim.—The buckle, constructed as described, consisting of the buckling loop A, having the flattened center C and bent edge D, its extremities B bent at right angles to the center C, forming bearings for the loop E, the latter having the serrated tongue I fitting between the arms B upon the flat surface of the loop A, beneath the edge D, as herein described, for the purpose specified.

73,177.—CHARLES A. FISHER, Geneseo, Ill.—*Hay Knife.*—January 7, 1868.—The edge, back, and bracing piece form a triangular frame, and are in one piece with the staff bar, which has a spade handle at the end, and a rectangularly projecting handle part way down.

Claim.—As a new article of manufacture, the hay knife, when formed from a piece of metal as shown and described, and provided with the handles F G, as herein set forth.

73,178.—DAVID FORREST, Eastport, Me.—*Sewing Machine.*—January 7, 1868.—The bell-crank hand lever has a vertical cross-bar through which the thread passes, and which is connected by a link to the needle carrier. The looper is operated by sliding rods actuated by the lever.

Claim.—The bent hand lever D, in combination with the slide rods *e k*, mounted on the base B, and connected with the needle *a* and the looper *d*, as set forth, the whole constructed and operating as herein described.

73,179.—C. E. GLADDING, Troy, Pa.—*Horse Hay Fork.*—January 7, 1868.—Improvement on his patent May 11, 1858. The head is hinged to the staff and is held rigidly thereto by a tongue and tripping catch. The catch is attached to a cord passing axially through the handle.

Claim. 1. In combination with a power hay fork the connection D, or its equivalent, formed of the parts E, F, and G, or their equivalents, substantially as and for the purposes herein shown and described.

2. In combination with the connection D, or its equivalent, the bail C, substantially as described.

73,180.—J. F. HAMMOND, North Sudbury, Mass.—*Straw Cutter.*—January 7, 1868.—The sliding frame has two knives, which make the reciprocation of the slide effective in both its upward and downward strokes; and both the upper and lower sides of the throat have knives acting with those on the slide. The feed is fed by rakes which are automatically thrust into the feed from above and below, and while inserted are moved forward and then withdrawn.

Claim.—1. The combination and arrangement of the beveled knives L, M, N, with each other and with the sliding frame D and feed box C, substantially as herein shown and described, and for the purpose set forth.

2. The combinations of the slotted lever arms R T, sliding frames O, and sliding rake heads S, one set or both, with each other, with the feed box C, frame B, and knife frame D, substantially as herein shown and described, and for the purpose set forth.

73,181.—C. A. HARPER, Wheeling, Ind.—*Cultivator.*—January 7, 1868.—The spiral plate has a bevel wheel engaging a similar wheel on the main-wheel shaft, and operates to clear the clods and trash from before the plow.

Claim.—1. The combination of the wheel D′ with the cultivator frame A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the spiral or screw plate H with the wheel D′, and with the cultivator frame A B, substantially as shown and described, and for the purpose set forth.

73,182.—SAM'L T. HEMINWAY, Saratoga Springs, N. Y.—*Burglar Alarm Lock.*—January 7, 1868.—The alarm is combined with an ordinary lock, and is set in operation when the latch is drawn in.

Claim.—The combination and arrangement of the pivoted lever B, having its outer arm projecting through the aperture T on the top of the lock, the notched arm A secured to the verge, the spring C and arm R, substantially as described, for the purpose specified.

73,183.—GEORGE H. HENFIELD, San Francisco, Cal.—*Car Axle Box.*—January 7, 1868.—The ends of the semi-cylindrical soft metal linings enter grooves in the caps, and have studs entering the shells to prevent them from rotation. The shoulders of the axle have bearing against the caps.

Claim.—The combination of the grooved caps *c c*, the linings *a a*, provided with pins *c c*, and the shells A A, arranged as and for the purpose herein described.

73,184.—CLARK R. HEWETT, Waupun, Wis.—*Straw Cutter and Corn Sheller Combined.*—January 7, 1868.—The balance wheel has cutter knives on one side and shelling teeth on the other. The knives have a backing of rubber to keep them in contact with the metallic mouth of the fodder box. The ear of corn is fed in at the top and subjected to the action of sheller teeth and a serrated surface; the cob is ejected from the side and the corn has exit at the bottom.

Claim.—1. The combination of the shafts J N, bevel-gear wheels L M, cutter knives P, and sheller teeth S, with the balance wheel O of a combined fodder cutter and corn sheller, substantially as described, and for the purposes set forth.

2. The combination of the rubber springs R with the knives P and balance wheel O, substantially as described, and for the purpose set forth.

73,185.—A. P. HOLMES, Great Falls, N. H.—*Bobbin.*—January 7, 1868.—Explained by the claim.

Claim.—The spool or bobbin, having its solid wooden body surrounded by the metallic cylinder between the end disks, the bearings of said spool being composed of wood, as herein described, for the purpose specified.

73,186.—GEORGE KENNEDY, Clarksville, Iowa, assignor to himself and A. J. TOMPKINS, same place.—*Pad Crimp Press.*—January 7, 1868.—The crimp is used in formation of harness pads, and the forming blocks are removable to suit different sizes and forms.

Claim.—1. The frame or press A B, adapted to receive the blocks C D, constructed and operated substantially as herein shown and described, and for the purpose set forth.

2. The removable crimping blocks C D, or their equivalent, constructed and operated substantially as herein shown and described, and for the purpose set forth.

3. The combination of the removable crimping blocks C D, or their equivalent, with the frame or press A B, substantially as herein shown and described, and for the purpose set forth.

73,187.—J. M. W. KITCHEN, New York, N. Y.—*Fruit Jar.*—January 7, 1868.—Convex-topped lugs on the lid engage convex-bottomed lugs on the inside of the neck, and confine the lid down upon a packing ring. A rubber ring covering the joint between the lid and jar is covered by a rubber ring having a plug attached, which fills a safety opening in the lid.

Claim.—The vent plug, when attached to an elastic band, or its equivelent, and arranged for operation substantially as described, for the purpose set forth.

73,188.—GOTTLIEB KOENIG, Plymouth, Mich.—*Spring Bed Bottom.*—January 7, 1868.—The bottom is supported on X-frames, which are pivoted at the intersection, and sustained by spiral springs connecting the two upper corners and the two lower corners.

Claim.—The bars C, the springs D, and the regulating rods E, constructed, combined, and operating with the platform B and the base frame F, in combination with a bedstead, substantially as described.

73,189.—CHARLES LUSTED, New York, N. Y.—*Snow Plow.*—January 7, 1868.—The oscillating share is hinged to the stationary share and connected and operated by a crank upon the axle, to throw aside the snow collected upon it. The oscillating mechanism may be thrown in or out of operation by a clutch.

Claim.—1. The hinged oscillating plowshare D, when made and operating substantially as and for the purpose herein shown and described.

2. A snow plow, provided with an oscillating share D, which is hinged to the upper edge of a stationary share C, and which has flanges *h* at the ends, substantially as herein shown and described.

3. The hinged share D of a snow-plow, connected by means of a jointed rod or rods *g*, with a crank or cranks *a*, on the axle of the plow-truck, as described, the crank or cranks being loose on the axle and connected with clutches, so that the share can be made to oscillate or not, as set forth.

73,190.—HARVEY MCCOWN and LUTHER M. MCCOWN, Enon Valley, Pa.—*Hay Elevator.*—January 7, 1868.—The carriage frame is connected by a spring-catch to a hook, which holds it over the load until the hay is sufficiently elevated, when the spring hook is raised, and the frame runs along its track to convey its charge to the mow.

Claim.—1. The carriage E, constructed as described, when its bottom consists of the bar E, hung at one end, *e*, of the carriage, its free end extending beyond the opposite side of said carriage, and notched at *f* to fit over the catch *h* upon the

pendant *i*, said bottom, E, being held in position by means of the coiled spring F, and released by the pressure of the hook *d*, as herein described, for the purpose specified.

2. The combination of the hinged and notched bottom E, coiled spring F, hook *d*, pendant *i*, catch *h*, rollers C C, and side bars *a a*, all constructed and arranged as described, for the purpose specified.

73,191.—WILLIAM MCCREERY, Pittsburg, Pa.—*Endless Chain Power.*—January 7, 1868.—The motive wheel of the chain is upon a shaft, having a bevel wheel engaging two loose bevel wheels upon the main shaft. Either of the loose wheels may be connected by a clutch to the main shaft to cause either right or left rotation of the chain wheel.

Claim.—The arrangement of the shifting clutches *e e*, the bevels *a a* and *b*, the pulleys *c* c^1 c^2 c^3 c^4, and the endless chain *d d*, when applied as and for the purposes herein described.

73,192.—FREDERICK E. NEARING, Brookfield, Conn.—*Combined Horse Rake and Hay Spreader.*—January 7, 1868.—The rake is connected by a belt to a drum turning loosely on the axle, but connected therewith by a clutch, and may be used as a tedder by continued rotation. When used as a rake the catches on the rake head engage the end of a treadle lever, and the semi-rotation of the rake is accomplished by the drag of the hay, when the forward end of the treadle lever is depressed.

Claim.—The frame G, fitted loosely on the axle B, and carrying the revolving rake H, in combination with the loose pulley E and clutch F on the axle B, and the lever bar J on the frame G, with the spurs *g g* on the rake head, all being arranged to operate in the manner substantially as and for the purpose set forth.

73,193.—DANIEL OVERHOLTZER, Polo, Ill.—*Bag Fastener.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—The bag fastener, constructed as described, consisting of the link *b*, having an open hook at one end, between the sides of which the bend of the locking hook *d* is pivoted, in such manner that the link C, when placed over the locking hook, will clamp the bend of said hook in the hooked end of the open link *b*, as herein shown and described.

73,194.—WALTER PAYTON, Sewardstone Road, Victoria Park, England.—*Water Meter.*—January 7, 1868.—The case consists of two segments of cylinders, and the vanes rotate therein so as to pack against each other and the inside of the case. Steam or other fluid may be passed through to act as a motor, and an index apparatus may be attached to form a meter by denoting the number of rotations.

Claim.—The combination of the axes *b b*, vanes b^1 b^1, gear wheels b^2 b^2, worm *d*, gear wheel *f*, worm f^2, gear *g*, shaft g^1, worm g^2, and gearing for the operation of the indicators g^3, chambers *e* a^3, and a^1, all arranged as described, for the purpose of measuring the passage or flow of liquids, or for raising and forcing fluids, or for obtaining motive power, substantially as herein shown and described.

73,195.—C. POTTER, Jr., Westerly, R. I.—*Printing Press.*—January 7, 1868.—The cylinder shaft is journaled in two eccentrics, which have segments of gears that are engaged by segmental gears on the ends of arms at both sides of the press. These arms are on a common transverse shaft, and are oscillated by a cam lever. The device affords means of raising the cylinder from the form.

Claim.—1. The combination of the eccentric bearing E, adjustable box F, segmental pinions G, segments H, lever L, and cylinder C, substantially as described for the purpose specified.

2. The wheel K and cam *c*, in combination with the eccentric bearing E, for the purpose of returning the cylinder after having been lifted to its original position before taking a sheet, substantially as herein shown and described.

73,196.—C. POTTER, Jr., Westerly, R. I.—*Feed Gauge for Printing Presses.*—January 7, 1868.—The guide is supported on the upper section of a box, which is clamped to the shaft by the adjusting screws of the guide.

Claim.—The two screws D D′ and slotted guide-plate B, in combination with the box, composed of two parts, E E′, fitted to the shaft A, and all arranged substantially in the manner as and for the purpose set forth.

73,197.—E. M. POTTER, Kalamazoo, Mich.—*Clevis.*—January 7, 1868.—The double-tree is secured to the chain upon the smaller pulley, and the single-tree for the third horse upon the chain on the pulley of double the diameter.

Claim.—The employment of the two pulleys A and A′, substantially as shown and described, in combination with the ropes or chains D and D′, and the clevis-iron C, or other equivalent device for the purpose of working three horses abreast in plowing or other equivalent operation, all as set forth.

73,198.—JOHN RANCEVAU, Carthage, Ohio.—*Ice Sleigh.*—January 7, 1868.—The sleigh is driven by a toothed wheel which runs on the ice, and which is operated by gearing connected to a winch. The wheel and gearing are contained in a hinged case depressed by a rubber spring. The rear end of each runner has a dog-brake operated by a treadle.

Claim.—1. The wheel D, having its bearings in the hinged frame, in combination with the elastic strip I, whereby the wheel is held upon the ice and permitted to conform to its irregularities, as herein set forth, for the purpose specified.

2. The construction and arrangement of the pivoted brakes K L, connecting rods O, foot levers M and N, and springs P, substantially as described, for the purpose specified.

3. The combination and arrangement of the spur wheel D, hung in the hinged frame, gear wheels E F G, elastic strip I, brace J, springs P, foot levers M N, connecting rods O, pivoted brakes K L, block U, and thumb nut V, substantially as described, for the purpose specified.

73,199.—D. E. ROE, Elmira, N.Y.—*Plate Lifter.*—January 7, 1868.—The staff has a fixed jaw at the end and a pivoted jaw which is drawn in by a spring.

Claim.—1. The combination of the spring C with the claws A and B, substantially as and for the purpose shown and described.

2. The loop *b*, or other equivalent device for holding the claw B at a proper distance apart from the claw A, substantially as shown and described.

73,200.—W. L. ROGERS, North Cornwall, and W. E. CRANE, New Britain, Conn.—*Railway Switch.*—January 7, 1868.—One of the fore wheels of the engine presses down the rack bar, and turns a crank having pitman connection to a bell-crank lever, connected by a link to the switch rails, so as to connect the single track with the track on which the train is traveling. Accidental moving of the switch is prevented by the hook of one rod fitting in the notched plate of the tube, and a pin on the rod within the tube fitting in a slot therein. The wheel first depresses the rack bar operating the releasing mechanism, and then the bar operating the switch.

Claim.—1. The bent or right-angular levers D D′, rods E E′ F F′, cranks G G′, pinions *a* and rack-bars I I′, all arranged and applied to a switch to operate in the manner substantially as and for the purpose set forth.

2. The rods J L and tube K, notched as shown, and provided with the spring *i* and plates *g h*, in combination with the rods M M′, shafts *l l*′, pinions *m*, and rack bars N N′, all arranged substantially in the manner as and for the purpose specified.

73,201.—JAMES SANGSTER and D. P. DOBBINS, Buffalo, N. Y., and JOHN S. RICHARDS, Erie, Pa.—*Brick Machine.*—January 7, 1868.—When the upper and lower pistons are at their highest points, and the charger has advanced and filled the mold, the rotation of the wheels brings the upper piston downward, the cam allowing the lower piston to fall. The charger is moved by a cam to the starting point. The material is pressed, the lower piston moving somewhat slower than the upper one. The motion of the pistons is then reversed, and the brick raised from the mold.

Claim.—1. The combination of the lug or projection Q and the movable jointed connection D^2, or its equivalent, when constructed and arranged substantially as and for the purposes herein described and set forth.

2. The projecting pieces or rims marked F^2, within the molds, in combination with the rims G′, or any equivalent thereto, on the upper perforated piston or pistons I, substantially as and for the purposes herein described and set forth.

3. The combination of the mechanism X X, spring Y, and cross bar A′, with the vertically-moving perforated pistons, substantially as and for the purposes described.

4. The combination of the vertically-moving perforated pistons I, when the perforations in the lower pistons G are made larger than those in the upper pistons, for purposes substantially as herein described.

5. The combination of the upper and lower perforated pistons with the cams R and friction roller D^3, or its equivalent, substantially as and for the purposes herein described and shown.

73,202.—F. J. Shefferly, Detroit, Mich.—*Preserve Jar.*—January 7, 1868.—The neck of the jar and the stopper have each two semicircular inclines beneath, upon which the lid rests. The upper parts of the neck and stopper are contracted so that a rubber band may be interposed between them and pressed by turning the stopper, the inclines acting to raise it.

Claim.—Sealing a preserve jar by raising the cover in the neck of the jar, instead of lowering it, substantially as described.

73,203.—F. Marion Shields, Macon, Miss., assignor to himself and James A. Jarnagin, same place.—*Envelope.*—January 7, 1868.—The envelope is arranged so as to admit of reusing, by means explained by the claim and illustration.

Claim.—The envelope, constructed as described, consisting of the parts B C, provided with the wings G G, and flaps H H E E^2, having their edges gummed, as shown and specified.

73,204.—John F. Skinner, Brasher Iron Works, N. Y.—*Thrashing Machine.*—January 7, 1868.—The belt operating all the mechanism, with the exception of the cylinder, passes over an idler pulley, journaled at the end of a lever connected to a spring.

Claim.—1. The operating of the shoe C, through the medium of the lever G, and the cam composed of the double spiral thread or flange *e* on the pulley H, substantially as shown and described.

2. The spring N, pulley *h*, and lever M, arranged in connection with the belt L and wheel O, substantially as and for the purpose specified.

73,205.—E. A. Sloat, Theresa, N. Y.—*Bolt Cutter.*—January 7, 1868.—Explained by the claim and illustration.

Claim.—The stationary cutter A, the movable cutter C, the lever E, and the plates B, constructed and arranged substantially as herein shown and described for the purposes set forth.

73,206.—Gaius P. Stebbins, Sparta Center, Mich.—*Gate.*—January 7, 1868.—The platform is connected by a cord to a barrel, which has a portion of considerably larger diameter, on which are coiled the cords connected to the gate. The gate is hung on rollers, and the depression of the platform by the wheels of the vehicle draws the gate open. The gate is closed by the weight.

Claim.—The sliding gate B, hung or suspended on rollers *a a*, in combination with the weight *k*, the pivoted bar E, platforms F F, and the pulleys D *j j′*, all arranged to operate in the manner substantially as set forth.

73,207.—Albert J. Steele, New York, N. Y.—*Uterine Electrode and Abdominal Supporter.*—January 7, 1868.—The patient grasps one pole of the battery, and the other is connected to the insulated wire which conveys electricity to the part affected.

Claim.—1. Wire electrodes, insulated and covered with sponge, substantially as shown and for the purpose specified.

2. The strap B, for sustaining the electrode in place, substantially as shown and for the purpose specified.

3. The form of electrode having a ring *g′*, and stems *f f′* attached thereto, substantially as shown and for the purpose specified.

4. The form of electrode having the ring *g* and cross-pieces *h h*, substantially as shown and for the purpose specified.

5. The form of electrode having a single stem *f″*, and cross-piece *h′*, substantially as and for the purpose shown and described.

6. Elastic straps *c c*, in combination with the strap B, substantially as and for the purpose shown and described.

7. The abdominal belt A, in combination with the above described electrodes, substantially as and for the purposes shown and described.

8. The non-conducting plate D, in combination with the wire electrodes, as hereinafter described, substantially as shown and for the purpose specified.

73,208.—William Stine, Elmore, Ohio.—*Tinners' Forming Machine.*—January 7, 1868.—The gauge has a tapering side extending to the rollers, where they come in contact; and as the cylinder is formed its end is pressed upon the gauge, which flares it outwardly.

Claim.—The flaring gauge *a*, in combination with the rollers of a tinman's forming machine, arranged and operating substantially as and for the purpose herein described.

73,209.—James Urie, Evansville, Ind.—*Plow.*—January 7, 1868.—Explained by the claims and illustration.

Claim.—1. The standard C, constructed as described, having the flange c^1 extending its entire length upon one side, and the horizontal part or land-side forming two flanges upon its rear end, gradually decreasing in width toward the forward part, all cast in one piece, as herein described, for the purpose specified.

2. The point A, when cast in one piece, as set forth, in combination with the standard C, constructed as described, having the flange c^1 extending its entire length upon one side, and the horizontal part or land-side forming the flanges upon its rear end gradually decreasing in width toward the forward part, all cast in one piece, as herein shown and described.

73,210.—George Walker, Middletown, N. Y.—*Saw.*—January 7, 1868.—A hole is drilled into the tooth near where the cutting-point usually is, and a steel rod inserted whose point forms the cutting-edge. When the friction is not sufficient to hold the rod in place, a ratchet is formed upon it, and a pawl upon an annular rivet connects therewith. The rivet is within a hole drilled through the plate and connecting with the hole containing the rod.

Claim.—The annular rivet *c* inserted in the side of the saw-tooth, engaging with the notches *a* upon the cutter B, whereby the latter is held in the groove of the tooth, as herein shown and described.

73,211.—Joseph H. Walker, Grand Rapids, Mich.—*Horse Hay Fork.*—January 7, 1868.—The suspension bar is pivoted to the fork frame, and the latter has a segmental bar sliding in a guide socket of the former. The tines are secured in a horizontal position by a spring bolt, which enters a notch in the segmental bar. When the bolt is withdrawn by the cord, the points of the tines descend and discharge the hay.

Claim.—The vertical spring bolt D′, working in projections upon the side of the suspension bar C, near its upper end, and fitting into the notch *e* in the under side of the curved frame B, passing through the mortise in the suspension bar C, above the spring bolt D′, arranged and operating as described, for the purpose specified.

73,212.—E. B. Wells, Northampton, Mass.—*Scraper Attachment to Cars.*—January 7, 1868.—The device is intended especially for street cars. It is operated by levers connected to hand and treadle levers.

Claim.—1. The adjustable scrapers D, held down

upon the track by means of pressure upon the bar H, the spring E permitting said scrapers to yield to the inequalities of the track, as herein set forth, for the purpose specified.

2. The construction and arrangement of the scrapers D, attached to the end of the inclined springs E, curved bar F, stud *a*, slotted and jointed rod G, its sections *c d* pivoted to the ears *b b*, the section *c* connected to the operating bar H, as herein set forth, for the purpose specified.

73,213.—JOHN R. WHARRY, Moundsville, W. Va.—*Ventilator and Window Screen.*—January 7, 1868.—A gauze frame is fitted in the space beneath the upper sash, and a shutter with movable slats in front of the gauze.

Claim.—1. The combination of the wire screen and frame F G, shutters C C′, and window frame, as herein described, for the purpose specified.

2. The shutter C C′, metal bar *e*, and lever E, substantially as described, when disposed without the lower part of a window frame, substantially as above set forth and described.

3. The shutter C C′, in combination with the slot *g′*, in screen frame G, substantially as above set forth and described.

73,214.—EMERY T. WHEELER and WILLIAM H. VAUGHAN, Canneltou, Ind.—*Machine for Sawing Laths.*—January 7, 1868.—The cylindrical log is mounted on journals upon gravitating guide bars, and supported and rotated by rollers. The laths are sawn from its periphery by saws cutting rectangularly to each other.

Claim.—1. The adjustable rests *p p′*, in which are mounted feed wheels *u u′*, in combination with the sliding supporting rods *r r* and bars *s*, all constructed, arranged, and operating substantially as and for the purpose herein shown and described.

2. The carriage B, on which the vertical saw *b* and horizontal saw *a* are mounted, when arranged to be moved on the ways A A, by means of a rack and pinion, and when arranged to operate a rod *l*, through the medium of a pin *f*, on the same, substantially as and for the purpose described.

3. The rod *l*, provided with pins *f f′* and double incline *i*, when arranged to be operated from carriage B, in combination with the pawl *z* and gauge ratchet wheel *y*, constructed, arranged, and operating substantially as and for the purposes set forth.

4. The toothed feed wheel *u*, to which motion is given by worm *w*, on shaft g^1, through the medium of clutch pulley n^2, on same shaft, substantially as described.

5. The combination of the clutch pulley n^2, arm *v*, gauge ratchet wheel *y*, and shaft *g′*, all constructed and arranged substantially as described.

73,215.—GEORGE W. WHEELER and GEORGE V. ALLEN, Hartford, Vt.—*Water Wheel.*—January 7, 1868.—The water is received at top, and flows outward and downward between the two sets of buckets at the periphery.

Claim.—The combination of the three sets of buckets *a b c*, and the inclined rim *d* and bottom *e*, to form the wheel C, in connection with the case D, applied to the wheel, and all arranged substantially as and for the purpose specified.

73,216.—JOSEPH P. WHITE, Savannah, Ga.—*Marker for Sewing Machines.*—January 7, 1868.—The pencil passes through a socket piece pivoted to a scale plate, and is depressed upon the fabric by a spring.

Claim.—1. The spring catch *e* and handle *d*, in combination with the presser C, bar *c*, and gauge A, all made and operating substantially as herein shown and described.

2. The hemmer D, composed of two pieces, *h* and *i*, constructed as set forth, in combination with its sliding supporting block *f*, bar B, and gauge A, as and for the purpose herein shown and described.

3. The marker E F, hinged to the sliding block *k*, and provided with the spring *m*, substantially as herein shown and described, in combination with the presser C, all made and operating as set forth.

4. The adjustable gauge A, when provided with set-holes *b b*, in combination with the presser C, handle *d*, spring catch *e*, adjustable sliding hemmer D, and hinged and sliding marker E F, all made and operating substantially as herein shown and described.

73,217.—JOSEPH WIDMAN, Panola, Ill.—*Cultivator.*—January 7, 1868.—The plow beams are gimbal-jointed to standards depending from the axle, and have vertical and lateral movement by two hand-levers.

Claim.—1. The detachable seat bars E E, secured to the main frame A of the machine, substantially in the manner as and for the purpose set forth.

2. The attaching of the front ends of the plow beams G G to the pendants I I by means of universal joints H, when this attachment is used in connection with the pivoted arms O O, connecting bar P, and lever Q, for giving a lateral motion to the plows, substantially as described.

73,218.—STANSBERRY J. WINGATE, Decatur, Ill.—*Bed Bottom.*—January 7, 1868.—The levers rest at one end on the cleats on the head and foot boards, and their other ends rest in the rubber loops attached to the slats at their mid-length. The slats have cross bars resting on the levers at their mid-length.

Claim.—The combination of the bars or levers E, elastic straps or bands L, and cross bars I with each other and with the slats F and frame of the bedstead, substantially as herein shown and described and for the purpose set forth.

73,219.—HORACE WOODMAN, Saco, Me.—*Shingle Machine.*—January 7, 1868.—The blocks are held between ribbed cylinders in a rotating frame, and are carried to the circular saw and planer; the latter smoothing the face of the block subsequently to the removal of a shingle. Each end of the block is fed alternately farther than the other, to cause the taper. Each cylinder has a pinion at the end, which is engaged by a screw gear upon a shaft, which is turned 90° at each rotation of the table; the same shaft actuating both of each pair of cylinders, and the worm gear being arranged to cause the unequal feed of the ends.

Claim.—1. The revolving table, with its feeding and securing mechanism, constructed substantially as described, in combination with the rotary planer V and saw C, as and for the purpose specified.

2. The combination and arrangement of the outer grooved cylinders K, adjustable frame P, lever Q, segment rack R, and spring S, substantially as described, for the purpose specified.

73,220.—W. ADAMSON, Philadelphia, Pa.—*Holder for Drying Glue.*—January 14, 1868.—The supporting cords of the drying glue are saturated with paraffine, stearine, or wax to prevent adhesion.

Claim.—The within-described holder on which to dry glue, the said holder consisting of cords, wires, strips or sheets of suitable material, saturated or coated with paraffine, or its equivalent, for the purpose specified.

73,221.—HORATIO ALLEN, New York, N. Y.—*Connecting the Tubes with the Heads of Surface Condensers.*—January 14, 1868.—One head of the condenser is made thicker than the other to take a firmer hold on the tubes, and cause the movement attributable to extension and contraction of the tubes by variation in temperature to take place only in one head, and thus prevent the gradual drawing out of the tubes. The tongues are cut in the tube end for the same ultimate object.

Claim.—1. Making one of the tube-heads of greater thickness than the other, in the manner and for the purpose herein described.

2. Cutting and bending into bell-mouth form, tongues in the ends of the tubes, for the purpose and substantially in the manner herein described.

73,222.—DANIEL W. AMOS, Broad Top City, Pa.—*Horse Hay Fork.*—January 14, 1868.—The upper ends of the incurved tines are connected by a chain which is engaged by the hoisting hook to bring the tines together upon the hay. The chain is tripped from the hook by a pivoted section thereof operated by the tripping line. When the chain is

tripped, the toggle, which is connected to the hook, spreads the tines and releases the hay.

Claim.—1. The combination substantially as described, of pivoted tines A, link-rods C, and a spreading link D, with a tripping latch and hoisting chain B, for the purpose set forth.

2. The arrangement, as described, of the link rods C, below the joint of the tines, whereby the fork is opened by its own weight in descending.

73,223.—Lewis Atwater, Ithaca, N. Y.—*Horse Hay Fork.*—January 14, 1868.—The tines are spread into working position by depression of the toggle levers, and these are drawn up by the tripping cord to discharge the hay.

Claim.—1. The tines C D, constructed in the form of hooks at their upper ends, and branching below the said hooks to a broad bearing support near their center, and to double prongs at their lower ends, all in one piece, substantially as set forth.

2. The combination of the levers F G and bail A, all constructed and operating substantially as and for the purposes set forth.

3. The combination of the tines C D, levers F G, and bail A, arranged and operating substantially as set forth.

73,224.—A. Bennett, Rockford, Ill.—*Cultivator.*—January 14, 1868; antedated January 4, 1868.—The fore ends of the plow beams are so connected to the frame as to allow lateral and vertical movement; the former is accomplished by the levers by which their rear ends are adjustably suspended, and the vertical movement by stirrups hung to chains passing through the frame and attached to the said beams.

Claim.—1. The hitching iron *a*, in combination with the plow beams C C, and the front cross beam D, arranged and operating substantially as and for the purposes herein described.

2. The chain *h*, with the stirrup *m*, at one end, connected with the plow beams C C at the other end, and passing over the rear cross beam E, to raise the beams and shovels, as described.

3. The upright hand levers *e e*, hinged or pivoted to the plow beams C C, and passing through the staples *g g* on the cross beam E, to which they are secured by pins *k k*, arranged and operated as and for the purposes described.

4. The movable foot-piece or steps *f*, on the levers *e e*, held in place by notches in the sides of the levers as and for the purpose specified.

5. The adjustable braces *p p* and slotted bolts *r r*, arranged in relation with the beams C and standard *d*, to regulate the pitch of the shovels, as herein shown and described.

73,225.—Edward B. Booth, St. Louis, Mo.—*Sheep Wash.*—January 14, 1868.—Wash to keep sheep clear of scab and vermin, composed of refuse and stems of tobacco, 100 pounds; boiled in water, 50 gallons; reduced to 40 gallons; pulverized chalk is added until effervescence ceases; to this when cool is added tersulphide of calcium, 1 gallon. For the bath, to each gallon of water is added one pint of the compound.

Claim.—A sheep wash composed of the ingredients above named, or their equivalents.

73,226.—Eben Moody Boynton, Grand Rapids, Mich.—*Saw.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—As an improvement in the construction of saws, providing them with the gauging and clearing teeth B, consisting of the inclined points *c*, and the horizontal face or bearing *e*, with a shoulder between the point and the bearing *e*, substantially as shown and described.

73,227.—Eben M. Boynton, Grand Rapids, Mich.—*Saw Tang.*—January 14, 1868.—The end of the saw is passed through the slotted screw bolt which passes through the arm secured to the socket, and is held by a thumb nut. The socket is placed as a ferrule on the frame.

Claim.—The detachable saw tang, consisting of the socket A, with the arm B, having the groove *n* formed in its under side, in combination with the slotted bolt D and the thumb nut E, substantially as described.

73,228.—A. N. Breneman, Lancaster, Pa.—*Shoe Holder.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—The arrangement of the toe and heel-pieces A B, when connected by a hinge C, in combination with the sliding wedge, and band D E, or its equivalent, for separating the parts below, substantially in the manner and for the purpose specified.

73,229.—George W. Brown, Rockford, Ill.—*Spirometer.*—January 14, 1868.—The breath passes into the reservoir and raises the same in the water-tank, the index denoting the quantity in cubic inches.

Claim.—1. The arrangement of spirometers and index H, and shield I, in the manner specified, and for the purpose as described herein.

2. The metal tube B, which rises through the water in the reservoir A.

3. The arrangement of the guides E E and eyes F F with spirometer, for the use and in the manner herein described and set forth.

73,230.—H. W. Burgess, Ithaca, N. Y.—*Strap Holder.*—January 14, 1868.—The strap is held between the volute interior of the bed piece and the face of the cam.

Claim.—1. The construction of the strap holder, when the said surfaces of the movable piece or part B and of the bed or opposing piece or part A are made to be a part or section of the volute curve F, as figured and described.

2. The giving, by the above-named volute-shaped surfaces, an adaptation to varied thickness of straps, and a parallelism to each other of the said surfaces, thereby safely and surely holding the varied straps placed between the grasping surfaces, as herein described.

3. The combination of the bed-piece A, movable piece or part B, volute-shaped surfaces F, handle G, and hinge D, the same making a strap holder, as set forth, as an article of manufacture.

73,231.—Hiram C. Chandler, Erie Township, Ind.—*Shovel Plow.*—January 14, 1868.—The two fore standards are removable and are adjustable vertically by the slotted brace rods, and laterally by the wedge block, which is inserted between the standards and beneath the beam.

Claim.—1. The notched beam at D, for the purpose of adjusting the handles to the desired height by a bolt passing through them and the notch.

2. The double-slotted wedge F and method of application at the point G under the beam between the standards B B, to adjust them as to width, and the slotted rods E E securing a forward or backward movement of the standards B B and the shovels attached thereto, and fastened to the beam in the slots by a bolt or other similar device.

73,232.—George E. Chenoweth, Baltimore, Md.—*Balanced Feed Water Valve.*—January 14, 1868.—The stem is connected to an elastic diaphragm covering an air chamber beneath the valve. The aim is to balance the valve to render it sensitive to a light power exerted upon it.

Claim.—In combination with the valve, valve stem, and passages, an elastic, impermeable diaphragm, and air chamber underneath it, for the purpose of holding the valve in a balanced condition in any of the positions of the valve, substantially as herein described and represented.

73,233.—Charles J. Clifford, New Hampton, N. J.—*Apparatus for Determining Deviation of Locomotive Crank Pins from True Center.*—January 14, 1868.—The frame has adjustable ends which rest against the facing around the base of the pin. When the frame is turned, the spring scriber marks a circle upon the end of the pin which indicates by comparison with the turning center whether the pin is bent.

Claim.—The instrument for ascertaining, without quartering or centering, whether or not crank pins on locomotive driving wheels are bent or sprung, constructed with the arms *a*, feet *b*, brace *c*, adjusting screws and spring marking point, Fig. 2, all arranged and combined substantially as shown and specified.

73,234.—GEORGE N. COMPTON, Canton, Ohio.—*Pole Attachment.*—January 14, 1868.—The singletree clevises are double-ended, and they are connected to the double and single trees by bolts, and to each other by a hollow stem. The breast rings upon the neck yoke are hinged to plates upon the ends of the said yoke. The neck yoke is jointed to a swivel upon the end of the tongue.

Claim.—1. The combination of the part L with the pins *a a* and the ring G, the whole forming the ring pieces L G, shown in Figs. 6, in the manner and for the purpose herein specified.

2. The clevis F, composed of the two U's, united by a hollow neck, and cast either in a single piece or in two pieces, which are connected by a bolt or rivet, in the manner and for the purpose herein specified.

3. The tongue shield S, with pins *a a* thereon, constructed and arranged in the manner and for the purposes herein specified.

73,235.—CLARA Z. CUMMINGS, Buffalo, N. Y.—*Corset.*—January 14, 1868; antedated December 28, 1867.—Explained by the claim and illustration.

Claim.—A corset, having a portion of its back formed of elastic goods B, and provided with elastic buckle straps C and D, for the purposes and substantially as described.

73,236.—PEARCE K. CURLL, Elk Ridge Landing, Md.—*Cart Harness.*—January 14, 1868.—The thills are supported on the hooks at the opposite ends of a lever pivoted to the bridge piece of the saddle.

Claim.—A cart-harness saddle, provided with the lever D, pivoted in the upper end of a bolt C, said bolt being arranged to turn loosely in the cross-piece A, all constructed and arranged to operate substantially as shown and described.

73,237.—JOHN DEAKIN, Gloucester, N, J., assignor to himself and D. and C. KELLY, Philadelphia, Pa.—*Loom.*—January 14, 1868.—The motion is communicated to the treadles by revolving cams. One of the cams is upon a sleeve sliding on the cam shaft by the action of levers actuated by projections upon an endless toggle chain. The mechanism operates to change the pattern.

Claim.—The combination and arrangement of the heddle levers, pattern chain, and adjustable cams, with levers E H, or their equivalents, the whole being constructed and operating substantially as specified.

73,238.—HENRY DISSTON, Philadelphia, Pa.—*Circular Saw.*—January 14, 1868.—The backs of the teeth form sections of epicycloidal curves.

Claim.—A circular saw, every tooth of which has its back edge so formed in the arc of a circle, having a center eccentric with the center of rotation of the saw, that the sharpening of each tooth may be effected by reducing the front edge in a spiral course, as herein set forth.

73,239.—THOMAS S. DISSTON, Philadelphia, Pa., assignor to HENRY DISSTON, same place.—*Saw Gumming Machine.*—January 14, 1868.—The cutter is rotated by a winch and turns in a block which is adjustable in radial slots of disks that are rotated by a lever. The frame being clamped to the saw, and the cutter rotated while the lever is swept around, a segmental piece is gummed from the saw.

Claim.—1. The rotary cutter G, arranged to revolve in disks adapted to and admitting of being turned in a suitable frame secured to the saw, all substantially as described for the purpose specified.

2. The combination of the rotary cutter G, its bearing blocks D D, adapted to the movable disks B, all substantially as and for the purpose herein set forth.

3. The rod J, rendered adjustable on the machine, and having a notched end, adapted to the point of one of the teeth of the saw, as set forth for the purpose described.

4. The recesses *k k'* in the disks B, for the reception of the forked end of the lever H.

73,240.—SAMUEL F. ESTELL, Richmond, Ind.—*Regulator for Timepieces.*—January 14, 1868.—The free end of the regulator lever is slotted to receive a pin projecting from a nut on the operative screw.

Claim.—The combination of the regulating lever C, having a slotted end, in combination with screw F and nut E, substantially as described and for the purpose set forth.

73,241.—A. L. FLEURY, New York, N. Y.—*Amalgamator.*—January 14, 1868.—The tailings pass through the perforated bottom of the mixing hopper and descend through a pipe of such length as to balance the mercury in a retort connected with the open vat into which the tailings discharge. Within the vat is a series of horizontal and vertical concentric perforated copper partitions which forces the contents to take a devious course. The vat and retort are surrounded by steam jackets. The fumes of mercury are injected into the descending body of the tailings within the pipe.

Claim.—The herein described amalgamator, constructed and operating substantially in the manner set forth.

73,242.—GEORGE L. GERARD, New Haven, Conn., assignor to himself and DAVID FORBES, same place.—*Buckle.*—January 14, 1868; antedated December 28, 1867.—The buckle is formed of a single corrugated plate having a central bar for attachment of the fixed strap and slots near the ends for passage of the adjustable strap.

Claim.—The combination of the central bar *f* and bars *h* and *l*, and the ribs *r* and *s*, the whole constructed and arranged so as to operate in the manner specified.

73,243.—ANDREW GOODYEAR, Albion, Mich.—*Machine for Scalloping Leather.*—January 14, 1868.—The pressure of the bed roller against the scalloped disks is increased by a cam lever at one end of the supporting lever of the bed roller. Motion is given to the scalloped disks by a winch.

Claim.—1. A cutting-edged disk A, with radial corrugations or other ornamental shape indentations formed around it on both its faces next the periphery, substantially in the manner and for the purpose herein described.

2. The use of one or more revolving cutting disks A, with faces shaped radially in ornamental forms, in combination with an adjustable bed roller B, and levers L and M, mounted in a suitable frame, and arranged, adjusted, engaged, and operated, substantially as and for the purposes set forth.

73,244.—ROBERT A. GOODYEAR, New Haven, Conn.—*Neck-tie Fastening.*—January 14, 1868; antedated December 28, 1867.—The fingers of the spring clasp are forced behind the button, and the plate to which the cravat is attached is bent downward in front thereof.

Claim.—The spring clasp *c*, formed as shown at 1 1, for grasping the button, and so bent, at or near the hinge *b* of the plate *a*, that a spring is produced for keeping the plate *a* toward the clasp, as and for the purposes set forth.

73,245.—JOHN HARDEN, Chicago, Ill.—*Anti-friction Bearing for Machinery.*—January 14, 1868.—A plate of glass is let into the friction surface and flexible matter is placed beneath the glass.

Claim.—The glass bearings B, in combination with the working parts of machinery A, flexible seat *d*, arranged as set forth, and for the purposes specified.

73,246.—LOUIS HARMYER, Cincinnati, Ohio.—*Composition for Preserving Wood, Metal, Canvas, &c.*—January 14, 1868.—Composed of tar, 1 barrel; rosin, 10 pounds; sulphuric acid, 2½ pounds; pulverized copperas, 10 pounds; salt, 6 pounds; alum pulverized, 6 pounds; lime, 60 pounds; and carbon iron, 2 pounds. Mixed under heat.

Claim.—The composition itself, and the manner and process of compounding and using the same, substantially as herein set forth.

73,247.—M. W. HELTON and J. H. REDFIELD, Bloomington, Ind.—*Automatic Alarm for Grist-mills.*—January 14, 1868.—When the grist is changed,

the alarm mechanism is put in operation and sounds the alarm when the flour of the previous grist has run from the bolt. It is set to approximate as closely to this result as may be.

Claim.—1. The apparatus, substantially as described, and which is constructed so that when applied to mill machinery, and properly adjusted thereto, it will automatically give an alarm at the proper time for changing the sacks, for the purpose set forth.

2. In combination with alarm mechanism and devices, which will automatically sound the alarm and then be disengaged from the main driving power, substantially as shown and set forth, means, substantially as described, by which the machine can be adjusted and set to sound the alarm at any given time, for the purposes set forth.

3. The adjustable index wheel K, with its stop *i* and pawl *m*, or their respective equivalents, in combination with the hand or arm L upon the shaft *h*, and an alarm mechanism, operating substantially as described.

4. The vibrating lever D and catch H, in combination with the tripping wheel E, worm wheel shaft C, and driving shaft B, operating substantially as described.

5. The pawl and clamp *m s*, or their equivalents, applied to the wheel K, for holding this wheel firmly in place when properly adjusted, substantially as described.

6. Sustaining the worm-wheel shaft C at one end, by means of a lever D, in combination with a catch H, and also with means for tripping this catch, when said shaft C has made a given number of revolutions, substantially as described.

73,248.—Benjamin F. Horton, Ithaca, N. Y.—*Horse Rake.*—January 14, 1868.—The thimbles have side projections cast upon them, to which the teeth are attached. The teeth are raised by loops connected, through a system of rods and levers, with the hand lever.

Claim.—1. The arrangement of the teeth and the knobs projecting from the lower sides of the thimbles B, substantially as described.

2. The combination and arrangement of the described levers and rods F, G, H, I, and J, substantially as set forth.

3. The combination of the hand lever J, rod I, pivoted lever H, rod G, lever F, and lifting bar E, when all are constructed and operated substantially as described.

73,249.—John S. Hull, Cincinnati, Ohio.—*Soda Fountain.*—January 14, 1868.—The air-pump by which the fountain is charged is placed beside the soda fountain, and the contents of the latter forced up into the cooler by the pressure of air. The contents of the cooler are ejected from a pipe reaching to the bottom of the cooler and upward through the ice chamber.

Claim.—The soda fountain G, tubes H, I, and J, and cooler E, combined and arranged for ejecting the water by compressed air forced into the water fountain, substantially as described.

73,250.—John S. Hunter, Hartford, Conn.—*Steam-generator Water Gauge.*—January 14, 1868.—The three-way cock has ducts to allow the blowing out of the passages between the steam generator and the gauge.

Claim.—The arrangement of the three-way cocks *b* and *c*, with their respective outlets G, in combination with the tube E and the connections D, so as to operate substantially in the manner and for the purpose herein set forth.

73,251.—H. W. Knowlton, Saratoga Springs, N. Y.—*Machine for Husking Corn.*—January 14, 1868; antedated January 1, 1868.—The ear is removed from the stalk by the bladed roller, and falls upon the inclined rollers, over which the India-rubber aprons are carried. The husks are drawn from the ears in passing over these rollers and the ears discharged over an incline.

Claim.—The combination of the rollers C D with the elastic aprons K, on the rollers I L, substantially as and for the purpose set forth.

73,252.—Ferdinand King, Richmond, Va., assignor to self and Charles W. Neudecher, same place.—*Generating Illuminating Gas.*—January 14, 1868.—Composed of oil which runs from gas tar, 2, and crude petroleum, 1 part. From the above the gas is generated.

Claim.—1. The method herein described of generating or producing illuminating gas.

2. The compound oil herein described, for the purpose set forth.

73,253.—James McBride, Flint, Mich.—*Pump.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—An inclosed annular space around the pump cylinder, deriving a supply of air from the well, substantially as and for the purpose described.

73,254.—Oliver Metcalf, Salem, Ind.—*Animal Trap.*—January 14, 1868.—The spring shaft has four radial platforms, each having a spring catch rod, which is drawn back by the rat in pulling the bait. The shaft then turns 90°. From the chamber into which the rat is precipitated he escapes to the condemned cell.

Claim.—1. The combination of a catch *a* upon a hinged door A′, with the latch rods *f* upon the revolving platforms C, substantially as described.

2. The hinged platform *d*, held up by a spring *g*, and combined with the revolving platform C and apron *b*, substantially as described.

3. Connecting the platform C to the spring shaft *c* by means of a removable key rod *h*, applied substantially as described.

73,255.—William A. Morse, Philadelphia, Pa.—*Pen.*—January 14, 1868.—The heel-piece has a tongue passing beneath a strap cut upon the nib-piece, and furnishes an ink holder.

Claim.—A fountain union pen, made of two parts *a c* and F, the same being adjustable and connected substantially as described and shown, for the purpose specified.

73,256.—James E. Nute and George H. Hathorn, Lincoln, Me.—*Hand Loom.*—January 14, 1868.—The yarn roller is placed in an elevated and forward position, so as to enable the lessening of the loom in depth, to allow of its passage through doorways. The shed may, at option, be kept open until the filling is beaten up, or the warp may be closed upon the thread previous thereto. The bobbins, by connection with the driving mechanism, are filled with yarn from a reel, secured to the loom.

Claim.—1. The combination with the loom frame of the pivoted arms *a′*, warp beam C, rod *c′*, and eye *d′*, and screw nut *e′*, or equivalent securing devices, substantially as described.

2. Combining with the treadles H the adjustable devices herein described for holding the shed open till the reed beats up the thread, or which will allow the shed to close when the shuttle passes, when constructed and arranged to operate by means and in manner substantially as described and specified.

3. The combination with the loom frame of the shaft *f* and spooling mechanism, substantially as described, so that the motor which drives the loom shall simultaneously operate the spooler, substantially as described.

4. The spooler as constructed, with the sliding serrated bar *s′*, slide *r′*, actuated by cam *z*, or its equivalent, and with the pawl *t′* and eye P′, arbor Y′ and support *w*, or their equivalents for suspending the bobbin, all constructed and arranged to operate in manner substantially as and for the purposes specified.

73,257.—E. F. Olds, Brighton, and Warren Clark, Green Oak, Mich.—*Fence.*—January 14, 1868.—Each post consists of four pieces, connected by a cap. The rails pass between the posts longitudinally and the braces and base blocks transversely.

Claim.—The special arrangement of the braces C, in combination with the posts B, when the said braces are connected to the post and to each other in the manner and for the purpose substantially as described.

73,258.—SAMUEL J. PARKER, Ithaca, N. Y.—*Brick Machine.*—January 14, 1868.—The clay is fed into the molds upon the vertical wheel, and the bricks are first compressed and then ejected by the cam surface, which acts on the anti-friction rollers of the spring plunger rods.

Claim.—1. The perpendicular adjustable cam C in connection with the plungers and mold wheel, arranged and operating together, as shown and described.

2. So arranging the mold wheel A, feed plate E′ E″ E‴, and contracted feed pipe G′ G″ G‴, in connection with each other, that nearly the entire surface of each brick shall be subjected to the smoothing contact of metal, as described.

3. The arrangement of the adjustable auxiliary cam N in connection with the main cam C, as and for the purposes described.

4. The cutting wheel X arranged in connection with the feed pipe G″ and feed plate E″, as set forth.

5. The secondary feed pipe Z and its side grooves, in connection with the feed pipe G and feed plate E‴, substantially as described.

6. The combination of the wheel A on the horizontal shaft L, adjustable cam C, feed plate E′ E″ and E‴, when substantially made and operating as described.

7. The combination of the wheel A on its shaft L, adjustable cam C, auxiliary cam N, cam surface T *a*, plate E′, and table H, arranged and operating substantially as described.

8. The feed plate E′ E″ E‴, when made adjustable and arranged with reference to the mold wheel A, substantially as shown and described.

73,259.—JOHN A. OWENS, Little Falls, N. Y., assignor to himself and HENRY I. PETRIE.—*Apparatus for the Manufacture of Starch.*—January 14, 1868.—The ground grain is passed through the agitator tank previous to screening; and in the latter operation the material passes first through a wire sieve and then over an inclined plane to the silk bolt. The ends of the sieves are curved, to prevent sagging.

Claim.—1. The tank A, with the shaft and arms A^1, constructed and operating as described, and for the uses and purposes mentioned.

2. The screen C, constructed of the sieves C^1 and C^2, and the inclined plane C^3, substantially as described, and for the uses and purposes mentioned.

3. Forming the front end of the sieves C^1 and C^2 with the angle C^9, substantially as described, and for the uses and purposes mentioned.

4. Forming the end of the sieves C^1 and C^2 with a curve, substantially as described, and for the uses and purposes mentioned.

73,260.—M. D. PRATT, Copley, Ohio.—*Fence.*—January 14, 1868.—The corners of the fence have braces, standing out alternately to the right and left. The fence is slightly wormed and the braces project from the concave corners.

Claim.—The combination and relative arrangement of the stake braces C and short braces D with the rails A and posts B B, in the manner herein shown and specified, the said stake braces being placed in the hollow of the angles of the fence, and alternating from side to side, as and for the purposes described.

73,261.—N. MENDAL SHAFER, New York, N. Y.—*Temporary Binder.*—January 14, 1868; antedated January 2, 1868.—The sheets are drawn into the clamps by the steel strips, which are hinged at one end and held down by the slide at the other.

Claim.—1. The series of clamps A A, intersected by the steel bars E, hinging on the wire B.

2. The movable slide C C, and the lug or key *d*, for securing the same.

3. The back, to be used in the manner as set forth and described, in combination with the other parts.

73,262.—THOMAS A. SHOCK, U. S. N., Boston, Mass.—*Combined Lubricator and Water Conductor.*—January 14, 1868.—Oil is furnished through the inner space, and water through the annular space, of two concentric tubes; the water circulates through an annular chamber in the boxes.

Claim.—The combined lubricator and water conductor, constructed substantially as and for the purpose described.

73,263.—MATTHEW SIMMS and JAMES V. CHAMBERS, Wheeling, W. Va.—*Hay Crane.*—January 14, 1868.—The upper end of the crane standard turns in a ring to which the guy ropes are attached. The crane has pulleys attached to its head, beam, and standard, and the hoisting rope is passed through the pulley blocks.

Claim.—1. The application and arrangement of the guys C C C, in their connection with the ring *b*, and collar *a*, and pin *c*, in combination with the movable post A, arm B, brace C′, and lever D, when used substantially in the manner and for the purpose as herein set forth.

2. The arrangement of the pulleys F F F, in combination with the post A and arm B, when used substantially in the manner and for the purpose as herein set forth.

73,264.—STEPHEN T. SKINNER, Jacksonville, Mo.—*Plow.*—January 14, 1868.—The axle is divided at mid-length, and pivoted by vertical pins turning in sockets on the outside of the frame, to give means of guiding the machine by inclining the wheels, and to assist the turning at the ends of the bouts.

Claim.—1. My forward upright frame F, with swing-bar G and flat chains H H, for the use and purpose as specified and herein set forth.

2. The attaching of my pole to the center, or near the left side of my machine, for the use and purpose as specified and herein set forth.

3. My triple whiffletree, with the triple link *x*, as represented in Fig. III, for the use and purpose as specified and herein set forth.

4. My crank axles, as made, attached, and operated on my machine, for the use and purpose as specified and herein set forth.

5. My "compound regulating shaft" X, with the revolving sockets *j j*, spring lever K, and circle L, for the use and purposes as specified and herein fully set forth.

6. The combination of my crank axles, compound regulating shaft X, and spring lever, for the use and purpose as specified and herein set forth.

7. My double crank shaft M, with lever N and slings Y Y, for the use and purpose as specified and herein set forth.

73,265.—JAMES H. SMILEY, Caroline, N. Y.—*Wagon Brake.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. The extension of the rear-axle braces M and N behind the rear axle, and suspension on the extremities thereof of the brake-bar and brake, as described.

2. The construction of the metallic braces S, from beneath the rear-axle braces, in front of the hind axle, to the under side of the axle, and thence to the end of the braces M and N, where they support these braces, and give bearings for the brakes and bar, as set forth.

3. Constructing the joint between the tongue and reach by the loop on the end of the tongue rod, and playing in the slot D *a* of the plate D, when arranged substantially as described.

4. Constructing the tongue rod or bar by the long part under the tongue, held by the loop near the yoke pin, and extending thence to the rear end of the tongue, where it makes the loop C *a*, and thence is continued, over the top of the tongue, to the evener of the whiffletrees, and thus binding the lower part of the bar to the upper and the tongue, by the evener bolt in its slot in the tongue, for the purpose of actuating the brake by the yoke pin, and releasing the brake by the whiffletrees, in the manner substantially as set forth.

5. The combination of the forward and broad end of the plate D with the slot D *a*, for the tongue and reach joint, and the slot for the king-bolt, and connecting with the reach rod in the rear of the plate, as described.

6. The combination of the bolt E, in the holes E E *a* E *b*, with the bolt and holes F, for the purpose of lengthening the reach, as described.

7. The combined whole, made substantially as described, for the purposes set forth.

73,266.—OLIVER STRONG, Green Centre, Ind.—*Hand Loom.*—January 14, 1868.—The lathe is connected to the cloth beam and the harness, so as to operate the let-off mechanism and heddles.

Claim.—The tappet wheel E, lever F, pawl G, and ratchet or cloth beam, the weighted lever and arm, the same being combined in the manner and constructed as and for the purposes substantially as set forth.

73,267.—WILLIAM H. THOMPSON, Biddeford, Me.—*Roving Frame.*—January 14, 1868.—The transverse rail is counterbalanced by weights connected to it by flexible steel bands, which pass over rollers.

Claim.—The combination of a series of flexible metallic bands with the transverse rail E, substantially as herein described and for the purpose specified.

73,268.—J. D. TIFFT, Cuyahoga Falls, Ohio.—*Spring Bed Bottom.*—January 14, 1868.—The spring bed bottom is hinged at its mid-length, and beneath the head section is a frame, whose forward extension has a cord attached, which passes to a winch shaft between the head posts, and is coiled thereon to raise that end of the bed bottom, two springs beneath the head of the frame assisting.

Claim.—The combination of sections B′ C′ and independent frame D, operated by the cord and pulley, and hinged to section C′, all in the manner as and for the purpose set forth.

73,269.—WILLIAM W. TRAPP, Hartford, Conn., assignor to TOBIAS KOHN, same place.—*Machine for Polishing Thread.*—January 14, 1868.—The thread passes from the bobbin through a twisting flyer, and between the reciprocating rubber pins and the singeing device to the spools. The whole mechanism is actuated by a single shaft; the rubber carriages by cranks, and the bobbins, flyers, and winding rollers by belts.

Claim.—The guides around which the threads pass, arranged substantially as described, in combination with the reciprocating rubbers so that each thread in its travel shall present two parts moving in opposite directions to the action of the rubbers, substantially as and for the purpose described.

73,270.—FRANCIS K. WAY, Springfield, Ohio.—*Machine for Twisting Wax Ends.*—January 14, 1868.—The terminations of the "wax ends" are clipped to the rotating clamps and its middle passed around the bent pin. The arbors are turned by belt connection to a common crank wheel.

Claim.—The arbors D, provided with the spring clips for holding the threads, and pulleys for imparting motion, in combination with the driving pulley C, all mounted in the frame B, and arranged to operate substantially as and for the purpose herein set forth.

73,271.—E. B. WHITMORE, Rochester, N. Y.—*Fruit Jar.*—January 14, 1868.—The cover is held down upon the gasket by a spring bail having upward bends serving for handles. The ends of the bail take under lugs on the neck.

Claim.—The double-bowed bail C, provided with the finger places *h h* and spring bends *i k k*, constructed and arranged substantially as and for the purposes set forth.

73,272.—JOHN WILCOX, Springfield, Mass.—*Machine for Filling Paint Cans.*—January 14, 1868.—The paint runs from the mixing hopper into an oscillatable measure cylinder when the plunger is retracted. When full, the cylinder is turned 180°, bringing its outlet to the funnel to fill the can, and the plunger is moved forward to eject the paint.

Claim.—1. The adjustable wing *q*, when constructed and arranged substantially as described, and for the purpose specified.

2. The movable collar M, in combination with the wing *q*, shaft J, and tube *a*, substantially as described, and for the purpose specified.

3. The angle box D, when recessed as described, in combination with the tube *a* and cylinder E, substantially as described, and for the purpose set forth.

4. The cylinder E, when constructed with a shoulder and side aperture, as described, in combination with the angle box D, packings *c c′*, nut *e*, and check nut *e′*, substantially as specified, and for the purpose set forth.

5. The packings *c c′* when constructed and arranged in the manner described, and for the purpose specified.

6. The rest G, constructed and arranged as described, and for the purpose set forth.

7. The stops *i i′*, in combination with the slotted rest G, rod *h*, and pin *s*, as and for the purpose specified.

8. The rod *h*, when provided with a pin *s*, in combination with the rest G, plunger H, and cylinder E, substantially as described, and for the purpose specified.

73,273.—J. D. WILLOUGHBY, Shippensburg, Pa.—*Weighing Scale.*—January 14, 1868; antedated December 28, 1867.—The spring tends slightly to raise the weight scale so as to cause a movement when the weight is nearly made up, and set the operator on his guard. When the scales are even the spring does not act.

Claim.—The spring I or its equivalent, in combination with the scales, for the purpose set forth.

73,274.—JOHN S. WILSON, Indianapolis, Ind.—*Scaffolding Bracket.*—January 14, 1868.—The platform has a supporting frame which straddles the window sill and engages its top. By the addition of props the scaffold may be used against any part of the wall.

Claim.—The bracket for scaffolding, composed of the elements A, B, C, and D, constructed and arranged substantially as and for the purpose set forth.

73,275.—BENJAMIN F. WOODSIDE, McDonald, Tenn.—*Friction Match.*—January 14, 1868.—A taper is coiled around a spool within a case, and is coated at intervals with an igniting compound.

Claim.—1. A twine or cord, coated at intervals with igniting composition as a series of friction matches, substantially as above described.

2. Such twine, in combination with a spool, or wound into a ball, substantially as specified.

3. The case D, in combination with the continuous match, substantially as specified.

4. A twine, or other suitable material, when waxed and forming a continuous flexible taper, substantially as set forth.

73,276.—JOHN RESCO ADAMS, Cisco, Cal.—*Railroad Snow Plow.*—January 14, 1868.—The shovel is secured to an inclined wooden frame on a low truck, and has upright side pieces which support a gate that may be let down to prevent the escape of the load. The side pieces are secured to an upper platform having hand wheels to operate the gate. The snow may be thrown off on either side, or may be retained upon the plow and conveyed away.

Claim.—1. The dash-board or share G, and the false bottom or slide F, operated by the hand wheel *g*, and cord or chain *g′*, substantially as and for the purpose specified.

2. The bonnet or gate E, for retaining the load upon the incline, and the hand wheel and pins *b*, pawl *d*, and cord or chain *b′*, for raising or lowering said bonnet, substantially as described; and

3. The side pieces D and D′, movable in the ways *i i i′ i′*, substantially as and for the purpose described.

4. The platform C, upon which the hand wheels are placed, as described.

73,277.—RALPH ADAMS, Ottawa, Ill.—*Gate.*—January 14, 1868.—The hinge upright of the gate has a segmental gear which is engaged by a rack bar extending beside the road and operated by levers. Cords connect the levers to the gate latch so as to raise the same.

Claim.—1. The levers L and rods R, in combination with the rack E, substantially as shown, for the purpose of opening a gate, all as set forth.

2. The latch bar P and cord *m*, in combination with the levers L, substantially as shown and for the purpose specified.

3. The pawl *v*, in combination with the levers *l* and L, and noteh *f*, for the purpose of holding a gate open, substantially as shown.

73,278.—JOHN ALLEN, New York, N. Y.—*Lamp.*—January 14, 1868; antedated January 4, 1868.—The upper portion of the wiek tube within the lamp is surrounded by water in a conoidal chamber.

Claim.—The combination of the conical holder of the non-conducting material compartment C with wick tube B, when constructed as herein described, for the purposes set forth.

73,279.—CHARLES H. AMIDON, Greenfield, Mass.—*Bit Stock.*—January 14, 1868.—The bit socket is bisected and occupies a diametric slot in the end brace. The expansion of the socket is limited by the thimble, and adjusted to fit the taper of the bit, and is also clamped upon the bit by the screw thimble.

Claim.—1. In combination with the jaws G G, or their equivalents, constructed to move away from or toward each other in the manner described, so that they may conform to the taper of the bit shank, the screw thimble F or its equivalent, to force the said jaws upon said shank, as and for the purpose set forth.

2. The jaws G G, constructed with the groove, formed substantially as set forth, so as to inclose the taper sides and the shoulders of the shank, as and for the purpose described.

3. The cavity D, formed with a beveled orifice as shown, in combination with the jaws G G, constructed with correspondingly beveled ends, as and for the purpose shown and described.

73,280.—JAMES W. C. ANDERSON, New York, N. Y., assignor to HENRY DEMAREST, same place.—*Exhausting Ventilator and Chimney Cowl.*—January 14, 1868.—The upper edge of the cylindrical part has an out-turned flange, and is capped by a conical cover. Beneath the cover is an annular, frusto-conical chamber surrounding the upper portion of the cylindrical part, and communicating therewith and through holes in its lower plate with the outer air. Beneath this chamber the cylindrical part communicates with the outer air by a series of down-curved pipes.

Claim.—1. The collar or water stop *a*, arranged relatively to the cone B and body A, substantially as and for the purpose within set forth.

2. The within described construction and arrangement of the body A, incline B, connection C, and holes D and E, as and for the purposes herein specified.

73,281.—B. ARMSTRONG, Huntsburg, Ohio.—*Machine for making Cheese.*—January 14, 1868.—The coagulated milk is emptied into the hopper and passes through the annular space between the cylinder and case, which each have radial knives extending nearly across the annular space. The case is made in sections so as to be removable.

Claim.—1. The cylinder E, provided with cutters I, in combination with the mouth K′ and case D, as and for the purpose substantially as set forth.

2. The shell or case D and projection X, constructed and arranged, in relation to the cylinder E and cutters, substantially as and for the purpose set forth.

3. The ring G, in combination with the cylinder E and case D, as and for the purpose set forth.

73,282.—PETER ASHCROFT, Richmond Road, Dalton, and GEORGE F. L. MEAKIN, London, England.—*Railroad Rail.*—January 14, 1868.—The T-shaped steel rail is clamped between two angle rails of iron.

Claim.—A compound steel and wrought iron rail, in which the adjacent (or bearing) vertical surface of the steel and iron portions are formed with angular interlocking ribs and grooves, and the upper faces of the iron plates and lower faces of rail head form taper bearings, all substantially as described.

73,283.—H. J. BAILEY, Pittsburg, Pa.—*Air Condensing Apparatus.*—January 14, 1868.—A number of vessels communicates by pipes controlled by valves or cocks, which are operated by floats whereby the apparatus is made automatic. The air is forced from the vessels by the water rising within them.

Claim.—1. The combination, with a vessel for receiving and retaining air under pressure, of two vessels for receiving air and water alternately, co-operative by means of cylinders, pistons, and pipes, for the purpose of condensing air, substantially as described.

2. In combination with the apparatus above named, an eight-way cock or valve, and a three-way cock or valve, substantially as shown and described.

3. A condensing apparatus, to which air or water may be applied, for working the valves, and thereby rendering the operation of the same self-acting or automatic, in the manner described.

73,284.—N. GRAY BARTLETT, Keokuk, Iowa.—*Inkstand.*—January 14, 1868.—The bottom of the overflow chamber is level with the top of the duct connecting the reservoir with the dipping pool, so that the ink will be withdrawn from the said chamber when the cause of overflow has ceased.

Claim.—The overflow chamber D, in combination with a fountain inkstand, substantially as herein shown and described.

73,285.—J. J. BAUSCH, Rochester, N. Y.—*Eye Glass and Spectacles.*—January 14, 1868.—The guards are attached at both ends to the bows, and have a series of holes for the attaching screws so as to allow adjustment.

Claim.—The combination of the connecting spring C, guards D, and plates E, adjustably attached to the bows B, substantially as described and for the purpose specified.

73,286.—W. W. BEEBEE, Dubuque, Iowa.—*Harness Attachment.*—January 14, 1868.—The bent rod forms an extension of the tongue, and is fastened to the harness of the true horse and to the bit of the balky one.

Claim.—An attachment for harnesses, substantially as and for the purpose described.

73,287.—SAMUEL C. BISHOP, New York, N. Y., assignor to BISHOP GUTTA-PERCHA COMPANY, same place.—*Water-Proof or Damp-Proof Paper.*—January 14, 1868.—Explained by the claim.

Claim.—A damp-proof paper, prepared with valata or balata gum or milk, in any way, substantially as herein specified.

73,288.—SAMUEL C. BISHOP, New York, N. Y., assignor to THE BISHOP GUTTA-PERCHA COMPANY, same place.—*Water-Proof Cloth.*—January 14, 1868.—Explained by the claim.

Claim.—A water-proof cloth prepared with valata or balata gum or milk, applied to or used in connection with cotton in any suitable way, substantially as specified.

73,289.—JAMES BOUNDS, Bridgeport, Conn.—*Pliers.*—January 14, 1868.—The adjustable jaw may be turned to the required position for articles of different diameter or form, and clamped in position by the dog. The pivot pin traverses a slot in one lever, and the levers are connected together nearer to the hand by a link.

Claim.—The adjustable jaw *d*, dog *g*, shanks A B, and link *e*, the whole being constructed and combined substantially as herein set forth and described.

73,290.—FRANKLIN BOWLY, Winchester, Va.—*Instrument for Drawing Ellipses.*—January 14, 1868.—The marking bar is set to the longest radius in the socket upon the sliding rod, and the pivot socket of the other sliding rod is set upon the marking bar to the smallest radius of the ellipse. The marker at the end of the bar is then swept around and describes an ellipse whose smaller diameter is in line with the slotted handle.

Claim.—The combination and arrangement of the slotted handle A, the marking bar B, the sliding rods C D, and the connecting rod E, constructed and operating substantially as and for the purpose herein described.

73,291.—JESSE C. BOYD, Milroy, Ind., assignor to himself, C. P. WILSON, and L. L. BOBLET.—*Cultivator.*—January 14, 1868.—The axle is arched upward

and the beams are hinged to it. Each beam carries two standards. The inner standards are connected together by bars which are pivoted to the standards. The plows are swayed on their points by a lever fulcrumed on the axle arch and passing through a staple upon the upper connecting bar.

Claim.—The arrangement of the beams D, with their attachment directly to the axle A, by means of shifting-clevises, with handle H, bar I, and bars F and G, the several parts being constructed and operating substantially as and for the purpose specified.

73,292.—EDWIN D. BRAINARD, Albany, N. Y.—*Refrigerating and Condensing Apparatus for Preserving Animal and Vegetable Substances.*—January 14, 1868.—The ceilings of the chambers are formed of angularly corrugated metallic plates; and the drip from the salient angles is caught in troughs by which the liquid is conveyed to the exit pipe.

Claim.—1. The combination of the drip gutters and condensing and refrigerating troughs or condensers, forming the ceiling of a chamber, constructed and arranged substantially as described, and operating as and for the purposes herein set forth.

2. The method of forming the condensing troughs, by uniting the sides to a cap with closed double seams, substantially as described.

73,293.—JAMES BRAYLEY, Buffalo, N. Y.—*Shaft Coupling.*—January 14, 1868.—The pins of the gimbal-shaft coupling are prevented from end movement by the guard ring.

Claim.—Providing the guard ring A with concealed recesses *g h*, on its interior surface, for receiving the ends of the loose pins *e e*, in combination with the holes *f* and openings *i i*, of the forked heads B, constructed and arranged substantially as and for the purposes set forth.

73,294.—JOHN BURGER, Elizabeth Port, N. J., assignor to himself and ALBERT MANVIL, same place.—*Apparatus for Raising Sunken Vessels.*—January 14, 1868; antedated January 4, 1868.—The hull is covered by a tarpaulin confined at bottom by rubber ropes which are strained thereon by anchors, blocks, and cords. When the hull is sunk in shallow water a frame may be erected supporting an upward extension of the envelope reaching above the surface.

Claim.—1. The envelope C, constructed and applied to the hull of a vessel, substantially as described, in combination with a suitable binding cable, substantially as and for the purpose specified.

2. The construction of the binding cable D, in two or more sections, of India rubber, or like elastic material, substantially as and for the purpose specified.

3. The frame B, arranged upon the hull of the vessel, and in combination with the envelope C, surrounding the same, substantially as and for the purpose specified.

4. The supplemental sheet or wing E, arranged in relation with the envelope C and the hull of the vessel, substantially as and for the purpose specified.

5. The anchors G, straining cables F, and pulleys *h*, arranged in relation with each other, and with the hull of the vessel, the envelope C, and binding cable, substantially as and for the purpose specified.

73,295.—HENRY T. CARTER, St. Louis, Mo.—*Car-truck.*—January 14, 1868.—The sides of the truck are connected by transverse end bars, by a central sliding bar, and also by diagonal brace bars which are pivoted to the said sliding bar. The diagonal bars are connected to the side frames by pins which traverse slots in their ends. The sides are held by set screws to proper adjustment for the track.

Claim.—1. A car-truck, constructed as described, with braces or bars B B′, having slotted extremities connected by pins or bolts, substantially as and for the purpose set forth.

2. In combination with the above, the sliding bar H, rods *d d′* and *e*, and their connections, substantially as described.

73,296.—SAMUEL CARUSI, Washington, D. C.—*Postage Stamp.*—January 14, 1868.—The edge of the stamp carries the name of the office where issued. The center has a blank space on which the date is marked by the party writing, or by the postmaster to cancel the stamp. There is also space in the center for directions, which will indicate the importance or return destination of the letter, to be added by the superscriber.

Claim.—Constructing a postage-stamp, as described, with a blank space upon its face, for the purposes set forth.

73,297.—SAMUEL A. CHAPMAN, Waterbury, Conn.—*Hinge.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. An iron hinge wrapped or covered on its edges and faces with sheet brass, substantially as described.

2. In iron hinges encased by sheet-brass wrappers, burring or sinking said wrappers into the screw holes of the hinge, for the double purpose of preventing exposure of the iron, and of holding or securing the wrappers, essentially as specified.

73,298.—ROBERT W. CLARK, Pittsburg, Pa.—*Tuyere Iron.*—January 14, 1868.—The tuyere iron boxes have a separate top piece so held by two simple keys that it may be removed when burned out and a new one substituted.

Claim.—1. The combination of the air-chamber A, removable top B, and keys C C, when the same are constructed and arranged substantially as described.

2. The combination of the air-chamber A, turning valve E, and removable top B, when the same are connected and arranged substantially as described.

73,299.—JOHN COLLINS, jr., and N. R. NIXON, Richmond, Ind., assignors to N. R. NIXON, THOMAS NIXON, and ALLAN T. BENNETT.—*Seaming and Rag-cutting Machine.*—January 14, 1868.—The rags are carried by the belts past the rotating knife, and are divided into strips or have the seams removed in their passage.

Claim.—1. The combination of the belts F F, G G, H H, and I, and their supporting rollers, as and for the purposes shown and described.

2. The cutters K K, arranged and operating between the belts, substantially in the manner and for the purpose specified.

3. A series of knives or cutters in combination with alternate double belts, substantially in the manner described, for the purpose of cutting rags into strips of any desirable width, to be woven into carpets.

73,300.—IRA COPELAND, North Bridgewater, Mass.—*Fruit Box.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. A box, in which the cover is secured to the body by means of one or more elastic mediums, arranged so as to operate substantially as described.

2. Providing a cover, when secured as described, with cross-pieces on its outer surface, so that said cross-pieces serve to keep apart the bottoms and tops of adjacent boxes when packed in crates, and thus permit circulation of air between the boxes, and also serve as feet for the boxes to rest upon when the cover is secured beneath the box, as in filling, or when used as a show-box, and prevent injury to any marks or labels which are upon the outer surface of the cover.

3. In combination with a box in which the cover is secured as described, and with such cover, the dowel or steady-pins and holes, substantially as and for the purpose specified.

4. In combination with elastic mediums, secured to the sides or ends of boxes substantially as described, cross-bars, or slats, or strips of wood, or other suitable material, which serve to reduce the length and cost of the elastics.

73,301.—C. F. COSFELDT, jr., Philadelphia, Pa.—*Low-water Detecter for Boilers*—January 14, 1868.—The float lever extends into a pipe secured in the boiler end, and sufficiently large to allow the necessary movement in the said lever. A valve is operated which sounds a steam-whistle on the water falling below a certain point, the steam passing through the pipe inclosing the levers.

Claim.—1. The arrangement of the levers G H;

and valve D, constructed substantially as herein set forth.

2. The combination of the set-screw *i* with the levers G H, and valve D, substantially as herein described.

73,302.—F. H. CRANDALL, Ontario, N. Y.—*Device for Straining Wire Fences.*—January 14, 1868.—The pickets are supported by being woven in between warp wires, which are attached to the posts by staples and bolts.

Claim.—The threaded bolt C, constructed, arranged, and applied substantially in the manner and for the purposes herein set forth.

73,303.—GUSTAVUS CUPPERS, New York, N. Y.—*Mechanism for Operating Sewing Machines.*—January 14, 1868.—The machine is driven by a spring. The power is freed to operate, and the speed regulated by movement of a brake which is operated by a pedal. The force of the downward movement of the needle-arm is regulated by an adjustable counterpoise weight which may be removed when sewing heavy material.

Claim.—1. The combination and arrangement of the shaft *a* of the spring-power mechanism with the crank shaft and connecting rods for operating the needle arm, shaft for operating the feed and hook, and brake for regulating the movement of the said parts, in the manner herein shown and set forth.

2. The employment, in connection with the needle bar, of the movable weight or counterpoise, applied to the said bar substantially in the manner and for the purposes described.

3. The friction brake, constructed as herein described, and applied to the shaft for actuating the feeder and shuttle, substantially as shown and set forth.

73,304.—HENRY T. DILLON, Big Lick, Va.—*Device for Holding Boots and Shoes.*—January 14, 1868.—The last is placed upon a standard rotated by a lever to bring the toe of the boot against the rest standard at either end of the base. One standard gives an upward support for pegging, and the other a side support for sewing. The lever is held by a ratchet.

Claim.—1. The standard A, provided with two shanks *d d'*, the levers R and O, and the hinge *h*, supported by the brace N, by means of the collar *c*, as constructed, and for the purpose specified.

2. The standard A, in combination with the ratchet M and the adjustable standard B, as and for the purpose set forth.

3. The standard A, when used in combination with the standard C, and its ratchet *f*, as is herein fully set forth.

73,305.—BARTLETT DOE, Boston, Mass.—*Sash Stop.*—January 14, 1868.—The hollow bolt has bearings in the sash and a spiral spring which forces it into the recesses of the frame. It is retracted by a lever.

Claim.—1. In combination, the hollow cylindrical bolt and the outside lever, when arranged in connection with a helical spring, substantially as and for the purpose specified,

2. The bent wire link *b*, when applied to the hollow bolt and lever, substantially as set forth.

73,306.—HENRY DONNELLY, Virginia City, Nevada.—*Ore Concentrator.*—January 14, 1868.—The frame of the shaking-tables is invertible on the rock shaft, so that the tables can be used as concentrators alternately; the one which is out of use becoming washed in the receiving trough.

Claim.—1. The concave reversible shaking tables C C', attached to and operating upon the opposite sides of the shaft B, together with the trough A, substantially as and for the purpose described.

2. The key *c* and spring *d*, together with the arms *a a' b b'*, loosely attached to the shaft B, for the purpose of reversing and locking the tables, substantially as herein specified.

73,307.—P. A. DOWNER and A. P. STUART, Monmouth Township, Iowa.—*Seeding Machine.*—January 14, 1868.—The slides by which the size of the seed holes is adjusted, or by which they are closed, are connected to a head which is adjusted by a bell-crank lever. The cleats project over the seed holes to prevent the stoppage of the holes by foreign matters.

Claim.—1. In a seeding machine having a revolving cylinder, the combination of the sliding head E, disk e^1, slide *g*, lever *h*, and standard L, all arranged and operating substantially as and for the purpose described.

2. The cleats *d'*, constructed and applied substantially as and for the purpose specified.

73,308.—STEPHEN W. DOWNEY, Piedmont, W. Va.—*Freight Car.*—January 14, 1868.—The roof is hinged to the sides of the hopper car and folded inward over it.

Claim.—The construction and arrangement of the hinged top or roof, in combination with the car A *a* and rail or rod C, when the same are constructed and arranged substantially as described, and for the purpose specified.

73,309.—E. D. DRAPER, Hopedale, and EDWARD W. GLOVER, Medford, Mass.—*Fire-Proof Safe.*—January 14, 1868.—To prevent the heat passing by conduction into the inside of the safe, the metallic edges of the jambs and door are grooved out so as to insulate the inner and outer cases by layers of mica and fusible metal, the latter running out under heat and giving place to air for the aforesaid purpose.

Claim.—1. The combination and arrangement of a heat non-conductor *c*, of mica or its equivalent, with each or either of the metallic jambs or sides of the door frame, and the filling thereof, the whole being substantially as and for the purpose specified.

2. The combination and arrangement of one or more strata of fusible metal *d*, with the mica or heat non-conductor *c*, arranged in a safe, substantially in manner and for the purpose specified.

3. The combination and arrangement of mica or its equivalent, or of mica and fusible metal, with the sides of the burglar-proof and the next adjacent internal surfaces of the safe, the whole being substantially as specified.

73,310.—ALEXANDER L. DUNBAR, Sheldon, Ill.—*Carpet Stretcher.*—January 14, 1868.—The staff consists of a series of toggle sections. The serrated heads engage the opposite edges of the carpet.

Claim.—The carpet stretcher, constructed as described, consisting of the sections B of equal length, pivoted together, said stretcher provided at each end with a toothed head, whereby the carpet can be stretched to be nailed down upon two sides of the room at once without removing the stretcher, as herein shown and described.

73,311.—THEODOR G. EISWALD, Providence, R. I.—*Safety Plug for Boilers.*—January 14, 1868.—The fusible plugs are inserted in the inwardly flaring holes of the cap.

Claim.—The fusible plugs, constructed substantially as shown and described.

73,312.—LEWIS ESSIG, Canton, Ohio.—*Gate.*—January 14, 1868.—The hinge upright has a pulley at its top engaging by a cord a pulley on the post, and the latter pulley is connected by cords to the windlasses beside the road at a distance from the gate. The action of the windlasses is to tilt back the gate so as to free the latch, and then to swing the gate open.

Claim—1. The opening and closing of any farm or other gate A, by means of the windlasses *b* and ropes H H^1 and H^2, substantially as shown and described.

2. The windlasses *b* and the ropes or chains H H^1 and H^2 and the pulleys E and E', in combination with each other, and in combination with the posts G and the post B, and any gate A, substantially as shown and described, and for the purposes set forth.

3. The slotted cap *e*, in combination with the gate A, substantially as shown and described, and for the purposes set forth.

73,313.—DANA ESTES, Newton, assignor to himself and CASPER W. ROETH, Boston, Mass.—*Portable*

Shade and Seat.—January 14,1868; antedated January 3, 1868.—The awning is carried from the winding roller over a roller which is adjustable on the posts, and then to the front bar at the ends of the pivoted arms, and serves to shade the person sitting beneath.

Claim.—The combination of the adjustable rail C and the posts B B, provided with notches *a*, as set forth, with the settee or seat A and the awning D applied thereto, by means and so as to operate as specified.

73,314.—D. S. FISHER Cedar Spring, Ind.—*Harvester.*—January 14, 1868.—The caster wheels are adjustable vertically, and are connected to a bar, one end of which is pivoted to the frame, and the other end adjustable on a concentric guide bar to change the points of support laterally. The pitmen of the cutter bars are hinged to the ends of a lever which is oscillated by another lever actuated by anti-friction rollers running on the sides of the corrugated rim of the main wheel. The dropping frame is operated by the projection from a wheel upon the axle, the said projection raising a lever connected to the frame.

Claim.—1. The combination of the caster wheel C, pivoted adjustable standard *a*, pivoted arm *b*, pivoted bar *d*, and perforated horizontal segment plates D, whereby the rear end of the frame and cutters is raised and lowered, and the direction of the harvester changed, as herein shown and described.

2. The combination of the projection a^x, grooved wheel *l*, spring *m*, lever T, pendent arm U, crank m^x, shaft V, rod *p*, arm *q*, rod W, and fingers *n*, as herein described, for the purpose specified.

3. The combination of the pivoted shaft M, frame L, and lever Q, with the vibrating arm N, having the pivoted head O and rollers *p*, the lever K, and connecting rods J, all constructed and arranged as described, whereby the vibrating arm is thrown in and out of gear with the driving wheel B, as herein shown and described, for the purpose specified.

73,315.—EDWARD FLATHER, Bridgeport, Conn.—*Baggage Check.*—January 14, 1868.—The arm has an aperture through which is exhibited the name of the required station. The arm turns on the disk upon which the names are stamped, and is fixed by a steady pin and set screw.

Claim.—The indicator arm C, revolving on the set screw or rivet D, and their respective equivalents, in combination with the disk A B, substantially as herein set forth and described.

73,316.—ROBERT M. FRYER, New York, N. Y., assignor to UNIVERSAL PUMP AND MANUFACTURING COMPANY.—*Pump.*—January 14, 1868.—The air contained in the water is collected in an upper chamber from which it may be discharged as desired.

Claim.—1. The vertical chambers D D′ having sediment chambers E E′, vertical cylindrical chambers P P′, with conical tops U U′, and diaphragm chambers F F′, in combination with a horizontal cylinder A, arranged as described, and operating in the manner set forth.

2. The arrangement of the valve chambers S′, T, and K, in their relative positions one to the other, to operate substantially as specified.

3. The diaphragm chamber F, in combination with the valve chambers K, S, and T, substantially as described.

73,317.—W. W. GOFF, Avoca, N. Y.—*Thill Coupling.*—January 14, 1868.—The coupling bolt is held to place by an India-rubber spring loop which passes around a hook upon one end of the bolt, and a hook sliding on the other end.

Claim.—The bolt A, sliding hook B, and India-rubber ring or spring, when combined substantially as and for the purpose set forth.

73,318.—L. A. GOSSIN, Lafourche Parish, La.—*Stopping Crevasses.*—January 14, 1868.—The floating dock is straight on one side and convex on the other, and has a series of tongued and grooved vertical piles which are forced down to the river bottom when the dock has been sufficiently submerged by the inflowing of water through the valves.

Claim.—The construction and arrangement of the boat A and piles F, in the manner and for the purpose substantially as herein set forth.

73,319.—JOHN H. GRAY and CHARLES W. CALHOUN, Florence Township, Mich.—*Potato Digger.*—January 14, 1868.—The digger frame is pivoted at the fore end to the wheel frame and adjustable at the rear. The digger scoop delivers the potatoes to the revolving rake, by which they are separated from the earth in being carried backward on the screen grate.

Claim.—The construction of the machine with the inner frame *b b* hinged to the front end, with the scoop attached, in combination with the other devices, as shown and described.

73,320.—A. P. GREEN, Steuben, Ohio.—*Elastic Coupling for Seeding Machines, &c.*—January 14, 1868.—Intended for application to the pitmen of mowing machines. Elastic packing is so secured in the coupling as to moderate the jar caused by rapid reciprocation of the cutter bar.

Claim.—1. The shank C provided with shouldered collars D, in combination with the ring E, elastic filling or ball F, in the manner and for the purpose set forth.

2. The thimble or sleeve G, arms H, in combination with the ring I, washer J, and elastic filling F′, in the manner and for the purpose substantially as set forth.

73,321.—REMIG GROTZ, Chicago, Ill.—*Barrel Heading, Circling, and Beveling Machine.*—January 14, 1868.—The blank is placed between the clamping disks and the frame, turned so as to bring the blank in contact with the disked saw; this movement also brings the bevel wheel upon the arbor of the clamping disks in connection with its motive wheel upon the saw shaft. The frame is duplicated, so that while one blank is being operated on, another may be clamped in position.

Claim.—1. The frames J, with their clamping devices mounted on the central pivot D, and the operating devices, so arranged that as one is moved to the saw the other shall move from it, substantially as described.

2. The pivoted sleeve D, provided with the slotted arms F, for supporting and adjusting the frames J, as described.

3. The adjustable locking levers *p*, arranged to operate as described, for the purpose of holding the frames in position, as set forth.

4. The clamps M, having the adjustable segments O, with the springs *k* applied to plates P, in combination with the square mandrel *h* with the spring *i* and cam-lever N, applied thereto, all mounted on the arm I of the swinging frames J, when arranged to operate substantially as described.

73,322.—STUART GWYNN, New York, N. Y.—*Solution for Treating Vegetable Fiber for the Manufacture of Vegetable Parchment.*—January 14, 1868.—The transforming fluid is composed of sulphuric acid, 50; saturated solution of sulphate of magnesia, 47; to which, when cool, is added hydrochloric acid, 1; and nitric acid, 2 parts. The neutralizing fluid is composed of hot saturated solution of soda, with an addition of 20 to 50 per cent. lime. After the neutralization of the acid, glycerine is added.

Claim.—1. The mode of producing the fluids, numbered (1) one and (2) two, substantially as described, to be used consecutively in transforming cellulose into "vegetable membrane."

2. Fluid number one, produced substantially as described, as a "new composition of matter."

3. Fluid number two, produced substantially as described, as a "new composition of matter."

4. The use of these fluids, produced substantially as described, in combination with machinery and apparatus, hereafter to be patented, for manufacturing cellulose, in the form of "vegetable felts," into a "new composition of matter," to be patented under the name of "vegetable membrane."

73,323.—JONATHAN R. HAMILTON, Portland, Oregon.—*Corn-Sheller.*—January 14, 1868.—The plunger is placed between two shellers and is reciprocated by a lever connected by a rod to a crank. The plunger acts on the butt of the ear and forces it

between the spiral "rowers" and "serapers" by which corn is shelled.

Claim.—1. The apparatus, as constructed, with a series of rowers, *a a a*, arranged in a circle; also the serapers *f f f* in the rear of the rowers, substantially as and for the purpose herein set forth.

2. The rowers, as arranged alternately, the one forward of another, the same being pressed by springs toward the center, so as to act as a wedge, parallel with, between, and under the rows of corn.

3. The sliding plunger H, to push ears of corn between and through bars *a a a a*, with the rowers or points *b b* attached either vertically or horizontally, as and for the purposes herein set forth.

73,324.—JONATHAN R. HAMILTON, Portland, Oregon. —*Lamp-Chimney Cleaner.*—January 14, 1868.—The instrument is clamped to the table and carries rotating rubber disks, whose edges are cut into radial arms to operate on the inside of a chimney or vial. Arms project forward from the hub for attachment of a cloth to cleanse the outside.

Claim.—1. The scrubbers or wipers A A′ and C C, when constructed and applied so as to operate substantially in the manner as and for the purposes herein set forth.

2. The wiper, as constructed, in combination with the gear mechanism for operating the same, as specified.

73,325.—JOHN W. HANSEL, Peoria, Ill.—*Window-Sash Fastener.*—January 14, 1868.—The lock is attached to the casing, and fluted lever and bolt are operated by the same spindle, and act respectively to support the sash in any position, and to lock the same when shut.

Claim.—1. The combination of the weight A on the bolt B with the arm C on the lever D, operating together substantially as and for the purpose herein specified.

2. One or more spurs, *s s*, on the upper edge of the bolt B, in combination with the mortises in the window-frame, with the said weighted bolt and the fluted lever D, operating substantially as described.

73,326.—GEORGE E. HAYES, Buffalo, N. Y., assignor to BUFFALO DENTAL MANUFACTURING COMPANY, same place.—*Steam Compresser for Vulcanizing Flasks.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. The process, substantially as herein described, of closing the flasks under pressure of steam or vapor, during the operation of vulcanizing the rubber in the molds, by means of a steam ram or compresser connected with the flasks by a clamp or otherwise, and having the heat necessary to effect vulcanization transmitted through it in such manner as that the steam which is thus derived from a vessel that is distinct from the vulcanizer, though arranged within the latter, operates to close the flasks in advance of outside steam pressure on the latter, and while the rubber is at a comparatively low temperature, and plastic, essentially as herein set forth.

2. The steam compresser, composed of cylinders A and B, in combination with a suitable clamp for holding the flask sections in connection therewith, substantially as specified.

73,327.—ANDREW J. HEAVNER, Time, Ill.—*Churn.*—January 14, 1868.—The two dashers are concentric, the wings of one being connected to a radial frame for whose passage the cylindrical rod is slotted longitudinally. The dashers move reciprocally by means of a compound crank shaft.

Claim.—1. The double dasher, consisting of the parts D E, constructed and arranged substantially as described, to work one within and through the other, as specified.

2. The double dasher, consisting of the parts D E, operated by the double crank G H, through the medium of the connecting rods F I, substantially as described and specified.

73,328.—GOTTLIEB HENNING and HERMAN P. WILLIE, Buffalo, N. Y.—*Boot Heel.*—January 14, 1868.—The metallic frame is placed in a mold and the rubber cast upon it. The frame is secured to the leather by two loose screws, and by a screw fixed to the frame and inserted in the leather by rotation of the frame.

Claim.—A boot-heel, consisting of the imbedded skeleton frame A, provided with the flanges on the rim *c*, fixed screw *e*, and rubber *g*, constructed and arranged substantially as set forth.

73,329.—N. W. HESS and J. H. FRY, Fort Wayne, Ind.—*Wagon Jack.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—The lever A, the concavo-convex or crescent-shaped step or link B, in combination with the convex surface of the stud or lifter C, the same being constructed in the manner and for the purpose described.

73,330.—HENRY W. HOLLY, Norwich, Conn.—*Implement for Drawing Nails.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—The jaws A A, constructed to open and close as described, and with their upper ends or arms having converging sides, *g*, forming an opening, *f*, between them, so that by lifting on the same through a lever inserted as specified, to extract the nail, the grip of the nippers is tightened on the latter in the manner substantially as set forth.

73,331.—H. W. HOLLY, Norwich, Conn.—*Implement for Dyers and Bleachers.*—January 14, 1868.—The implement has knobbed tines to hold any object which may be coiled around it when inserted into the dye vessel.

Claim.—The forked implement, having the extremities of its tines knobbed or enlarged, substantially as herein set forth, for the purpose specified.

73,332.—THOMAS C. HOPPER, Philadelphia, Pa.—*Dry Gas Meter.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. Producing both of the channels *a′ a″* on the same side of the partition A, substantially as and for the purposes described.

2. In the valve-seat B′, the annular channel *b‴*, in combination with the closed center, and narrow-faced dividing partitions *b″ b″* of the four openings, which are surrounded by the said annular channel b^3, substantially as and for the purposes described.

3. Casting the seat B′ of the valve and the projecting portion *b″* thereof in one piece, so that both of the channels *a′ a″* can thereby be produced exclusively on one side of the partition A, substantially as described, and for the purposes specified.

4. In the rotary disk B of a gas-meter, the outlet 3, in combination with the space above the faces 2 2, and the annular channel 4, arranged substantially in the manner described and shown, for the purposes specified.

5. Passing the spindle C loosely through the rotary disk B, and giving it a bearing in the seat B′, substantially as and for the purpose described.

6. Giving rotary motion to the disk B upon the seat B′, by means of the cross bar *c′*, fixed in the spindle C, in combination with the studs *c″ c″*, fixed in the said disk B, when the spindle C passes loosely through B′, substantially as and for the purpose described.

7. Arranging the packing box F of the spindle C in the top of the valve cover E, in the position shown as below the worm wheel, for the purpose of admitting of the "repacking," as occasion may require, without removing the king post G, as described.

73,333.—JOHN HOWARTH, Salem, Mass.—*Cupola Furnace.*—January 14, 1868.—The air and steam, or either of them, are heated by waste heat from the cupola or by other means, and are injected into the tweers while the steam is in a superheated condition.

Claim.—1. In combination with a cupola, blast, or other furnace, (in which combined air and steam are used as described,) the superheater chamber, located directly over the furnace, substantially as described.

2. The superheater base *f* and its upright return bends *g*, combined and arranged together and relatively to the furnace and air-blast, substantially as shown and described.

73,334.—William L. Imlay, Philadelphia, Pa.—*Locking Knob Latch.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. Constructing the key bolt B with a projection, F, for the purpose of locking and unlocking the knob latch A, by means of its described action in the slot of the knob latch, as set forth.

2. The constructing and arranging of the knob latch A with the surface *a*, (for the action of the key,) and the slot in its inmost end, for the purpose of giving the knob latch a dead-latch action, and for the purpose of conjoined locking with the key bolt B, thus making the latch A subserve any one or all of the three uses, as follows: of a simple knob latch, a dead or night latch, and an additional security to the key bolt B, as set forth.

73,335.—William L. Imlay, Philadelphia, Pa.—*Hydrocarbon Burner.*—January 14, 1868.—The annular retort is above the outer edge of the annular burner pipe, which is fed from the upper part of the retort. The retort is fed from the reservoir.

Claim.—1. The construction of the vapor and gas chamber B with two walls, the outer one of any suitable form, and the inner one cone-shaped or inclined inward, and operating substantially as set forth.

2. The construction of the blast equalizing chamber E larger than the flow-pipe D, and with the inclined apertures or escape F arranged just beneath or just within the lower part of the generator, as set forth.

3. An apparatus for burning hydrocarbons, constructed and made of the pipe A from the reservoir, the chamber B, flame-blast aperture G, tube D, receiver E, and escape apertures F, operating substantially as set forth.

73,336.—A. Ingalls, Independence, Iowa.—*Seeder and Cultivator Combined.*—January 14, 1868.—The quantity of seed sown is adjusted by a slide operated by a screw. The axle passes longitudinally through the seed box and carries wings to agitate the seed over the exit apertures. The driver, by a pressure upon the foot board, drives the draw bars of the shares into the ground.

Claim.—1. The slide G, as arranged, in combination with the lever H and adjusting rod I, for the purpose and in the manner as set forth.

2. The graduating scale F′, in combination with the adjusting rod I, for the purpose and in the manner as set forth.

3. The foot board Q and swing bar O, as arranged, in combination with the cultivators N, for the purpose specified.

73,337.—Ralph S. Jennings, Philadelphia, Pa.—*Card and Cribbage Board.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—A card board, constructed as described, and so arranged as to be used for playing thereon the ordinary games of cards, or the game of cribbage.

73,338.—Nelson Johnson, Jasper, N. Y.—*Swage for Saw Teeth.*—January 14, 1868.—The point of the tooth is held between the adjustable die and the tool. The tooth is also held by the side pins, and the serrations of the stock. The tooth is swaged by a blow of a hammer on the tool, which is held by a spring.

Claim.—1. The provision of notches or teeth *a* on the swage stock, to hold the notched or serrated saw tooth against displacement, substantially as described.

2. The adjustable swage pin or die B, or its described equivalent, whereby the swage is made to accommodate or adapt itself to irregularities or variations in the saw teeth, substantially as described.

3. A reversible supporting die or swage pin B, having a convex or oval face, in order to either spread the tooth sideways or draw the same endways, substantially as described.

4. The die or stamping device C, in combination with the spring holder C^1 and adjusting screw C^2, substantially as and for the purpose set forth.

73,339.—W. W. Johnson, Nashville, Tenn.—*Machine for Pointing Pickets.*—January 14, 1868.—The picket is clamped to the oscillating frame by the eccentric lever, and the knife is attached to the fixed frame. The latter has an adjustable guide for the paling end. This latter is cut to a conoidal form.

Claim.—The swinging arm D, provided with the eccentric lever F and the holding clamp E, when constructed and arranged to operate the picket against the knife *a*, substantially as and for the purpose herein described.

73,340.—Daniel Jones, San Francisco, Cal.—*Axle for Wagons.*—January 14, 1868.—The butting ring is countersunk in such manner as to fit the round and square parts of the axle at their junction.

Claim.—The countersunk collar C, either in combination with the strap D or where used alone, constructed and arranged substantially as and for the purpose described.

73,341.—Moses J. Jones, Fredonia, N. Y.—*Saw Frame.*—January 14, 1868.—The end of the saw frame consists of a metallic spring.

Claim.—The saw frame A B, constructed as described, and used for the purposes set forth.

73,342.—Arthur I. Judge, Baltimore, Md.—*Expanding Wheel Hub.*—January 14, 1868.—The ends of the spokes are beveled and rest upon conical annulus which is adjusted by set screws to extend the spokes radially.

Claim.—1. An adjustable base with an inclined face, against which the ends of the several spokes of the wheel bear, so arranged that the spokes may be simultaneously more or less extended through the hub by changing the position of the inclined base, substantially as and for the purpose set forth.

2. In combination with a chambered hub the conical base B and adjusting screws A, substantially as and for the purpose set forth.

73,343.—Edmund Keith.—Buffalo, N.Y.—*Shingle Machine.*—January 14, 1868.—The bolts are held in the rotating wheel, and are alternately forwarded more at one end than at the other to give the taper to the shingle.

Claim.—1. The sliding bar P and frame Q, provided with inclined arms *q q*, arranged and operating the pivoted tilting frame N, substantially as set forth.

2. The concentrically grooved wheel H, in combination with the bar P, grooves *u t*, dog *e′*, with projections *d′* and pin *v*, all constructed and operating substantially as described.

3. The sliding spring jaw or clamp F, in combination with the lever E and eccentric G, for alternately operating to release and hold the bolts, all constructed and arranged substantially as set forth.

73,344.—Christian Kendig, Safe Harbor, Pa.—*Clamp for Filing Saws.*—January 14, 1868; antedated January 2, 1868.—The instrument is attached to the bench by the screws passing through the longitudinal, vertical face block, and one of the horizontal base pieces. The clamps are drawn together upon the saw by screws.

Claim.—The bed pieces A and A′, when provided with the screws *e e*, the face block B, provided with the screw *f*, the jaws C C′, and the clamps D D′, arranged substantially as described and set forth.

73,345.—H. A. Kephart, Fletcher, Ohio.—*Stream or River Fence.*—January 14, 1868.—The sills are rigidly fixed to rocks, and the fence hinged to the sills in such manner that when the water is low the current shall keep the fence sufficiently erect; but that the power of water upon its upper part, during a freshet, shall cause it to assume a horizontal position.

Claim.—The sill pieces A A, secured in position, as shown, or in any equivalent way, and having the slats B attached, in connection with the counterpoised slats D, arranged substantially in the manner as and for the purpose specified.

73,346.—James Lamb, Aurora, and Francis Livings, East Enterprise, Ind.—*Scaffold for Buildings.*—January 14, 1868.—The frame has laterally and vertically extended bearings against the wall, and is held thereto and sustained by the shore timbers.

Claim.—The horizontal bar B, notched near its inner end, provided with diagonal braces D D and

vertical bars *f f*, bolted together as described, between which are passed the shore timbers C, connecting into the notch in bar B, for supporting one end of the platform A, all constructed and used as specified.

73,347.—W. J. LANE, Washington, N. Y., assignor to self and J. G. LANE, same place.—*Coffee Mill.*—January 14, 1868.—The conical grinding surface has at its lower edge a horizontal grinding surface, and at the outer edge of the latter is an annular vertical discharge.

Claim.—The external shell or cone D of a coffee mill of the class described, when provided with the pendent flange *a*, surrounding the conical grinder E, for the purpose of giving a downward direction to the ground coffee, and preventing it from being scattered about in the mill, as herein shown and described.

73,348.—LEVI B. LATHROP, San José, Cal.—*Threshing Machine and Grain Separator.*—January 14, 1868.—A tossing motion is given to the corrugated screen by an eccentric, and by the inclined guide slots which receive pins projecting from the sides of the screen. The edges of the screen have leather packing to prevent grain from falling between the screen and frame. The end of an arched suction pipe is placed immediately over the screen to convey away the chaff and dust.

Claim.—1. The device for imparting the peculiar motion, as herein described, to the screen E, said device consisting of the inclined guides C, arm G, and crank shaft H, or their respective equivalents.

2. Providing a screen E, with alternate depressions and elevations, similar to waves, substantially as and for the purpose herein shown and described.

3. The packing *e*, when arranged at the sides of the frame of the screen, substantially as and for the purposes herein shown and described.

4. Passing the grain by any suitable conveyer directly under the end of a suction pipe, as set forth.

5. The screen E, when arranged and operated as set forth, in combination with the suction tube I, the same being arranged substantially as described.

6. The tossing motion of the screen E, when applied to the purpose of separating grain from straw, or for separating it from chaff, or for simply conveying light articles, substantially as described.

73,349.—WILLIAM E. LOCKWOOD, Philadelphia, Pa.—*Fastening for Wire Fences.*—January 14, 1868.—The fence wire is inserted in a hole in the periphery of the pulley, which is turned by a wrench and secured by a key which bears upon its prismatic part.

Claim.—The pulley D, and its many-sided projection *d*, when the said pulley is arranged to turn in the brackets B and B′, or their equivalents, and is confined by a key E, all substantially as and for the purpose herein set forth.

73,350.—WILLIAM E. LOCKWOOD, Philadelphia, Pa.—*Apparatus for Drying Envelopes.*—January 14, 1868.—The envelopes are carried by tapes around a series of rollers, so as to dry them without the addition of heat or a blast of air, which cracks the gum.

Claim.—1. Two sets of endless tapes or bands, in combination with a train of pulleys, arranged substantially as described, for the purpose specified.

2. The combination of the narrow pulleys C C′ with the broader pulleys D, and the two sets of bands, for the purpose specified.

73,351.—HORACE LORD, Hartford, Conn.—*Cartridge Extractor.*—January 14, 1868.—A projection of the breech block strikes the upturned end of the lever, and raises the latter by a positive action to throw out the shell after extraction from the cartridge chamber.

Claim.—Discharging or throwing out the empty cartridge, after it has been extracted from the charge chamber, by means of a vibratory or lifting lever or hammer, arranged to strike the case, substantially as described.

73,352.—TRUMAN MABBETT, Jr., Vineland, N. J.—*Berry Box.*—January 14, 1868.—The ends are grooved to receive the edges of the curved piece.

Claim.—A box for berries and other small fruit, constructed of two upright end pieces A A, and a body, B, of semicircular form in its transverse section, and secured to the end pieces, as shown, the body and end pieces being perforated or not, as desired, substantially as herein shown and described.

73,353.—JEREMIAH A. MARDEN, Chelsea, Mass., assignor to W. N. ELY, of Stratford, Conn.—*Let-off for Loom.*—January 14, 1868.—The whip-roll is connected to a spring friction brake, so as to lighten the same from the wheel when the tension of the yarn is increased.

Claim.—1. The combination of parts D, F, and E, with parts C and H, constructed, arranged, and operating substantially as described.

2. The double-friction brake *e e′*, operating upon the periphery of the wheel C, and actuated by means of spring H, and the whip roll and lever D F, and yarn G, substantially as described.

3. The above in combination with a take-up mechanism, substantially as described.

73,354.—G. F. MARKS, Petersburg, Va.—*Mill-Shape or Mold for Manufacturing Tobacco.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—The iron plate A, or other metal, of suitable thickness, and securing the same to the followers or sinkers B B, and the plates *e e e*, with strong rivets C C C, for the construction of mill-shapes or molds for manufacturing tobacco, substantially as herein set forth.

73,355.—WILLIAM MAROT MARSHALL, Philadelphia, Pa.—*Reflector.*—January 14, 1868.—The reflector has facets of silvered glass jointed together, and supported by a flexible frame.

Claim.—1. The flexible base B, of pasteboard, papier-maché, wood, or sheet metal, in combination with the silvered strips of glass A A, the metal frame C C, and the curved wire mesh work D D D, and the metal clasps F F F and H H H, substantially as described.

2. The wire frame C C, the curved wire mesh work D D D, and the metal clasps F F F, in combination with the glass plates A A A, and the base B, when arranged together so as to form a reflector or section of a reflector, substantially as described and for the purpose set forth.

73,356.—B. MARTIN, Prairie du Chien, Wis.—*Pocket Grain Tester.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. The grain tester, with the scale *c c′* graduated from sixty-one degrees downward, as described, and with a straight edge *r r′* upon one side, for the purpose of leveling the grain in the bucket P, as herein shown and described.

2. The combination of the spring L, rod *m*, and bucket P, with the index finger H and scale *c c′*, as herein described and for the purpose specified.

73,357.—JAMES E. MCBETH, New Orleans, La., assignor to himself and SHELDON STURGEON, same place.—*Breech-Loading Fire-Arm.*—January 14, 1868.—The breech block swings out sideways, and is retained in firing position by a spring catch. The hammer is entirely inclosed within the breech block, and is cocked by one trigger and tripped by the other.

Claim.—The close-hinged box D, in which are completely inclosed the lock and cock, and which is held in position by means of the spring dog I, as and for the purposes specified.

73,358.—EDGAR P. MCCENNEY, Washington County, D. C.—*Lock Catch and Stopper.*—January 14, 1868.—The cord passes through a beveling notch in the frame, and has pressure from the end of the bent lever. The slide is thrust beneath the handle end of the lever to cause a frictional pressure on the rope. The device is used with davit cords in lowering ships' boats.

Claim.—So combining and arranging a bent lever *b*, and a slide bolt *c*, with a frame *a*, in the manner substantially as and for the purposes set forth.

73,359.—JAMES MCDERMOTT, Frederick, Md.—*Elastic Printing Apparatus.*—January 14, 1868.—The type is held on a curved bed, and the inking-roller has a complementary shape. The type is formed of rubber, and is retained by the flanges of the adjustable rules which rest on the base piece of each letter. The inking apparatus is at one end of the bed piece, and has various colored inks for different lines of the matter.

Claim.—1. The arrangement of the frame A, movable bottom B, set screws H, yokes E, and adjustable types, substantially as described.

2. The concave roller I, shaft K, reciprocating frame J, guide-grooves O *k*, lugs *j*, frame A, and inking apparatus *m m' n*, when combined and arranged in the manner described.

73,360.—WILLIAM GRAHAM MCIVOR, Liverpool, England.—*Windlass.*—January 14, 1868.—The barrel has spiral springs, which are wound up by the running-out cable, and serve to prevent jar and to assist in winding in.

Claim.—The application of springs to a windlass to operate in the manner substantially as and for the purpose specified.

73,361.—JOSEPH A. MILLER, New York, N. Y.—*Ash Sifter.*—January 14, 1868.—The box is partially filled with water, and the ashes are washed by working with a hoe. The fine portion passes through the grate.

Claim.—The combination, in a box or case, of the upper and lower chambers A B, grate C D, the one portion, D, of which inclines upward, and sluice or grate E, for cleansing ashes or cinders by a water process, essentially as herein set forth.

73,362.—JOSEPH A. MILLER, New York, N. Y.—*Apparatus for Singeing Cotton-Cloth.*—January 14, 1868.—The passage of the caloric current through the singeing cylinder is regulated by a conical damper at its discharge end.

Claim.—1. In combination with a rotating singeing body or surface, the reflector E, substantially as described.

2. The combination of a damper F with a rotating singeing body or surface, essentially as specified.

73,363.—JOSEPH A. MILLER, Providence, R. I.—*Steam Generator.*—January 14, 1868.—A series of flues passes upward from the fire dome, and an annular series from a lower and outer position in the fire space. The former tubes have conical dampers at their upper ends controlling the currents through them, and consequently through the outer series.

Claim.—1. The combination of the fire dome F with the fire chamber C and tubes G J, arranged and operating essentially as herein set forth.

2. The arrangement of the valves H within the smoke box, for controlling the central or fire dome flues, substantially as shown and described.

73,364.—JOSEPH A. MILLER, Providence, R. I.—*Steam Generator.*—January 14, 1868.—Currents of heated water rise in the spaces beside the fire boxes and beneath the shields, being discharged at the upper surface and carried down through pipes into the space beneath the fire boxes.

Claim.—1. The combination of the tubes C and E with the shields D, crown sheets *c*, and lower sheets *d*, substantially as specified.

2. The combination of shields D with the sediment tubes E and outer tubes C, essentially as herein set forth.

73,365.—T. S. MILLS, Kendallsville, Ind.—*Combined Drill, Roller, and Cultivator.*—January 14, 1868.—The implement is divided longitudinally into two sections which are hinged together, and each section has a roller, seed hopper, and furrow openers. The latter may be raised from the ground if desired, and the implement used as a roller. The seed shaft is driven by one of the rollers in sowing smaller seed, but oscillated by a lever when planting corn. The seed shafts of the different sections are connected by a universal joint.

Claim.—1. Constructing the frame of the machine of two parts A A, connected by joints *a*, and each part provided with a roller B, when said parts, thus constructed and arranged, are used in combination with a seed-dropping apparatus for planting seed either in hills or drills.

2. The operating of the toothed wheels G from one of the rollers B, through the medium of the gearing J M, pitman I, connected with the bar K, and with the crank pulley H, on one of the shafts F of the wheels G, all arranged substantially as and for the purpose set forth.

3. The bar O attached centrally and longitudinally to the frame at its rear end, and provided at its front end with a caster wheel P, in connection with the wheel R and strap *l*, or their equivalents, for raising and lowering the front part of the machine, as set forth.

4. Operating the seed-distributing wheels U through the medium of the toothed segment W, at the lower end of the bent lever X, and the pinion Y, on one of the shafts F, substantially as and for the purpose specified.

73,366.—GEORGE R. MITCHELL, Nevada, Colorado.—*Stamp Mill.*—January 14, 1868.—The lower box of the stamp has an enlargement of the inside diameter at its lower side, forming a space into which the water is injected to keep the stamp-stem clear of grit.

Claim.—1. The bearing D, having the lower portion enlarged, forming a water-chamber *a*, substantially as described.

2. In combination with the above, and with the stem B of stamp A, the water-supply pipe H, tube F, stop-cock G, and flexible hose E, substantially as described and for the purpose specified.

73,367.—GEORGE MOONEY, Providence, R. I., assignor to himself, JOB ARNOLD, and JAMES SHAW, Jr., same place.—*Manufacture of Argand Gas Burners.*—January 14, 1868.—The gas passes through radial passages into the annular space, at the top of which it is ignited. The flow of gas is regulated by the set screw.

Claim.—1. Forming an argand gas burner of one piece of metal, substantially as described.

2. Forming the gas-jet apertures through the top or rim of the burner without drilling, and substantially as described.

3. The screw *f*, forming an adjustable check, in combination with an argand burner, for the purpose of producing a still light, as herein shown and described.

73,368.—THOMAS MOORE, New York, N. Y.—*Horse Collar.*—January 14, 1868.—The seams of the collar are on the front and rear edges, leaving a smooth convex surface to the horse.

Claim.—Forming a horse collar with one outside and one inside leather piece, joined together at the sides, with two seams only, and bent around continuously at the bottom so as to make a collar with a whole throat, having no cross seam, arranged substantially as herein described.

73,369.—DAVID R. MORGAN, San Francisco, Cal.—*Eye Medicine.*—January 14, 1868.—For treatment of an ophthalmic disease incident to the Pacific coast, and in which excrescences form on the inner membranes of the eyelid. It is composed of sugar of lead, 1 ounce; sulphate of copper, 6 ounces; sulphate of zinc, 6 ounces; alum, 6 ounces; nitrate of silver, 6 grains; water, (distilled,) ½ gallon. Mix hot and filter.

Claim.—The above-described composition for treating the eyes, made of the ingredients enumerated, mixed or compounded in about the proportions specified.

73,370.—JAMES MORTON, Philadelphia, Pa.—*Cork Extractor.*—January 14, 1868.—A pair of levers with hand rings are pivoted together near their mid-length, and their ends have respectively a hook to engage the cork-screw handle and a post with a socket foot to rest on the top of the bottle neck.

Claim.—A double lever cork extractor consisting of the bars A, C, and D, all made and operating substantially as herein shown and described.

73,371.—ROBERT MOXLEY, Muscatine, Iowa.—*Spinning Machine.*—January 14, 1868.—The mechanism is all actuated by a single wheel, the power being communicated to the carriage by two belts which run so loosely as to be inoperative unless tightened by treadles; one treadle acting to extend and the other to cause the return of the carriage. Another treadle operates the brake which stops the carriage and allows the yarn to twist. The bell is sounded at each rotation of the main wheel to denote the twist. The "faller" is operated by a hand lever.

Claim.—1. The combination and arrangement of the shaft *a'''*, belts *a a'*, shafts F F', brake T, treadles for tightening the belts *a a'*, belt *c*, and carriage C, all the said parts being constructed and operating together, substantially in the manner and for the purposes specified.

2. The arrangement of the said parts with the belts *b* and *d*, wheel D, apron J, faller I, slide L, set screw *l*, inclines *g g*, and gate G, the whole constituting a combined hand roll and twisting machine, substantially as described.

3. The adjustable apparatus for indicating the twist, consisting of the slide O, belt *u*, knot *o'*, lever *v*, and bell W, all arranged and operating together substantially as and for the purpose set forth.

73,372.—GEORGE NEILSON, Boston, Mass.—*Lamp.*—January 14, 1868.—The annular cork packing is placed in a suitable recess in the top into which the cap screws, the lower part of the latter coming in contact therewith.

Claim.—In combination with the tops of lamps for using burning fluids, an annular cork packing, made, arranged, located, and held in position in the lamp, in the manner and for the purpose herein described and represented.

73,373.—H. NORTON and J. S. B. NORTON, Farmington, Me.—*Apple Slicer.*—January 14, 1868.—A series of curved cutters is fixed to the sides of the frame and a tubular cover flanked by radial cutters to the end. The peeled apple is forced between the cutters by a follower and is thereby cored and sliced.

Claim.—The combination as well as the arrangement of the corer K with the knives L L' and H H' H'', substantially as described and for the purpose set forth.

73,374.—BENJAMIN OLDFIELD and EDWIN OLDFIELD, Newark, N. J.—*Loom.*—January 14, 1868; antedated January 4, 1868.—Explained by the claims and illustration.

Claim.—1. The combination of a brake c^2 or *d*, with the tension spring *c*, reel R, and shuttle S, substantially as and for the purpose set forth.

2. The spring catch or bridge piece *d*, in combination with the shuttle S and reel R, constructed and operating substantially as and for the purpose described.

3. The loose peg *f*, in combination with the shuttle carriers C, guide bars *h*, cams *g*, and shuttle S, constructed and operating substantially as and for the purpose set forth.

4. The arrangement of slide bars D, moving on the top of the batten, in a straight line, without rise and fall, having uprights attached thereto with holes in to receive a loose peg or stud capable of carrying a shuttle, each peg or stud receiving motion by a cam or its equivalent, substantially as and for the purpose set forth.

5. The arrangement of cams F, attached to or formed by the cog-wheels E, in combination with stops *k* on the slide bars D, substantially as and for the purpose described.

6. The arrangement of a cam and eccentric *t*, attached to and operated by the shaft that carries the shuttle actuating devices, and in combination therewith the spring stop *s*, bar E', and belt shipper H, constructed and operating substantially as and for the purpose set forth.

7. The arrangement of a brake G, in combination with the stop motion and shuttle motion, constructed and operating substantially as and for the purpose described.

8. Operating the harness by chains and chain wheels N, and levers L M, substantially as and for the purpose set forth.

9. A harness motion, composed of loose arms L, each of which is pivoted at one end to a lever M, and at the opposite end to a circular or segmental chain wheel N, substantially as and for the purpose described.

10. The vibrators *j'*, in combination with the rods *i'*, carrying the hooks *l'*, and with the intervening hinge O and pattern chain Q, constructed and operating substantially as and for the purpose set forth.

11. The arrangement of elastic springs or cushions under the pins or studs of the pattern chain, in combination with the T-headed shanks of said pins or studs, and with suitable ridges or cavities on the inner surfaces of the several leaves of the pattern chain, substantially as and for the purpose described.

73,375.—JAMES PARK, Jr., Pittsburg, Pa.—*Combining Copper and Cast Steel.*—January 14, 1868.—A copper ingot at a bright red heat is placed in a mold and molten steel poured around it, forming a compound ingot which is subsequently hammered and rolled.

Claim.—Combining copper and cast steel by heating the copper to a good red heat and teeming or pouring thereon liquid molten cast steel, substantially as and for the purposes hereinbefore described.

73,376.—JOSEPH T. PARLOUR, Brooklyn, N. Y., assignor to himself and WILLIAM BEARD.—*Keel and Bilge Block.*—January 14, 1868.—The wedge blocks are slid upon each other by chains actuated by a windlass and operate to raise the vessel when placed beneath the keel and bilge.

Claim.—1. The combination, with the blocks B C D and side pieces E F, of the chains G K, pulleys M I L, ratchet wheel Q, and pawl R, all constructed, arranged, and operating substantially as described.

2. The side strips to the supporting or cap-piece of a bilge or keel block, substantially as and for the purpose specified.

73,377.—HENRY T. PAYNE and WILLIAM AYERS, San Francisco, Cal.—*Finish for Painted Surfaces.*—January 14, 1868.—The galena ore is pulverized to fineness of coarse sand and caused to adhere to a heavy coat of paint.

Claim.—A finish for paint, consisting of crude galena, prepared and applied substantially as and for the purpose herein described.

73,378.—SHADRACH H. PEARCE, Boston, Mass.—*Case for Umbrellas.*—January 14, 1868.—The seams are secured by cement in place of sewing to enable the formation of the cover without turning "inside out," and thus permit a neat attachment of the ferrule.

Claim.—An umbrella case composed of enameled cloth, the parts of which are secured together by cement, substantially as described.

73,379.—HENRY G. PEARSON, New York, N. Y.—*Mechanical Toy.*—January 14, 1868.—The horse is pivoted to a diametric bar, and the man is spitted on a radial pin within rolling rings. The movement of the rings occasions the limbs of both animals to execute diverting motions.

Claim.—1. A mechanical toy, the positive motions of whose parts are derived from a crank or cranks on the axis of a rolling or revolving hoop.

2. The combination with such a crank or cranks, of a system or systems of connecting links, substantially as shown and described.

3. In combination, a revolving hoop, carrying a suspended image or toy which does not revolve, but whose members are given positive and determined movements, substantially as described.

4. The combination with the rolling hoop of a mechanical toy, of a radial arm, projecting from the hoop toward its center, as and for the purpose set forth.

5. The combination with such a hoop and radial arm, of a jointed imago.

73,380.—G. M. PETERS, Lancaster, Ohio.—*Dropping Platform for Harvesters.*—January 14, 1868.—The slats of the dropping platform run parallel with the cutter bar, and the platform is swung around 90°, and is depressed sufficiently to allow the stubble to assist in the discharge of the gavel. The cut-off bar

receives the accumulating grain while the gavel is being discharged.

Claim.—1. A slatted dropping platform, adapted to turn upon a pivot located at its inner front corner, and to tilt or drop upon a hinge, or fulcrum supports, arranged in a line parallel with the finger bar, substantially as described.

2. The semicircular plate E, provided with the incline or offset e', in combination with the quadrant plate, or its equivalent, attached to the platform, and operating substantially as described.

3. The slatted platform, pivoted at its inner front corner, in combination with the plates E and F, or their equivalents, substantially as described.

4. The dropping platform, pivoted at its inner front corner, in combination with the forked lever J and cam wheel K, substantially as described.

5. The combination of the turning and dropping platform with the cut-off M, in the manner substantially as described, whereby the cut-off is operated by the same lever which throws into gear the mechanism operating the platform, as set forth.

73,381.—William G. Pike, Philadelphia, Pa.—*Valve for Steam Engines.*—January 14, 1868.—The supply and exhaust valves are side by side on the cylinder, and extend radially therefrom. The valves are operated by a common rock shaft, the arm operating the exhaust valve, being somewhat the longer, to give greater throw, the steam ports of that valve being wider than those of the supply-valve.

Claim.—1. The steam supply chest and supply valves B, and their stem E, in combination with the two exhaust valve boxes N N', exhaust pipes O O^1, terminating in a single pipe O^2, exhaust valves J J' and their stem, all arranged and operating in the manner and for the purpose substantially as set forth.

2. Arranging the exhaust valves J J' below the exhaust valve box covers K K', so that said valves move upon and against the under side of said covers, substantially as set forth.

73,382.—J. F. Pool, Monroe, Wis.—*Separator.*—January 14, 1868.—The screens and riddles have distinct longitudinal shaking, by connection to a vertical oscillating shaft, receiving motion from the fan-shaft crank.

Claim.—1. The thumb screws P and W, when operating to adjust the screens *m* and *n*, in the manner described.

2. The screw X, in connection with a roller *y*, for regulating the hopper screen and hopper, as herein set forth.

3. The bar F, furnished with plates *g* and *e*, in combination with shaft H, plate K, and hooks *s*, the whole constructed substantially as set forth.

73,383.—Jos. Potter and Olif Abell, Whitehall, N. Y.—*Boxed Hone.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—As a new article of manufacture, the circular hone, incased in a circular wooden box, having wooden cover C, in such a manner as to protect the hone and keep its upper surface level, or from having depressions formed therein by the action of the tool being ground, as herein shown and described.

73,384.—Samuel Reed, Whitestown, Pa.—*Animal Trap.*—January 14, 1868.—The trap proper has openings, with inwardly converging wires, and is surrounded on three sides by a case of considerably larger dimensions, and having smooth openings, allowing ingress and egress. The outer case is hinged to the trap and may be thrown back or removed.

Claim.—The combination of the hinged vestibule A and trap B, constructed and arranged substantially as and for the purpose herein specified.

73,385.—Horace Resley, Cumberland, Md.—*Car Coupling.*—January 14, 1868.—The heads of the coupling bar are oblong, and the shoulders rectangular. The ends of the head are beveled, so as to turn in entering the bar, turning back again to engage the shoulders at the sides of the draw head.

Claim.—1. The links or bars A, with shouldered heads and beveled ends, and suspended by a flexible connection, so that they can rock or turn in the line of their length when they are to connect or disconnect the train, substantially as described.

2. In combination with the link or bar A, constructed and operating as above described, the box B, with shoulders *c c* and rounded end *j*, as and for the purpose herein described and represented.

73,386.—James C. Rhodes.—Stillwater, Minn.—*Crutch.*—January 14, 1868.—The spur is driven out of the bottom of the crutch by a spiral spring, and may be drawn inward by the handle, which screws upon its upper end. The point may be secured in its contracted position by screwing the handle upon the rod.

Claim.—The handle G, in combination with the rod A, spur B, and the devices for projecting and retracting said spur, substantially as set forth.

73,387.—Peter Richmond, Aberdeen, assignor to himself and James Lamb, Aurora, Ind.—*Roofing Scaffold.*—January 14, 1868.—The side pieces are adjustably secured to the frame to regulate the inclination platform, attached to their upper ends. The platform and frame have spurs to engage the roof.

Claim.—The side pieces A A, platform B, plates J I, and the frame C C, and scantling H, for forming a scaffold, the several parts being constructed and used substantially as and for the purpose set forth.

73,388.—Samuel C. Ridgaway, Baltimore, Md.—*Harvester Rake.*—January 14, 1868.—The heel bar of the rake slides beneath a roller and within a slot of a post, and is connected to one end of a lever, whose center is connected to a crank and whose other end has a stud traversing a cam groove. The fore end of the rake is guided by a cam rib on the platform.

Claim.—1. Operating a harvester rake by means of a cam of suitable form, in combination with a rotating arm and lever, or their equivalents, substantially as described.

2. The combination of the rotating arm *a*, rod D, and rake R, with the cam B, when constructed and arranged to operate substantially as and for the purpose set forth.

73,389.—Heber R. Ridgley, Mansfield, Ohio.—*Harness Pad.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—As an improved article of manufacture, a harness pad and iron, constructed as described, consisting of the solid flanged iron *m*, having the crupper loop cast upon and with it, and the continuous pad *d*, with its upper surface *m'*, formed of sole-leather, covering and receiving the burs *e*, as herein described, for the purpose specified.

73,390.—Lyman Riggs, Lansing, Mich.—*Convertible Fork and Hook.*—January 14, 1868.—The head of the fork turns on the shank so as to be convertible into a dung drag; a catch holds the head in position.

Claim.—1. The pin F, constructed and operating substantially as and for the purposes set forth.

2. In combination with the shank of a fork, having notches A, B, and C, the springs D and E, constructed and operating substantially as specified.

73,391.—Hermann Schüssler, San Francisco, Cal.—*Chain Inclinometer.*—January 14, 1868.—The level is hinged to the frame at one end and is pivoted at the other, to indicate upon the scale the inclination of the surveyor's chain, to which it is attached.

Claim.—A chain inclinometer, having the level I and the scale A A, together with the handle I I I, for ascertaining the correct horizontal distance when measuring, the whole constructed and operated substantially as and for the purpose herein described.

73,392.—James B. Sexton, Pella, Iowa, assignor to himself and John L. Andrew, same place.—*Cultivator.*—January 14, 1868.—The draw bars are hinged to bars which are adjustably secured to a frame, attached to the lower side of the tongue.

Claim.—1. The adjustable iron bars G, constructed substantially as herein shown and described, and adjustably attached to the end bars a^2 of the frame A, as and for the purposes set forth.

2. The beams H, constructed substantially as herein

shown and described: that is to say, curved ontward at their forward ends and strengthened at their rear ends by the cross-bars J, as and for the purposes set forth.

3. The curved adjustable bar or yoke L, curved edgewise, and adjustably bolted to the cross-bars J, substantially as herein shown and described, and for the purpose set forth.

73,393.—SILAS SHIRLEY, Guilford, Ill.—*Seed Drill and Roller.*—January 14, 1868.—The seed mechanism is actnated by the roller, which forms the earth into ridges, for protection of the seed. The relative vertical position of the parts is adjnstable, to regulate the depth of planting.

Claim.—1. The wheels A^1, with attachment A^2, in combination with frame A, when arranged as described.

2. The frame *o*, cutter E, hopper O, drill point O^1, and rods *s s'*, when combined and arranged as and for the purpose explained.

3. The roller P, with the V-shaped projection, having a triangular section cut out, as shown, as and for the purpose explained.

73,394.—S. A. SIMISON, Earlville, Ill., assignor to himself and BOYD D. SIMISON, same place.—*Coal Box.*—January 14, 1868.—The apertnre between the hopper and "scuttle" may be closed by a sliding plate, actuated by a rack, spur wheel, and winch. The drawer is for storage of shallow cooking vessels.

Claim.—The hopper B and drawer R, in combination with slide C and scuttle G, the last two constructed and operating substantially by means as described, or other equivalent means, and the whole arranged snbstantially as described, forming a coal box of any desirable shape and size, for purposes herein set forth and specified.

73,395.—P. J. SKINNER, Oswego, N. Y.—*Movable Barrel Stand.*—January 14, 1868.—The pivoted standard has a ratchet to engage the rear chine of the barrel, to keep it elevated when nearly empty.

Claim.—The combination of the barrel stand with the rollers D and upright B, as and for the purpose specified.

73,396.—J. B. SLAWSON, New York, N. Y.—*Change Gate for Railroad Cars.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. A self-closing oscillating gate B, when arranged in the door or front wall of a railroad car, omnibus, or other public vehicle, substantially as and for the purpose herein shown and described.

2. A self-closing gate B, when arranged as described, and when combined with a bell I, so that whenever the gate is opened the bell will be struck, as set forth.

3. The arrangement of the headed pin E and spring *h*, in combination with the oscillating, self-closing gate B, all made and operating substantially as and for the purpose herein shown and described.

73,397.—ANDREW V. SMITH, San Francisco, Cal.—*Store Truck.*—January 14, 1868.—The brake is operated by the hands, or by pressure of a sliding brake bar on the body of the operator.

Claim.—1. The roller B, brake-bar E, brakes C C, holders D D, metal arm H, and springs *e e*, when applied to store trucks, substantially as described, for the purpose specified.

2. The cross-bar I, handles *a a*, straps *b b*, and ring *b'*, when arranged and operated substantially as described, for the purposes specified.

73,398.—ROBERT SMITH, Brooklyn, N. Y.—*Device for Raising Casks and Barrels.*—January 14, 1868.—The barrel is placed upon an upper frame, which may be inclined so as to allow easy loading or unloading, or to carry the barrel in a vertical position on an inclined track. The truck has a multitude of wheels, so as to allow its conveyance over uneven surfaces.

Claim.—1. A device for transporting barrels, casks, &c., which is made and operating substantially as herein shown and described.

2. The wheels B, when arranged in rows, the axles in one row not being in line with those in the other rows on the same side of the frame A, substantially as and for the purpose herein shown and described.

3. The frame A, when provided with slotted upper bars *d*, and blocks *g*, in combination with the frame C and rollers *e* and *f*, all made and operating substantially as and for the purpose herein shown and described.

4. The device for changing the respective positions of the frames A and C, consisting of the lever E, connecting rod G, cross-bar *k*, ears *i*, and pin *m*, all made, operating, and secured substantially in the manner herein shown and described.

5. The rollers D D on the frame C, in combination with the frame A and rollers B, as set forth.

73,399.—T. S. SMITH, Boston, and A. B. ELY, Newton, Mass., assignors to WILLIAM N. ELY, Stratford, Conn.—*Let-off Mechanism for Looms.*—January 14, 1868.—The let-off mechanism is governed by the tension of the yarn over the whip roll, counterbalanced by the weight.

Claim.—1. The arm J, in combination with arm I and whip roll F, when J is made adjnstable in I, and the parts are severally arranged, substantially as described.

2. The whip roll F and arm I, having an adjustable arm J, in combination with the single detent lever or pawl K *k* and escapement wheel E, when severally constructed and arranged for operation, substantially as described.

3. The lever G *g*, with or without adjustable fulcrum, and having an adjustable weight L, as set forth, in combination with rocking-shaft roll F, all arranged substantially as described.

4. The combination of lever G *g*, weight L, arm *a*, levers F I J K, and escapement wheel E, all arranged and operating snbstantially as and for the purposes set forth.

5. The rod *o* and brake *p* P, arranged in combination with and in relation to the yarn beam and whip roll, snbstantially as and for the purposes described.

6. The rod *o* and brake *p* P, in combination with a let-off mechanism, operated by the strain of the yarn, substantially as described.

7. The mechanism for throwing back the rod *n* or rod *o*, to free the yarn beam, substantially as described.

73,400.—WILLIAM SNODGRASS, Cold Spring, Wis.—*Water Wheel.*—January 14, 1868.—The floats are formed in two sections, the inner one being jointed to the other, and opening to allow the escape of air when the floats are entering or leaving the water. The edge of each float has a flexible valve which packs against the scroll. The sides of the rim are made tight by the segments which are forced out by springs, whose action is adjnsted by set screws.

Claim.—The float D, with its valves *a'* and *c*, the scroll B, and the segment *f*, with the sliding piece *g*, the spring *h*, and screw *i*, when arranged and combined, substantially as described and for the purposes set forth.

73,401.—EPHRAIM SOPER, New York, N. Y.—*Mechanical Movement.*—January 14, 1868.—One of the engaging spur-wheels is rigidly attached to the connecting rod and the other to the main shaft. The wheels being of equal diameter, the shaft will have two rotations to each revolution of the motive wheel.

Claim.—A crank, when composed of the gear-wheels B and D, or their equivalents, and of the plates C and pin *a*, all made substantially as described, and operating so that the velocity of the shaft is increased without increasing the number of revolutions of the crank.

73,402.—N. B. SORNBORGER, Northampton, Mass.—*Combined Catheter and Syringe.*—January 14, 1868.—The syringe nozzle consists of a catheter tube. An adjustable collar regulates the insertion of the tube.

Claim.—1. The slide or collar on the body to a syringe, in combination with a collar in the discharge -tube, when the two are connected together and arranged for operation substantially as and for the purpose described.

2. The loops applied to the cylinder of a syringe

for receiving fastening straps, substantially as described.

73,403.—ISAAC C. SPEAR, New Wilmington, Pa.—*Horse Hay Fork.*—January 14, 1868.—The claw tines are held together by toggle levers, which are tripped by a cord.

Claim.—In connection with the curved lines of a hay elevator, a locking device, consisting of arms *b e*, link *d*, and detaching lever *f*, or its mechanical equivalent, constructed and arranged substantially as and for the purposes hereinbefore set forth.

73,404.—E. M. STEVENS, Boston, Mass.—*Wash Board.*—January 14, 1868.—The ribs are formed of India rubber and fibrous material, vulcanized after forming.

Claim.—A corrugated wash board, when made of India-rubber mixed with fibrous material, and shaped and vulcanized in the mold, substantially as described.

73,405.—W. X. STEVENS, Waterford, N. Y.—*Skate.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. Forming the sole and blade of a skate from one continuous piece or sheet of metal by first slitting or cutting, and then bending the said metal sheet, substantially in the manner and for the purposes herein shown and described.

2. A combined skate sole and blade, formed from a continuous sheet of metal, as described, and corrugated or indented at the angle formed by the sole with the blade, so as to form braces for stiffening the said parts, substantially as shown and set forth.

3. The combination, with a skate of ordinary or suitable construction, of the herein described spring clutch for grasping the boot sole, the same being pivoted to the forward part of the skate, so as to extend diagonally across the sole of the same, under the arrangement and for operation as shown and set forth.

4. The combination, with a skate of ordinary or suitable construction, having a stationary jaw or equivalent bearing for the rear of the boot heel of the pivoted catch and adjustable set-screw, for holding the said boot heel to the skate, under the arrangement and for operation as herein shown and set forth.

73,406.—F. U. STOKES, Cincinnati, Ohio.—*Check-Rein Hook.*—January 14, 1868; antedated January 2, 1868.—The drop piece is pivoted to the rear end of the check hook, and prevents the escape of the rein.

Claim.—The drop piece C, secured to the point of the check hook as shown at *e*, for the purpose of closing the check hook and preventing the rein getting out.

73,407.—W. R. THOMAS, Catasauqua, Pa.—*Annealing Furnace.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—The rings F, placed between and supporting the car wheels, and fitting snugly within the furnace A, whereby the heat is prevented from reaching the chilled tread of the wheel, while the center is being annealed by intense heat, the whole supported upon the offset *a* in the furnace, as herein set forth for the purpose specified.

73,408.—JONATHAN TIDD, Woburn, Mass.—*Machine for Softening Leather and Hides.*—January 14, 1868.—The bed has a series of depressions, and the cross-head a series of matching projections, between which the leather is passed. The cross-head has vertical reciprocation from two cranks on a rotating shaft beneath.

Claim.—1. A leather-softening machine, constructed and arranged to operate substantially as described for the purpose specified.

2. The perforated bed B, or its equivalent, and the pins *e*, or their equivalents, with the yielding cross-head G and the supporting beam K, for the purpose and substantially as described.

3. The shaft H, wheels or cranks I, pitmen *k* and rods *m*, combined with the cross-head G, in the manner and for the purpose substantially as described.

4. The nuts *d* and *e* and springs *g*, combined with the rods *m* and the cross-head G, for the purpose and substantially as described.

73,409.—HOWARD TILDEN, Boston, Mass.—*Lamp.*—January 14, 1868.—The cone rests on a perforated annulus, which is in turn supported by the closely perforated base of the burner. The chimney is supported by a ring and curved spring wires attached thereto.

Claim.—1. The openings *i i*, in the flange C, arranged in relation to the cap B, in the manner and for the purposes specified,

2. The ring D, when provided with the sustaining wires *e e*, and combined with the base A, substantially as and to operate as set forth.

3. The base A, the ring D, and the cap B, when arranged with relation to each other substantially as described.

4. The ring *j*, arranged upon and used to lift the cap B by, as described and set forth.

73,410.—JOHN P. TROXELL, Hancock, Md.—*Sausage Stuffer.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—The sausage-stuffing machine herein described, consisting of the hinged cylinders C C′, rack bars H H′, provided with disks I I′, situated as described, and operated by wheels E F G G′, so that while one cylinder is filling the casing, the other cylinder may be filled with meat, and prepared to fill its casing as soon as the first cylinder has done its work, and *vice versa*, substantially as described.

73,411.—HENRY WARNER, Newark, N. J.—*Machine for Sizing Hat Bodies.*—January 14, 1868.—The table has a simple horizontal reciprocation, and the platen an oscillatory as well as a reciprocating motion, being rigidly attached to the pitmen. Jets of hot water or steam may be applied to the bat from pipes which end in a finely perforated box.

Claim.—1. The combination of the reciprocating rocking platen or board C, platen or board D, and connecting rods *z y*, with the crank shaft B, as and for the purpose described.

2. The injectors G and H, and the distributer *w*, when used in combination with the boards C and D, substantially as shown.

3. The expressing rollers F and the weights I, when combined with the described sizing machine, in the manner and for the purpose specified.

73,412.—WILLIAM H. WARREN, Worcester, Mass.—*Crank Planer.*—January 14, 1868.—The wrist pin of the connecting rod is fixed in a block sliding radially in a disk, said movement being accomplished by a screw-rod turned by a bevel wheel upon a shaft turning within the tubular disk shaft; the axial shaft is caused to rotate in either direction by a clutch.

Claim.—1. The combination, with a crank planer or like machine, of mechanism substantially as herein described, for regulating the throw of the crank without stopping or interrupting the continuous operation of the machine, as shown and set forth.

2. The combination, with gear F and face-plate E, of the tubular shaft *g*, central shaft 3, screw shaft 8, and gears 4, *h*, 6, and 7, substantially as and for the purposes set forth.

3. The combination, with the shaft 2 and gear 1, of the loose gear 5 and pulley 12, or its mechanical equivalent, operating substantially in the manner and for the purposes herein shown and described.

4. The combination, with gears 1 and 5, and pulley 12, mounted on the shaft 2, as described, of gears 4 and *h*, and their respective shafts, arranged for operation substantially as and for the purposes herein shown and specified.

5. The combination, with the friction pulley 12 and beveled pin 13, of the lever H and shoulder 15, substantially as and for the purposes set forth.

73,413.—JOSEPH R. WEBSTER, Boston, Mass.—*Straining Wood Saws.*—January 14, 1868.—The stay bar is connected to one side piece, and has a pin engaging the lever hinged to the other side piece, and adjusted by a screw and thumb nut.

Claim.—In combination with a hand-saw frame, the lever *i*, and mechanism by which it is connected with the frame, and is operated to strain the saw blade, substantially as set forth.

73,414.—ROLLIN C. WELCH and JOSEPH B. MILLER, Buffalo, N. Y.—*Tube Well.*—January 14, 1868.—Explained by the claim and illustration.

Claim.—The imperforated external tube D, connected with the perforated internal tube A by means of the inner collar *c* and the outer collar *b*, so that the tube D comes in contact with an external shoulder of a conical plug, B, of the tube A, during the operation of forming the enlarged water chamber *a*, and rests upon a spring-catch when the tube-well is adjusted for operation, substantially in the manner and for the purpose described.

73,415.—GEORGE WHEELER, Chicago, Ill.—*Lantern.*—January 14, 1868.—The draught of air through the bottom of the lamp is increased by a frusto-conical upward extension of the globe.

Claim.—1. The arrangement of the conical tube or chimney D with the globe of a lantern, substantially as and for the purposes specified.

2. Providing said chimney D with one or more diaphragms E, arranged and operating substantially as and for the purposes set forth.

3. In combination with the said chimney D and the openings *b b* in the lantern top, the arrangement of the perforated disk *c*, in the manner and for the purposes described.

4. The arrangement of the draught openings *a b* in the lantern top with the chimney D, operating substantially as described.

73,416.—HIRAM W. WHITE, Olney, Ill.—*Desk and Seat.*—January 14, 1868.—The desks and seats are supported on X-frames, whose legs are pivoted at their intersection. The intersections of the end frames are connected by a bar, and their upper ends by bars, by which they are connected to the top. One of these upper bars is unchangeably pivoted to the top, and the other occupies notches therein, by which it is adjusted to regulate the height of the desk. The adjustment devices of the seat are similar, and its legs are pivoted to one desk at the lower ends of each.

Claim.—1. The folding legs C C C′ C′, in combination with the notches 1, 2, 3, 4, and locking-plates F F, or their equivalents, as a means for adjusting desks, tables, and chairs vertically, substantially as described.

2. The blocks H H and rod I, in combination with a desk A, C C′, and chair D, C C′, substantially as and for the purpose specified.

73,417.—W. N. WHITELY, JEROME FASSLER, and O. S. KELLY, Springfield, Ohio.—*Cider Mill.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. Constructing the grinding box in two parts, substantially as set forth, and attaching the bearings of the crushing rollers to the upper part, as and for the purpose set forth.

2. Mounting the journals of the grinding rollers V V in boxes, which are attached to the lower side of the sidewise-projecting flange by screw bolts, and so that the said boxes may be slightly adjustable as to their distance from each other, as set forth and described.

3. The construction of the press frame with the press beam L, the stay rods J J, the front posts A A, the girder B, the tie rods H H, and the angle irons I I, as set forth.

4. The two ribbed crushing rollers S S, and the two grinding rollers V V, directly beneath them and running at different speeds, combined and arranged in a metallic grinding box, constructed in two parts, and the bearings of one set of rollers connected to one of said parts, and the bearings of the other set connected to the other of said parts.

73,418.—JAMES P. WIGAL, Henderson, Ky.—*Animal Trap.*—January 14, 1868.—The disturbance of the bait moves the catch lever, which allows the spring shaft a semi-rotation and closes the angular doors of the trap. The rat in passing into the light chamber allows a further semi-rotation of the shaft, and resets the trap.

Claim.—1. The combination of the coil spring H, crank G, lever catches I and J, spiral spring L, or its equivalent, connecting rods E and F, and arm D, with each other and with the wings B and C, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the pivoted platform M, arm N, connecting rod or wire O, elbow lever P, and bar R, with each other and with the lever catch J, for the purpose of springing the trap, substantially as herein shown and described.

3. The combination of the arm T and connecting rod or wire U with the drop gate S and lever catch I, for the purpose of resetting the trap, substantially as herein shown and described.

4. The combination of the curved arm W with the wing B and drop gate V, substantially as herein shown and described, and for the purpose set forth.

73,419.—EDWIN WILEY, Brooklyn, N. Y.—*Manufacture of Pens.*—January 14, 1868.—The point and heel blanks are cut transversely from two strips of gold and silver respectively. The pieces are then united by solder, rolled to form, and finished.

Claim.—In the manufacture of pens, composed of both gold and silver, and known as the Union Pen, giving the seam between the two metals an extra thickness by means of solder, or otherwise, substantially as and for the purpose described.

73,420.—JOHN WILL, Bryan, Ohio.—*Worm Fence and Pen.*—January 14, 1868.—Explained by the claims and illustration.

Claim.—1. The worm-fence, constructed as described, whereby pens or yards can be formed by interlocking from either side, as herein shown and described.

2. The sections, provided with notches at one end in the under part of each board, and at the other end in the top part of each board, the notches in the under side of one section engaging with the upper notches of the other section, and held in position by means of the cleats upon each side of the boards, near each end, all constructed and arranged as herein set forth, for the purpose specified.

73,421.—JOHN B. WILSON, New York, N. Y.—*Veneer.*—January 14, 1868.—The veneer is cut in corrugated form to increase the "figure" in a veneer cut from straight-grained lumber.

Claim.—The veneer produced by a corrugated or zigzag cut, substantially in the manner as described.

73,422.—LEWIS WILSON, Ovid, N. Y.—*Pipe Coupling.*—January 14, 1868.—The annular packing-piece of metal is conoidal in radial section, to allow the sections of pipe to be slightly inclined without opening the joint. The gasket enters recesses in the ends of the sections.

Claim.—The double convex metal ring *b*, interposed between the ends of pipes A A, and fitted into recesses *c c* formed therein, and retained in position by external pressure, applied through screw bolts *a a*, or their equivalents, substantially in the manner and for the purpose described.

73,423.—E. K. WISELL, Warren, Ohio.—*Wood-turning Lathe.*—January 14, 1868.—Improvement on his patent March 3, 1863. The carriage is adjustably hinged to the adjustable slide rod, and carries upon the free side, centers for a pattern which runs upon a roller, whose periphery agrees with the line described by the revolving cutters. The blanks are supported on centers and rotated simultaneously with the pattern. The partial and intermitting rotary movement is caused at the ends of the strokes by a pawl upon a bell-crank lever, which receives motion from inclined projections on the main frame.

Claim.—The reciprocating and vibrating frame H, pivoted to the adjustable rod K, and carrying the adjustable live and dead centers M M′, arranged concentrically with the axis of the revolving cutter head B, and operating substantially as and for the purpose described.

73,424.—William F. Goodwin, East New York, assignor to Samuel Johnston, Syracuse, N. Y.—*Harvester.*—January 14, 1868.—The drum turns with the drive wheel and its axle, and engages the planet wheel upon an arm attached to a sleeve turning on the axle. The planet wheel engages a gear wheel turning upon the sleeve and having an arm carrying a planet wheel engaging the drum gear. This latter planet wheel drives the bevel wheel, through which motion is communicated to the cutter bar.

Claim.—1. The arrangement of pinions H H′, and the transmitting wheels on arms F F′, on and around the axle and within drum E, whereby the required number of revolutions is obtained, substantially as described.

2. The spur and bevel pinions H H′ and I, mounted on the tubular sleeve or axle, and operated by means of the drum and transmitting wheels, substantially as described.

3. The secondary arm F′, carrying the transmitting wheel, gearing with the drum and secondary pinion H′, for the purpose set forth.

73,425.—Nelson W. Green, Cortland, N.Y.—*Constructing Artesian Wells.*—January 14, 1868.

Claim.—The herein described process of sinking wells, where no rock is to be penetrated, viz: by driving or forcing down a rod to and into the water under ground, and withdrawing it, and inserting a tube in its place to draw the water through, substantially as herein described.

73,426.—James D. McBride, Mansfield, Ohio.—*Combined Trough and Double Rack for Feeding Sheep, Cattle and Horses.*—January 14, 1868.—The rack is hinged to one side of the trough so as to turn down for filling the latter.

Claim.—1. The box-trough A, constructed substantially as described, and provided with the rack T and the supplementary troughs formed by the hinged boards B B, as and for the purpose herein set forth.

2. The rack, composed of the bars D D and D′ and bars E, forming a double rack, and hinged cover for the box A, when used in combination with said box, substantially as set forth.

3. The graduated end bars P P, used in combination with the bar D′, for enlarging or contracting the upper and lower racks, as and for the purpose set forth.

73,427.—Stephen M. Allen, Woburn, Mass.—*Artificial Leather Belting.*—January 21, 1868.—Improvement on his patent March 13, 1866.—Skivings or other scraps of leather are macerated in water to separate the tannin, and softened in solution of lime. Blood may be mixed therewith to render it impervious to moisture. The pulped leather may be run off in a papor machine.

Claim.—1. A new artificial leather belting and banding for driving machinery, made by combining tanned and untanned scraps of skins or hides, after preparation, with vegetable fiber, pulped and run off into sheets, substantially in the manner and for the purposes herein set forth.

2. As a new article of manufacture, belting and banding for driving machinery, made by combining tanned and untanned animal fiber with vegetable fiber, and by the further combination of bullock's blood or fibrine, the same being manufactured substantially as and for the purposes above described.

73,428.—C. Baggerman and John Green, St. Louis, Mo.—*Mortising Machine.*—January 21, 1868.—The holders operate to force the sash rail to be operated upon against the fixed abutment. The tool arbors are connected to a sliding frame. The holder frame and the tool frame have anti-friction rollers through which they are operated by cam bars on the sides of a wheel. The tools cut a mortise into one side of the rail, and then finish the mortise from the other side; the rail is then released by retraction of the holders.

Claim.—The combination of the sliding chisel arbors C C′, the sliding holders E, the cam rods *d*, the connecting rods d^1, the cam-wheel D, and the cams E, constructed and operating substantially as described.

73,429.—H. Emile Bailliere, Hoboken, N.J.—assignor to American Fibre Co.—*Manufacture of Paper Pulp.*—January 21, 1868.—Improvement on the patent of A. S. Lyman, August 3, 1858.—The material, directly after disintegration by Lyman's process, is rubbed, crushed, or ground in water, and the usual boiling dispensed with.

Claim.—A fiber for the manufacture of paper, &c., produced from disintegrated bamboo, &c., substantially as described.

73,430.—Phinehas Ball, Worcester, Mass.—*Water Meter.*—January 21, 1868.—The cylinder has an outer cast-iron shell and an inner lining of sheet-metal pipe; the space between the shell and lining is filled in with cement. The piston rod slides in the hollow piston, and is acted upon in the forward movement of the latter by a temper screw. The rod is connected to a rack engaging a segmental gear operating the conical valve to change the course of water from one end of the cylinder to the other. The outer end of the piston rod has radial pivoted levers, whose outer ends are connected to springs, so as to quickly complete the oscillating movement of the valve when past the center.

Claim.—1. The hollow piston P, in combination with the valve, bar, or rod T, arranged to slide within said piston, substantially as and for the purposes set forth.

2. The spring S S, or other equivalent device, compressed by the power acting upon the piston within the cylinder, so that when they reach the central line of equipoise, they react and release the valve, substantially as set forth.

3. The combination of the springs and valve, bar, or rod with the valve and gearing, or racks for actuating the same, under such an arrangement that the compression of said springs shall take place partially or wholly during the time the valve remains at rest, substantially as set forth.

4. The arrangement of the adjusting rod *f* within the valve, bar, or rod T, whereby the length of the stroke of the piston is readily adjusted, substantially as set forth.

5. The combination of the angular valve V and ports formed in the cylinder case, as described, of the piston, valve rod, springs, and gearing for actuating said valve, substantially as and for the purposes set forth.

73,431.—Edgar B. Beach, West Meriden, Conn.—*Screw Cutting Tool.*—January 21, 1868.—The tool has a dovetail rib upon one side, which is adjustable in a dovetail groove in the shank. One side of the groove consists of a plate which is clamped upon the rib by a set screw.

Claim.—The cutter A, provided with the flange B, attached to one side of a shank, substantially in the manner herein set forth.

73,432.—William H. Benham, New Haven, Conn.—*Rein Snap.*—January 21, 1868.—The device is placed on a rein to secure a horse to the hitching post. It is so arranged that a strain of the horse upon it is exerted on the fixed hooks. In unhooking, the casing is slipped forward, which contracts the spring and releases the snap hook from the locking piece.

Claim.—1. The spring snap described, having a lever or arm C, actuated by a spring E, and liberated by pulling on the rein, adapted to serve in the manner and for the purpose herein set forth.

2. In connection with the above, the employment of one or more fixed hooks B^1 B^2, arranged relatively to the casing B, arm C, spring E, and the locking piece D, substantially in the manner and for the purpose herein set forth.

3. In combination with the driving rein or its equivalent, the employment of the spring snap, substantially of the character herein represented, and adapted to be liberated by the movement of the rein or its equivalent, substantially in the manner and for the purpose set forth herein.

73,433.—John K. Caldwell, Allogheny City Pa.—*Brick Drying Apparatus.*—January 21, 1868.—Cold air is admitted into or forced through the pipe coiled over the furnace, the air discharging into the

drying chamber. The trucks sustaining the bricks or lumber are run in upon tracks laid over the furnaces. Spaces over the mouths of the furnace have communication with the outer air through registers, and communicate with the drying chamber on the inner side.

Claim.—1. The arrangement of a coil of pipe *i* over the fire space of the furnace of a drying house or oven, substantially as and for the purposes hereinbefore set forth.

2. A furnace so constructed, with double walls, as to have a chamber *m*, such chamber being furnished with registers *n*, or other equivalent device for admitting air, and opening, by any suitable apertures, into the drying house or oven, substantially as and for the purposes hereinbefore set forth.

3. The ventilators *g*, so arranged, relative to the hot-air chamber *m* and coil or coils of pipe *i*, as to secure a current or draught of air therefrom through the drying house or oven, substantially as and for the purposes hereinbefore set forth.

73,434.—J. C. CAMPBELL and M. V. CAMPBELL, Syracuse, N. Y.—*Compound for Pavements.*—January 21, 1868.—Composed of gravel, 1 bushel; coal ashes, ¼ bushel; ground charcoal, ⅛ bushel; ground plaster, ⅛ bushel; cast-iron borings, 5 pounds; coal tar, 3 gallons.

Claim.—The within compound of gravel, coal-ashes, ground charcoal, ground plaster, cast-iron filings or borings, and coal tar, as and for the purpose set forth.

73,435.—SETH E. CLAPP, Cambridge, assignor to himself and GEORGE B. CLAPP, Boston, Mass.—*Cork Pull.*—January 21, 1868.—The grappling prongs are contracted upon the cork by the sliding ferrule.

Claim.—The combination of the spear B B′ with the sleeve C and the grappling prongs H H′ H″, substantially as described, and for the purpose set forth.

73,436.—GEORGE H. CLARKE, Brooklyn, N. Y., assignor to the SALAMANDER GRATE BAR CO., New York, N. Y.—*Grate Bar for Furnaces.*—January 21, 1868.—Improvement on patent of Samuel Vansyckle, October 19, 1855.—The object is to allow the removal of any bar without the previous removal of those which were laid subsequently thereto. The bars are prevented from sliding by the transverse interlocking bar, and upon its withdrawal any one bar may be slipped forward, so that the connection of the interlocking side projections will be broken.

Claim.—The arrangement of the locking rod B and recess C, in combination with the interlocking bar A, when constructed and operating as set forth and specified.

73,437.—WILLIAM T CLEMENT, Northampton, Mass.—*Manufacture of Hoes.*—January 21, 1868.—The eye and blade are made separately, each having a narrow lip lapping over a portion of the other, and forming a provision for welding the parts together.

Claim.—The within-described method of manufacturing hoes, consisting in the production of wrought-iron eyes B B′, and previously-prepared blades A A′, and in welding them together in the manner substantially as herein set forth.

73,438.—WILLIAM H. COOPER and GEORGE GREGORY, New Haven, Conn., assignors to LAWRENCE, BRADLEY, and PARDEE, same place.—*Carriage Perch.*—January 21, 1868.—The perch is jointed to the rear part of the frame to which the upper section of the fifth wheel is attached, the joint bending vertically.

Claim.—The attachment of the perch D to the body forward of the wheel-house, in the manner substantially as herein set forth.

73,439.—ROBERT AVIS COPELAND, Baltimore, Md.—*Device for Leaky Boiler Tubes.*—January 21, 1868.—The sides of the nut are rabbeted together and are expanded by the frusto-conical bolt by which the flange is held to the surface of the tube-sheet. The inturned edge of the flange has an annular packing groove.

Claim.—The flange A, screw bolt C, and expanding nut B, constructed and arranged substantially as herein set forth.

73,440.—THOMAS B. DE FOREST and THOMAS S. GILBERT, Birmingham, Conn.—*Corset Spring.*—January 21, 1868.—Each front spring consists of two or more narrow strips of steel, held edge to edge by the clasps which surround them.

Claim.—The herein-described corset steel, consisting of two or more wires or steels, united and secured in position by the clasps, in the manner specified, as an article of manufacture.

73,441.—F. H. DETRAY, Odin, Ill.—*Ditching and Grading Machine.*—January 21, 1868.—The earth is carried from the elevating slide by an endless apron, and deposited at a distance from the ditch.

Claim.—1. The ditcher or plow B *b*, in combination with the inclined way or dirt-slide B^1, as described, and for the purpose set forth.

2. The conveyer C, in combination with the ditcher B *b* and slide B^1, as and for the purpose set forth and described.

3. The stand e^3, wheel e^4, and the out-hangers e^2, when combined and arranged in an adjustable manner, so as to regulate the vertical height of the out end of the pieces e^2, as described, and for the purpose set forth.

73,442.—JOHN C. FISH, Barnstable, Mass.—*Tree Feeding Tube.*—January 21, 1868.—The tube has a conical point and side-slots for the outflow of fertilizing liquid poured into its top when it is driven into the earth.

Claim.—A tree-feeding tube, having a construction substantially as set forth.

73,443.—SAMUEL W. FOWLER, Brooklyn, N. Y.—*Lamp.*—January 21, 1868.—The chimney-base has two outward projections which enter the circular groove and are secured by turning therein.

Claim.—The construction of the top of the burner, with its collar or flange C, circular groove E, perforations G around its lower side, and grooves D D on each side, when used in combination with the flange J of the chimney H, as herein described, and for the purposes set forth.

73,444.—DANIEL D. GITT, Arendtsville, Pa.—*Running-Gear for Vehicles.*—January 21, 1868.

Claim.—1. Interposing a joint between the spring and the body or axle of a vehicle, either at the front or rear end thereof, said joint being so constructed as will allow one of the axles to vibrate vertically and independently of the body or bed of the vehicle, substantially as described.

2. Connecting the coupling-bar or reach of a vehicle at one end, by means of a swivel-joint, so as to prevent said reach from being twisted or strained by the motions of the axles, substantially as described.

3. The combination of a joint-pin *f*, placed between one of the axles and the body of a vehicle, with a reach, which is connected at one end by a swivel-joint, substantially as described.

4. The application of anti-friction rollers *e e*, to the sliders *b b′*, substantially as described.

5. The sectional head-block E, constructed with a recess in it for receiving a head and neck, which is formed on one end of the reach, substantially as described.

6. The construction of plates F and G, substantially as described, so as to form with pin *f* a loose pivotal connection between the axle and body of a vehicle.

7. The bearing *h*, rising from slider *b′*, and adapted to serve the purpose described.

73,445.—FRANCIS M. HARRIS, Winnamac, Ind.—*Washing Machine.*—January 21, 1868.—The fixed and moving boards have segmental series of rubbing rollers which are kept in close contact by India-rubber straps.

Claim.—1. The combination, in a washing-machine such as described with the stationary wash-board of the swinging boards, and spring bands of vulcanized rubber applied to the journals of said swinging boards,

in the manner and for the purposes shown and specified.

2. The combination, with the stationary washboard, swinging board, and springs for inducing the pressure of the latter, of the wash-tub, with its peculiarly-shaped bottom, arranged with relation to the said wash-boards, substantially as herein shown and set forth.

73,446.—W. T. Horner, Buffalo, N. Y.—*Well Tube.*—January 21, 1868.—After insertion the inner or main tube is drawn up and turned so that the cross-bar of the outer tube enters the side notches of the slots, and the inner tube is sustained thereby. The outer tube is perforated.

Claim.—The combination of the outer tube B, provided with the cross-bar D, with the inner tube C, provided with the slots *c c* and recesses *d d* at the bottom thereof, constructed and arranged in the manner and for the purposes set forth.

73,447.—B. B. Hotchkiss, New York, N. Y.—*Rifling Ordnance.*—January 21, 1868.—The relieving grooves are made in both the lands and rifle grooves, but do not extend back to the expansive part of the shell. They widen as they extend forward, and are intended to decrease the friction between the projectile and the gun.

Claim.—The relieving grooves C, for the purpose herein set forth.

73,448.—James M. Keep, New York, N. Y.—*Spring Pen Rack.*—January 21, 1868; antedated July 22, 1867.—The narrow flexible ribbon is attached by staples and brads to a stand, and is bent into a suitable form to hold the pens clear of the table.

Claim.—1. A spring pen rack, when the springs are made of rubber, gutta-percha, or of any of their compounds, or of sheet metal, the same being of narrow strips or sheets, and of one or more pieces, when bent, curved, and operating substantially as herein described.

2. The method of attaching the springs of pen-racks to their bed pieces, substantially as herein described.

73,449.—Levi Keiler, Catawissa, Pa.—*Calculating Machine.*—January 21, 1868; antedated January 6, 1868.—The larger disk is numbered from 0 to 99 and the smaller one from 1 to 100, both inclusive. From the screw-shaft upon which they are mounted, a longitudinal section is removed and numbered on the spaces agreeing with the turns of the thread from 0 to 30. The small disk turns on the screw and is connected to the larger one which does not. In using, the disks start from 0 on the screw-rod, and 1 on the small disk at 0 on the larger. In adding, the point on the smaller disk standing at 0 on the larger one is in every case turned forward to the number on the larger disk equivalent to the number added. The hundreds are indicated on the screw, and the units and tens on the part of the smaller disk in conjunction with 0 on the larger one.

Claim.—The two disks C and D, graduated screw-shaft B, and guide-bar E, when arranged, combined, and operated as herein described and for the purposes set forth.

73,450.—Calvin Kline, Brooklyn, assignor to himself and R. L. Peabody, New York, N. Y.—*Stuffing Box for Valve Stems, &c.*—January 21, 1868.—The cap has an oil cup around the stem which has a collar kept in tight contact with a seat on the lower side of the cap by a spring, which may be compressed to allow entrance of oil.

Claim.—The collar C′, on the rotating or partially-rotating stem *c*, arranged as represented relatively to the casing A, spring D, and cap E, so as to allow of lubrication, all as and for the purposes herein set forth.

73,451.—Henry O. Lothrop, Milford, Mass., assignor to himself, Crawford Pierce, and Joseph R. Pierce, same place.—*Coating Heel and Toe Irons for Boots and Shoes.*—January 21, 1868.

Claim.—As a new article of manufacture, a heel or toe iron, coated with tin or other anti-corrosive metal, substantially as and for the purposes herein shown and set forth.

73,452.—William G. Merrell, Auburn, N. Y., assignor to himself and Cyrenus Wheeler, Jr.—*Harvester Rake.*—January 21, 1868.—The rake makes a portion of the circuit in the same path with the reel, and at the end of each circuit is thrown out of action, and so remains until thrown into action by a lever operated by the driver and actuating a clutch. The rake passes between the arms of the reel.

Claim.—1. In combination with the hollow column supporting the revolving and stationary hubs, the jointed shaft D that passes up through it, and drives the reel, as and for the purpose described.

2. In combination with the reel, and a rake that moves and operates in conjunction therewith, a clutching mechanism, and a cam ledge that operates substantially as and for the purpose described.

3. In combination with a reel whose axis of rotation is parallel to the cutting apparatus, adjustable vertically in relation thereto, and is supported by one end only, a rake so arranged as to revolve around the support of the reel, and be thrown into and out of action by a mechanism operating substantially as described.

4. A support for the rake and reel, so arranged that it may be moved about the driving gear axis, for the purpose of adjusting the rake to the different inclinations of the platform, substantially as described.

73,453.—Purches Miles, New York, N. Y., assignor to Theodore Mace, same place.—*Sausage Stuffer.*—January 21, 1868.

Claim.—1. The swinging double piston, the one part sliding on the other, in combination with the hopper, contracted as and for the purposes set forth.

2. The elliptical grooves or ribs *l*, in combination with the hopper and sliding and swinging piston, as and for the purposes set forth.

73,454.—William Hartley Miller, Philadelphia, Pa.—*Piston Rod Packing.*—January 21, 1868.—The tube is made in concentric layers saturated with a lubricant.

Claim.—The above described packing tube, tubes, layers, or cord, or their equivalent, substantially as shown, as a new article of manufacture.

73,455.—A. K. Murray and A. B. Howland, Titusville, Pa.—*Argand Lamp for Burning Petroleum.*—January 21, 1868.—The wick descends into an annular space in communication with the oil reservoir, and surrounded by an annular space through which air passes downward and enters the lower end of a central tube supplying air to the middle of the flame.

Claim.—1. The employment of the partition or flange *n*, or its equivalent, arranged with relation to the air passages *e* and *l*, substantially as and for the purposes set forth.

2. The arrangement and combination of the disk *m*, perforated casing *k*, and partition or flange *n*, with the annular wick tubes, substantially as and for the purposes set forth.

3. The general arrangement and combination of the flange *n* and air-passages *e* and *l* with the annular wick tubes, substantially as and for the purposes set forth.

73,456.—Alexander Nadow, Springfield, Mass.—*Steam Engine Piston.*—January 21, 1868.—The steam passes through the piston ends into the annular space behind the packing rings, and operates on the valves within the head to prevent communication between this annular space and the exhaust end of the cylinder.

Claim.—The valve *g*, when used in combination with the piston B and ports *k k′*, substantially as described.

73,457.—Oziel Nivison, Hector, N. Y.—*Horse Rake.*—January 21, 1868.—The turning of the rake head to discharge the hay is performed by a stirrup, assisted by a spring, and the head is adjustably pivoted to cause its weight to assist more or less in its turning, according to the weight of the article operated upon.

Claim.—1. The foot stirrup S, arranged in connection with the spring G, so that the operator can

thereby aid the spring in unloading the rake, as described.

2. The hinge plates P, connecting the staple bar C and rake head B, and provided with a series of holes, in combination with the hinged rods L, so that the weight of the head thereon aids in unloading the rake, as set forth.

3. The combination of the spring G, rod E, provided with the foot stirrup S, circular piece D, hinge plates P, pressure bar C, and head B, arranged and operating substantially as and for the purposes set forth.

73,458.—William H. Noble, Bridgeport, Conn.—*Apparatus for Preventing the Curculio from Ascending Fruit Trees.*—January 21, 1868.—The hammer is connected to clockwork, and is made to strike the tree or the trellis frame on which the vines are trained.

Claim.—The arrangement of a hammer, operating automatically, in such relative position to trees or vines that the blow of the hammer may communicate a jar thereto, substantially as and for the purpose herein set forth.

73,459.—H. Olmsted, Stamford, Conn.—*Lubricating Bearings for Machinery.*—January 21, 1868.

Claim.—The lubricator receptacle C, provided with an opening or openings, said openings being closed with leather, or any other substance that will produce the intended effect, for the purpose set forth.

73,460.—Caleb Plaisted, Kenokee, Mich.—*Hay Raker and Loader.*—January 21, 1868.—The upper arms of the elevator frame turn on bolts at their lower ends, and are raised by turning a winch shaft, having a pulley at each side of the frame, and connected by cords to rigid bars extending upward from the wheel frame. The rake is raised by cords attached to its head and coiling on similar pulleys.

Claim.—The standards P P, in connection with rods C′ and S, and with the pulleys I I and J J.

73,461.—Louis Raymond, Rockland, Del.—*Making Barrels.*—January 21, 1868.—The annular sections are rabbeted together and the heads rabbeted thereto.

Claim.—A keg or cask made of a series of wooden rings, put together with a glued break-joint, substantially in the manner and for the purpose set forth.

73,462.—John Reist, Philadelphia, Pa.—*Shoemaker's Trimming Knife.*—January 21, 1868.—The guard passes between the sole and upper, and prevents the cutting of the latter while trimming the edge of the sole.

Claim.—The slotted guard D, fastened by screw E to handle B, substantially as and for the purpose above described.

73,463.—E. D. Reynolds and O. B. Reynolds, North Bridgewater, Mass.—*Seed Sower.*—January 21, 1868.—The tilting board with the hopper attached is raised by the side projections upon the wheel. The opener spout and standard of the presser roller are hinged, so that they may be drawn from the ground by a connecting catch-bar.

Claim.—1. A seed sower, having the coulter hinged in such manner that it may be elevated and secured in elevated position, substantially as and for the purpose set forth.

2. Bracing the coulter, when made with the above provision, by the brace or latch-bar *o* and its locking device or mechanism, substantially as shown and described.

3. Applying the hopper or seed box to the tilting board, substantially as shown and described.

73,464.—Nathan Richardson, Gloucester, Mass.—*Bait or Meat Cutter.*—January 21, 1868.—The stationary cutter bars are removable, and have plates interposed behind them to compensate for wear in the cutters.

Claim.—The removable blocks or heads *c c*, containing the stationary cutters, and attached to or forming a part of the framing, in combination with the adjustable strips *e*, placed between the blocks or heads *c c* and the framing, as and for the purpose described.

73,465.—Charles Roberts, Lake Village, N. H.—*Head Block for Saw Mill.*—January 21, 1868.—The head rests of the carriage are so connected that they may be moved simultaneously by a single lever, or may be disconnected so as to be operated separately.

Claim.—The combination of the tubular shaft or shafts K with the other shaft or shafts I L, and the lever M, with its pawls, or their equivalent, constructed and operating substantially as and for the purpose herein specified.

73,466.—George Schott, New York, N. Y.—*Mattress.*—January 21, 1868.—The mattress has rectangular compartments filled with feathers to admit shaking up, but insure an even surface.

Claim.—A mattress, in which the space between the upper and under side of the ticking or case is divided up into boxes or cells by strips of cloth or similar material, attached at their edges to such ticking or case, substantially as and for the purposes specified.

73,467.—Samuel J. Seely, New York, assignor to J. M. Brown, Brooklyn, N. Y.—*Iron Roll.*—January 21, 1868; antedated January 2, 1868.—The outer portion of the roll is in sections of cast iron, which are attached to a polygonal central shaft of wrought iron. The polygonal sides are parallel with the axis, but inclined in a tangential direction, so that a lip is formed at each corner to support the rolling strain upon the sections.

Claim.—A roll for rolling iron, having a solid wrought iron arbor and a sectional cast iron surface, when constructed substantially in the manner described, for the purpose set forth.

73,468.—Abraham Simmerman, Glassboro, and J. S. Simmerman, Millville, N. J.—*Ladder.*—January 21, 1868.—The ladder is formed of jointed sections, which may be folded together or arranged as a self-supporting ladder.

Claim.—The sections A B H K, in combination with hooks *g g h h*, arms *m i* and legs *e f*, all arranged to form a perfect self-bracing ladder, substantially in the manner described.

73,469.—Andrew W. Smith, Dudleyville, Ala.—*Fanning Mill.*—January 21, 1868.—The frame containing the riddles and screen has longitudinal motion from connection to a rock shaft beneath it. The vent of the hopper has a rotating agitator roller, with radial pins.

Claim.—The feeding roller c^1 with its projections, in combination with the pins c^3, slide board c^4 and hopper C, when arranged as described.

73,470.—T. S. Smith, Boston, Mass.—*Let-off for Looms.*—January 21, 1868.—The whip-roll has an arm carrying a wedge-block, which slides between the jaws at one end of the clutch and causes the other end to act as a friction brake on the yarn roller.

Claim.—1. The double-arm clutch, constructed, arranged, and operating substantially as described, when the grasp of the clutch is loosened by the pull or tension of the yarn, substantially as set forth.

2. The lever D *g*, in combination with the clutch, when arranged and operating substantially as described.

3. The combination of lever, clutch and spring, substantially as and for the purposes described.

4. The combination of lever, wedge-block, clutch, and spring, substantially as and for the purposes described.

5. The combination of whip-roll, wedge-block, and cross-arm clutch, substantially as and for the purposes described.

73,471.—Charles Stebbins, Owego, N. Y.—*Wagon Bolster.*—January 21, 1868.—Rubber blocks are secured to the bolster and support a bar sliding on the standards and supporting the box.

Claim.—The application of two or more rubber springs to the bolsters of a buggy, lumber wagon,

cart, or any vehicle drawn or moved by cattle or horses, in the manner and for the purpose above described.

73,472.—JOHN W. STORRS, Birmingham, Conn.—*Stereoscope.*—January 21, 1868.—The eye shade is connected to the frame by the bellows, by which the focal distance is adjusted. The case has provision for the insertion of the ordinary stiff views, and has views upon a continuous scroll or ribbon, wound around rollers which are turned by hand.

Claim.—1. The rolls P^1 P^2 and the connected scroll Q, tinted substantially in the manner and arranged to operate in combination with stereoscopic views, substantially as and for the purpose herein specified.

2. Arranging the scroll Q to traverse diagonally so as to carry the tinted scroll nearer the picture at the top than at the bottom, while the rolls P^1 P^2 are equally near the picture, substantially as shown in Fig. 4, for the purpose herein set forth.

3. The vertical rollers G^1 G^2, carrying a series of transparent pictures joined as specified, in combination with a stereoscope, and arranged to operate the connected scroll H, substantially in the manner and for the purposes herein set forth.

4. Mounting the rollers G^1 G^2 and connected scroll H in frames I^3, adapted to be used in a stereoscope, substantially in the manner and for the purpose herein set forth.

5. Removing and exchanging the rolls G^1 G^2 and the connected scroll H, without disturbing the gearing, substantially as and for the purpose herein set forth.

73,473.—GEORGE STREAT, New York, N. Y.—*Oiled Fabric.*—January 21, 1868.—The face of the fabric is singed by passing over a heated cylinder, so as to render it smooth for the application of the drying oil.

Claim.—The oiled fabric specified, made in the manner set forth, as a new article of manufacture.

73,474.—ELI SWEET, Whitney's Point, N. Y. assignor by two deeds to T. W. VINCENT, EBER SWEET, and BENJAMIN J. JONES.—*Tongue for Hay Loading Machines.*—January 21, 1868.—The tongue is recessed longitudinally on its lower side to receive a metallic rod, to which the double-tree and neck-yoke are connected. A spring catch holds the bar in its rearmost position, and when the catch is raised the bar may be drawn forward.

Claim.—1. The sliding bar B, in combination with the tongue A, draught-bar *e* and spring catch C, when arranged to operate substantially as and for the purpose set forth.

2. The slotted plate *a*, guard plate *c** and spring catch C, combined in relation with each other and with the sliding rod B and tongue A, substantially as and for the purpose specified.

73,475.—N. S. THOMPSON, Germantown, Ohio.—*Animal Trap.*—January 21, 1868.—The box top consists of two trap doors, which are weighted so as to return to position after having been sprung. The rat is confined to a passage over the free ends of the boards, and in passing sways the hanging trigger, and trips the catch spring by a cord connection.

Claim.—The combination of the weighted doors E E′, pendant P, spring-catches *n s*, pulley and cord *m o*, trigger *j*, and ledges *e e*, arranged in relation to box A, guides C D, and the open trigger box *g h*, in the manner and for the purpose described.

73,476.—ALBAN N. TOWNE, Chicago, Ill.—*Expanding Felloes and Tightening Spokes.*—January 21, 1868.—The thimbles receive the conical ends of the spokes, and are turned thereon to expand the rim through their action on the nuts which are sunk into the felloes.

Claim.—The combination of the revolving socket, having a recess to receive the spoke, and a screw chased on its external surface, and the nut, with lugs for retaining it in place, inserted into the inner face of the felloe, and having an internal screw to receive the screw in the socket, the parts being arranged to operate substantially as and for the purpose set forth.

73,477.—A. N. TOWNE, Chicago, Ill.—*Coal Box Stove.*—January 21, 1868.—The stove is supported on a rectangular fuel receptacle.

Claim.—The arrangement of the stove C, flanged hearth plate B, and stationary fuel box A, said parts being respectively constructed, and the whole arranged for use, substantially as and for the purpose set forth.

73,478.—WILLIAM K. VANDERSLICE, Jr., San Francisco, Cal.—*Cigar Holder.*—January 21, 1868.—The end of the cigar enters the frame and is pierced axially by the pointed suction pipe.

Claim.—1. A cigar holder having the perforated pointed tube *b* entering the center, and lying in the longitudinal axis of the cigar and mouth-piece, together with the supporting ring *c* and wires *d d*, substantially as and for the purpose described.

2. The adjustable point *e*, substantially as and for the purpose set forth.

73,479.—D. T. WARD, Cardington, Ohio.—*Churn.*—January 21, 1868.—The annular piece is adjusted against the inside surface of the cylindrical churn and has pendent wings, against which the cream is dashed as it is thrown up by the dasher.

Claim.—1. The adjustable annular ring F, when composed of the ring F, made either in one piece or in sections, and the wings G G, with concave surfaces *b b*, the whole being used in the manner and for the purpose herein specified.

2. The use of the dasher C, constructed as shown, in combination with the annular ring F, in the manner and for the purpose herein specified.

3. The peculiar arrangement and combination of the uprights K K, bottom P, and hoop Q, for the purpose of holding the churn in position, in the manner herein set forth.

4. The peculiar arrangement and combination of the churn A, annular ring F, dasher C, pulley H, belt I, and driving pulley N, with crank O thereon, the several parts being arranged as and for the purpose herein specified.

73,480.—SETH WAY, Laporte, Ind.—*Gang Plow.*—January 21, 1868.—The plows are raised from the ground by connection to a windlass. The wheels are adjustable to regulate the depth of furrow, and so as to cause the axle to stand horizontal.

Claim.—1. The mode of supporting the weight by the tongue I, and of elevating and lowering the plows D D by the axle B, lever G, windlass F, and catch J, respectively, constructed and arranged substantially as set forth.

2. The combination of the axle B, lever G, windlass F, tongue I, and equalization doubletree H, respectively, constructed and arranged substantially as set forth.

73,481.—HIRAM WENTWORTH and V. B. CLARK, Ripon, Wis.—*Lantern.*—January 21, 1868.—The lamp has a horizontal flange which rests against the flange at the bottom of the case, and has an upper flange which rests upon the brackets and spring, which are attached to the case.

Claim.—1. The spring F, as applied to lantern bottoms.

2. The bracket G, and manner of attaching it opposite to the spring F.

3. The arrangement of the spring F, so as to be operated both above and below the flange J, at L and K.

4. The guard E.

5. The flange C, on oil pot B.

6. The projection D, at the top of the oil pot B.

7. The arrangement of the different parts, substantially as described, and for the purposes specified.

73,482.—JAMES R. WOODWORTH, Nunda, N. Y.—*Device for Pulling Hop Poles.*—January 21, 1868.—The fulcrum disk is connected by rods to arms upon the jaw shafts, and the pressure on the fulcrum brings the jaws upon the pole. When the lever is raised the weight of the fulcrum reopens the jaws.

Claim.—The jaws B B, fulcrum F, joint G, rods E E, in combination with the handle or lever A, constructed substantially in the manner herein shown and described.

73,483.—Henry Wright, Saco, assignor to James R. Clark, Biddeford, Me.—*Boot-Crimp.*—January 21, 1868.—To the usual form is added the back bar, having inclines cast thereon. A straining bar incloses the other bar on three sides, and is held by the screw. The bar is operated by the screw to force it outward and downward to crimp the boot front.

Claim.—1. The combination and arrangement of the screw bolt S, the straining bar D, the screw H′, and the incline bar B, all made substantially as and for the purposes set forth.

2. The combination of the dovetail M, substantially as described and for the purpose set forth.

3. The flexible metallic connection E′ in combination with the lower straining bar E.

73,484.—Mayhew Adams, Chilmark, Mass.—*Chock for Whale Boats.*—January 21, 1868.—Part one is secured to the boat, and part two being pivoted to the former, serves to throw a tangled part of the line out of the channel.

Claim.—The construction and use of the chocks, consisting of the parts one and two, operating substantially as and for the purpose specified.

73,485.—Sandford Adams, Boston, Mass.—*Winnowing Mill.*—January 21, 1868.—The rollers on which the feeding hopper and the shoe vibrate are fluted, to give a jarring motion and prevent cloggiug. Inclined slats are arranged at the tail of the shoe, which carry back the grain, but allow the blast to act upon the chaff.

Claim.—1. The fluted rolls H, for either the hopper A or shoe J to vibrate upon, substantially as described and for the purpose set forth.

2. The shaft L and spring O, arranged substantially as described, to give an additional motion to the pivoted end of the shoe J, substantially as and for the purposes set forth.

3. The slats *e e e*, fastened on to the sides S S, both swinging from the pivots *f*, substantially as and for the purpose set forth.

4. The combination of the hopper A, slide I, and screw *t*, as and for the purpose set forth.

73,486.—John Arbuckle, Jr., Allegheny City, Pa.—*Roasted Coffee.*—January 21, 1868.—The roasted coffee is coated with a preparation composed of the following: Irish moss, ½ ounce; gelatine, ½ ounce; isinglass, ½ ounce; white sugar, 1 ounce; eggs, 24. The first three are boiled in water, and the moss strained.

Claim.—Coating roasted coffee with any glutinous or gelatinous matter, for the purpose of retaining the aroma of the coffee, and also act as a clarifying agent, as herein described and set forth.

73,487.—Jean Lucien Arman, Bordeaux, France.—*Electric Cable.*—January 21, 1868.—Around a central core of manilla are coiled strands of telegraph cable of usual construction, and manilla cords; the whole is covered with bast cordage or netting. In laying down, the cable is fixed at a proper depth by weights and buoys.

Claim.—An electric cable, having a core A, of fibrous strands, surrounded by insulated wires B and fibrous strands D, and inclosed in an outer covering of strands E, of buoyant material, when the said strands and wires are twisted and arranged, in respect to each other, as set forth.

73,488.—Lewis J. Atwood, Waterbury, Conn., assignor to himself and Holmes, Booth and Haydens, same place.—*Lamp.*—January 21, 1868.—The base of the chimney enters within the flexible, upturned points of the perforated base plate; and the burner has an annular helical spring around its edge, which serves to steady the chimney.

Claim.—1. The helical expansive interior chimney clamp *m*, applied substantially as and for the purposes specified.

2. The closed cap *b l*, in combination with the removable air distributor *e* and tapering wick-tube guide *g*, as and for the purposes set forth.

3. Supporting the chimney upon the burner by the joint action of the draught plate *h* and the vertical springs or scallops around the edge of the air distributer *e*, substantially as set forth.

4. The removable air distributer *e* and tapering guide *g*, in combination with the draught plate *h*, substantially as and for the purposes specified.

73,489.—Henry Bailey, New York, N. Y., assignor to I. L. Romer, H. F. and W. R. Pease.—*Steam Engine.*—January 21, 1868.

Claim.—The combination with the cylinder B and head D, for inclosed operation within them of the piston, pitman, and crank, as described, of the interposed slide H, with its rocking joint piece or block I, all for action together, essentially as herein set forth.

73,490.—Lyman M. Bailey, Landgrove, Vt., assignor to himself and Joseph P. Long, same place.—*Tuyere Iron.*—January 21, 1868.—The blast is regulated by the valve. The sliding door permits access to the air chamber for removing ashes.

Claim.—The combination of the chamber A, perforated cap plate C, solid valve D, and sliding door F, all constructed as set forth.

73,491.—Henry Baker, Lancaster, Pa., assignor to self and Christian G. Herr, same place.—*Bolt Latch.*—January 21, 1868.—The catch is extended in form of a socket into which the latch may be projected to act as a bolt.

Claim.—1. The arrangement and combination of a shutter bolt with its open slot *h*, and recess for the pin *e* with its handle I and horizontal and vertical beveled latch and lock catch G G′, with or without the lock lever K, all arranged and operated in the manner and for the purpose specified.

2. In combination with the foregoing arrangement the latch lever M, with its neck *m* and rocker L, when applied in the manner and for the purpose shown and set forth.

73,492.—George A. Blair and A. L. Gladding, Johnsonburg, N. Y.—*Hanging Carriage Bodies.*—January 21, 1868.—The body is supported by connection to bows whose ends are attached to the axles and which are connected by elastic straps at their mid-length to pulleys beneath the seat.

Claim.—Suspending the circular lever frames G G′ on the two pulley bearings *n n*, arranged with relation to the seat B and body A of the carriage by means of the elastic strap I, substantially as and for the purposes set forth.

73,493.—Isaac W. Bowers, Boston, Mass.—*Wood-Bending Machine.*—January 21, 1868.—The timbers are clamped between the "former" and the follower block, and are then steamed. In bending the pivoted "portions" are forced down upon the lapping chain and the timber, acting to bend the latter and prevent the formation of splinters on its outer side.

Claim.—The portions D D pivoted together in combination with the former C, operating substantially as set forth.

73,494.—Francis E. Boyd and P. Shelton Tyler, Boston, Mass.—*Breech-loading Fire-arm.*—January 21, 1868.—A clamp fitting over the edge of the breech-plate is attached to each barrel. The breech-plate has cam projections which tighten the clamps. A washer attached to the spindle upon which the barrels turn has a curved portion that bears against a raised portion on one side of the plate through which the spindle passes and which is attached to the under side of the barrels.

Claim.—1. The plate or washer *e*, formed as described, and attached to the spindle *e*, in combination with the raised or cam-shaped surface of the bearing plate *d*, as set forth.

2. The combination of the clamps *g g* and the curved and cam projections of the face-plate with the bearing plate *d* and plate or disk *e*, constructed and operating substantially as and for the purpose set forth.

73,495.—Ovette Boynton, Hinesburg, Vt.—*Lamp.*—January 21, 1868.—The upper portion of the well tube is surrounded by an annular water chamber traversed by the lamp supply pipe.

Claim.—The burner, constructed and arranged

substantially as set forth and described, that is to say, with its water chamber interposed between the flame and lamp, provided with oil and water-feeding ducts, and a well-tube, through which the wick descends to the oil.

73,496.—D. F. BREED, Valparaiso, Ind.—*Wood-Bending Machine.*—January 21, 1868.—Intended for bending plow handles and similar articles. The slotted plate is attached at one end to a longitudinal rod on the drum, and runs beneath the wood, its other end engaging the follower which moves forward the article to be bent. The adjustable guides are operated by levers and may be held against the stuff on one or both sides. The outer former is inflexible and made in two portions, the inner one of which is removed with the stuff.

Claim.—1. The slotted plate P in combination with the rod *m* and drum D, operating substantially as and for the purpose set forth.

2. The adjustable guides 4, rods W, levers Z, bed plate 2, bands H and I, arranged to guide the stuff to be bent and to prevent a lateral motion, constructed and operating substantially as and for the purposes described.

73,497.—ELIPHALET C. BROOKS, San Francisco, Cal.—*Spring Attachment for Vehicles.*—January 21, 1868.—The jack springs are attached by one end to the axle and by the other to the shield to which the thorough brace is connected. The perches are attached to the springs above the points of their attachment to the axles, and the ends of the perches are turned upward, acting to rigidify the springs.

Claim.—The combination of the shield A, bolts F and G, with the perch D, axle E, in combination with the spring C and thorough brace B, substantially as shown for the purposes specified.

73,498.—CONRAD BROWN, Goshen, N. Y.—*Combined Knob Latch and Lock.*—January 21, 1868.—The thin bars of the skeleton key pass through keyholes beside the upright pieces, and operate the tumblers, which engage a rectangular notch in the bolt and a catch, which engages notches in the bolt.

Claim.—1. The upright pieces D D^1 provided with vertical slots *h* h^1 h^2 and slanting cross slots *i* i^1 i^2, substantially as and for the purposes specified.

2. The combination of the catch *d e* with the notches *c* c^1 c^2 in the door bolt C, substantially as and for the purposes described.

3. The combination of the falling tumblers E E^1 E^2, uprights D D^1 and key J with the catch *d e* and door bolt C, provided with notches *c* c^1 c^2, for the purpose of changing the locking device, substantially as described.

73,499.—GEORGE BUTTERFIELD and A. G. TREADWELL, Boston, Mass.—*Chair Seat Supporter.*—January 21, 1868; antedated January 11, 1868.—Wooden or metallic slats are applied beneath the cane seat, to prevent sagging.

Claim.—The slats *b b* to be used substantially as herein described and for the purpose specified.

73,500.—NEWELL CARPENTER, White Creek, Wis.—*Hop Press Power.*—January 21, 1868.—The upright is reciprocated by the forked, bell-crank lever, to and from each pawl in turn, and is raised thereby.

Claim.—The lever D provided with the lugs *e*, in combination with the bar E, having the grooves *h* in its sides and the notches *g* on its edges, with the pawls *k*, all arranged for joint operation, substantially as described.

73,501.—WILLIAM D. CARPENTER, South Berwick, Me., assignor to himself and J. STACKPOLE, same place.—*Harvester.*—January 21, 1868.—A slide and jointed connecting rod between the driving shaft and cutting bar are arranged to reciprocate in contrary direction to the cutter bar, to counteract the jar upon the machine.

Claim.—1. The reciprocating slide, intermediate between the driving gear and the reciprocating sickle bar, arranged to operate in reverse direction to said sickle bar, for the purpose and substantially as described.

2. The tubular pinion and crank wheel H H′, mounted on a stationary stud or pin on standard *g*, in combination with its driving gear, arranged and operated as described.

3. The bevel wheel D, bevel pinion E, shaft F, spur wheel G, crank and pinion wheel H H′, pitmen *i j k*, slide J, and lever K, all arranged and operated as described, and for the purpose set forth.

73,502.—ROBERT W. CLARK, Pittsburg, Pa.—*Forge Hearth.*—January 21, 1868.

Claim.—The use of a single fire-clay brick or tile in blacksmiths' forges, substantially as described, as a new article of manufacture.

73,503.—GEORGE CLAYTON and COLLIS B. ALLEN, Willoughby, Ohio.—*Churn.*—January 21, 1868.

Claim.—The special construction of the triangular frame A, standard D, as arranged in combination with the churn H, when operated in the manner as and for the purpose set forth.

73,504.—WILLIAM S. COLWELL, Pittsburg, Pa.—*Plow.*—January 21, 1868.—The general form of the mold-board is convex, from heel to point and side to side.

Claim.—A plow provided with a mold-board, having the surface convex, in the manner and for the purpose herein described and set forth.

73,505.—WILLIAM S. COLWELL, Pittsburg, Pa., assignor to JAMES M. HEMPHILL, Allegheny City, Pa.—*Stave Machine.*—January 21, 1868.—The concave and convex-edged knives are adjusted by the wedge and set screws, and the whole head is swung upon its pivot by the transverse screw, whose thread engages a pin projecting downward from the backward portion of the head.

Claim.—The hollow wedge, constructed as herein described, and used in connection with the knives C and D and set screws *f* and *e*, in the manner and for the purpose herein set forth.

73,506.—FREDERIC COOK, New York, N. Y.—*Hydrocarbon Burner.*—January 21, 1868.—The hydrocarbon is distributed in the furnace by fine jets, from a rotary head.

Claim.—1. The introduction and distribution, by centrifugal force, of liquid hydrocarbons into furnaces as fuel, substantially as shown and described.

2. The introduction and distribution of water, in combination with liquid hydrocarbon, into furnaces by centrifugal force, substantially as shown and described.

3. The revolving distributer D, with its head F, constructed, arranged, and operating as and for the purpose set forth.

73,507.—JAMES F. CRANSTON, Springfield, Mass., assignor to himself and S. W. PORTER, same place.—*Machine for Making and Dipping Matches.*—January 21, 1868.—The blanks are fed to the cutting and pressing rollers in thin strips, in which the grain runs in the direction of the breadth. From the rollers the cylindrical splints pass between equalizing springs to belts, which run at sufficient speed to cause a slight interval between the splints. The splints are carried over the sulphur and phosphorus pans, which are raised to dip the ends, the belts pausing during the elevation of the pans. Between the pans the matches pass over the drying space.

Claim.—1. The arrangement of the cutters C and B, belts F and G, and dipping pans X and Y, having the melting cups P and P, operated in connection with each other by the horizontal shaft O, substantially as and for the purpose described.

2. The device for the purpose of transferring the match stems from the cutters C and B to the belts F and G, consisting of the springs *t* and *t′* and guides *s* and *s′*, constructed and arranged as described.

73,508.—PALMYRA CRARY, Lowville, N. Y.—*Curd Breaker.*—January 21, 1868.—An oblique handle is attached to the cutting frame, which has flat bars supporting longitudinal cutting wires, and operates to divide the curd in all directions.

Claim.—The implement so constructed and described as herein set forth.

73,509.—William G. Creamer, Brooklyn, N. Y.—*Car Brake.*—January 21, 1868.—The spring drum, when wound up, is prevented from rotation by a pawl on a fixed pivot, and this pawl is connected to a lever, so that by raising the lever the drum is released and turns the brake shaft to put the breakers down. To free the brakes the "jointed" pawl is raised, by which the drum and brake-shaft are disconnected and the brakes released.

Claim.—1. The jointed pawl D, in combination with the arm on the brake-shaft I, and the ratchet on the drum K, substantially as described and for the purposes set forth.

2. In combination with the drum and jointed pawl, as above claimed, the ratchet wheel A and pawl B, the wheel being fixed on the drum, as described, and for the purposes set forth.

73,510.—William G. Creamer, Brooklyn, N. Y.—*Car Seat.*—January 21, 1868.—The plate forms an easy elbow rest and protects the arm from passers.

Claim.—The combination with and attachment to the seats or chairs of railroad cars of an armrest and protector, substantially as described and for the purposes mentioned.

73,511.—A. C. Crosby, Piqua, Ohio.—*Jeweling Watches.*—January 21, 1868.—The bezel is spread by the spring arms, which are pressed outward and guided by the acutely conical spindle.

Claim.—The adjustable tapering spindle B, the spring arm D, with or without the curves *a*, in combination with the hub or sleeve A, for the purpose and in the manner set forth.

73,512.—Thomas Crossley, Bridgeport, Conn.—*Manufacture of Carpets and other Articles from Jute, Flax, &c.*—January 21, 1868; antedated July 22, 1867.—The cloth is immersed in a bath of water with wheat-bran and bicarbonate of soda therein, at a temperature of 90° to 120° F. The material is then washed in clear water, and then immersed in cold water mixed with a solution of muriate of tin, with 20 per cent. of sulphuric acid. After being taken from this bath it is washed and treated to a bath of a weak solution of chloride of lime, after which the cloth is washed clean and is ready for dyeing.

Claim.—1. Treating fabrics composed wholly or partly of jute, flax, cotton, or other suitable vegetable fiber, substantially in the manner herein set forth, so as to prepare the same for dyeing or printing, and the manufacture of carpets or other articles for which such fabric may be applicable.

2. The manufacture produced thereby.

73,513.—John D. Dale, Rochester, N. Y.—*Apparatus for Discovering Fissures in the Sides of Wells.*—January 21, 1868.—The gauge plate has horizontal slots by which it is adjusted to the size of the bore. The slotted arm is thrown out radially to search for crevices. This arm is actuated by a sliding rod.

Claim.—1. The combination, with the head, of an adjusting gauge E, for adapting the device to the diameter of the bore, as specified.

2. The combination, with the head, of an indicator, F, as described, and for the purpose set forth.

73,514.—Abel Claude Felix Niepce De St. Victor, Paris, France, assignor to P. A. G. Niepce De St. Victor and M. L. J. Lavater.—*Process of Multiplying Copies from Manuscript.*—January 21, 1868.—Copying ink should be used. The color is brought out by the use of the alkaline or acid vapors to which the sheets are subjected on leaving the press.

Claim.—1. The process of taking copies from manuscripts by submitting the copies, on issuing from the copying-press, to the action of ammonia, substantially as herein described.

2. The treatment of manuscript copies with either alkaline or acid vapors to develop the writing, according to the constituents of the ink, substantially as herein described.

3. The impregnating of the copying paper with sugar or other adhesive matter, substantially as and for the purpose herein set forth.

73,515.—Herbert E. Dewey, Aurora, Ill.—*Horse Hay Fork.*—January 21, 1868.—The fork has a straight stem with a spiral at the end. In turning the spiral into the hay the forked ends of the hoisting cord are wound around the drum at the head, and retained thereon by a ratchet engaging the drum. When the pawl is tripped the cord causes the back rotation of the drum and releases the hay.

Claim.—In combination with a screw fork A, operating substantially as described, the spool D E F and sheaves C C, arranged with the cord R, substantially as and for the purposes specified.

73,516.—Thomas S. Disston, Philadelphia, Pa., assignor to Henry Disston, same place.—*Cross-cut Saw.*—January 21, 1868.

Claim.—A bolt, D, with a slotted head *f*, in combination with a handle B, slotted for the reception of one end of a saw blade, and having screws *b*, or other equivalent bearings, for the end of the said blade, when the latter has openings *d e*, adapted for the reception of the head and end of the bolt, all substantially as described.

73,517.—Elisha E. Everitt, Philadelphia, Pa., assignor to himself and H. F. Hover, same place.—*Rack for Towels.*—January 21, 1868.—The wire frames have coils at certain points, into which the rods are screwed.

Claim.—A rack or holder, to the side pieces of which are secured coils *a* of wire, adapted for the reception of the ends of rods extending between the side pieces, all substantially as described.

73,518.—Luke Fitzpatrick and Jacob Schinneller, Temperanceville, Pa.—*Chain Machine.*—January 21, 1868.—The bar of metal is passed around a rotating mandrel within a bisected nut and driven out of the end of the latter, to be automatically swaged to form and cut off in links.

Claim.—1. The combination of the nut B with the mandrel A, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

2. The spring-set D and guide *e*, when used in combination with the cutter C, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

73,519.—Ferdinand Formhals, San Francisco, Cal.—*Machine for Collecting and Condensing Metallic Vapor.*—January 21, 1868.—The rotating cylindrical case has a spiral diaphragm, and serves to force the fumes from the upper portion of the box through the water contained therein and in the tanks connected by dipping pipes therewith.

Claim.—1. The construction of the cagniardelle blower principally of wood.

2. The combination of the cagniardelle with the furnace, in combination with tanks, substantially as set forth and shown, and for the purposes specified.

73,520.—John Fry, Brookfield, Ill.—*Sawing Machine.*—January 21, 1868.—The frame is supported on wheels at one end and a saw-horse at the other. The saw is connected to one end of a vertical lever, which is oscillated by connection with a crank-pin on the balance-wheel.

Claim.—Providing the frame of a portable sawing machine with an arm or prolongation, so constructed and arranged that a saw-horse can readily be attached to or detached from the same, as and for the purposes specified.

73,521.—Robert M. Fryer and Andrew R. Fryer, New York, N. Y., assignors to National Gas-Light Company, same place.—*Manufacture of Illuminating Gas.*—January 21, 1868.—The coal is heated to 700° F. in the first bench of retorts, and the volatile products pass through the traps to the second bench, where they are treated to a heat of 900°. The product of the latter retorts passes to the condenser, and the unconverted portion from the latter is redistilled in the third bench of retorts under a temperature of 1400°. The traps consist of inverted cups, whose edges enter annular troughs surrounding the tops of the vertical escape pipes of the retorts, and prevent the admission of air to the passages.

Claim.—1. The process above described for manufacturing illuminating gas, which consists in distilling the coal at a low heat and converting the distillate and condensable products into gas, in separate benches or retorts, substantially as described.

2. The process of converting the volatile products or fluids, given off from the first bench of retorts, into gas, by subjecting the distilled products to the different temperatures required to convert the same into gas, substantially as set forth in the foregoing specification.

3. The construction and use of the automatic seal-valves, which are employed for the same purpose, and instead of the ordinary hydraulic main of gas-works, substantially as above set forth.

4. The manner of distributing the distilled products or fluids given off from the first bench of retorts equally to the several gas-producing retorts, by means of the several traps and connections, substantially as above set forth.

5. The manner of separating the gas, generated in the second bench of retorts, from such fluids as escape conversion into gas in these retorts, and the method of passing the gas thus generated into pipes leading to the gas-holder, while the fluids are conveyed directly into the third bench of retorts, where they are subjected to a higher heat, necessary to convert the same into gas.

6. The combination of the whole gas-generating apparatus, as described in the foregoing specification, and for the purpose therein named; and this we claim, whether the constructed apparatus be precisely in the form described by us, or otherwise, if it produces substantially the same results.

73,522.—R. M. Gano, Allegheny City, Pa.—*Brick Machine.*—January 21, 1868; antedated January 17, 1868.—The molds, immediately after filling, pass under the pressure roller.

Claim.—The pressure roller C, arranged to operate in combination with the rotating table, provided with a series of molds for forming bricks, substantially as described.

73,523.—Lewis Gebhart, Orangeville, Ohio.—*Cider Mill.*—January 21, 1868.—After passage between the toothed roller and concave, the pulp is carried between pressure rollers by endless aprons. The cider runs through the strainer into the receiver.

Claim.—The cider mill, consisting of the toothed cylinder B, strainer F, endless aprons O Q, pan G, spring L, adjustable roller H, and roller I, all constructed and arranged to operate in the manner as and for the purposes set forth.

73,524.—Samuel Golay, L'Asse Mill, near Noyon, Switzerland.—*Dressing Millstones.*—January 21, 1868.

Claim.—1. A cutting tool, armed with a diamond or diamonds, or other hard stones, and so constructed and operating that while it is caused to traverse, it will cut or chip a furrow or groove in a millstone by a succession of blows, as set forth.

2. The disks *l l'*, hung to a spindle J, and having sockets *p* of different sizes, in which the cutting stones are held when the disks are brought together, as described.

3. The cutting-tool *k*, constructed substantially as specified, in combination with the mechanism herein described, or any equivalent to the same, for imparting to the said tool a rotary, longitudinal, or lateral motion, as and for the purpose herein set forth.

4. The adjustable frame A, guided by the central spindle P, and carrying the adjustable plates *c'*, in combination with the pivoted frame B.

5. The reversible guide-bar C, so secured to the frame B by bolts *f* that it may be inclined, for the purpose specified.

73,525.—R. H. Gordon, Sr., Brooklyn, Ohio.—*Hoe and Garden Rake Combined.*—January 21, 1868.

Claim.—A combined hoe and rake, constructed with flukes B, enlarged or widened at the point *a'*, and provided with the shanks E, in the manner as and for the purpose specified.

73,526.—C. P. Goss and Adrian Rais, Waterbury, Conn.—*Steel Trap.*—January 21, 1868.—The bottom plate has a tongue formed therein, whose end is curved up to receive the pivoted ends of the jaws. The strips lift on each side of the tongue, slide up the jaws, and close them together when the trap is sprung.

Claim.—Constructing a steel trap with a compound spring or springs and base plate of one piece of sheet steel, substantially as herein described.

73,527.—John C. Guerrant and Benton J. Field, Leaksville, N. C.—*Rat Trap.*—January 21, 1868.—The rat, in drawing on the bait, trips the trap door on which it stands, and drops upon a rod which resets the trap.

Claim.—1. The combination of the spring D^2, lever E, connections *f g A'*, and movable platform B, with the movable wing B', connections *b d i*, and stop-pin *i'*, all arranged and operating substantially as and for the purpose herein specified.

2. The combination, with the above, of the rod H, stop *h*, and spring *h'*, arranged and operating in the manner and for the purpose set forth.

73,528.—D. Frank Hartford, Boston, Mass., assignor to self and Edmund Tarbell, same place.—*Pipe and Rod Cutter.*—January 21, 1868.—The pipe is received in the hooked end of the bar and cut by revolution of the tool.

Claim.—1. The cutter holder C, combined with the feed-screw P and the adjusting-screw O, made substantially as described, and for the purpose set forth.

2. The cutter holder C and knife D, combined with the supporting-bolster E, made substantially as described, and for the purpose set forth.

73,529.—Nicholas Headington, Cincinnati, Ohio.—*Railroad Rail Fastening.*—January 21, 1868.—The fastening is made between the ties, the rail ends resting on a sole-plate whose corners are turned up in angular projections, which enter notches of greater longitudinal extension in the base of the rails. The rail ends are secured to the sole-plate by the yoke which enters longitudinal horizontal slots in the rails, and whose lower ends have slots for a gib and key passing beneath the sole-plate.

Claim.—1. In the described combination, with a sole-plate and keying device beneath the rail ends, the yoke D, occupying the notches C C' in the rail ends, substantially as and for the purpose set forth.

2. The sole-plate H, constructed with the upturned corners or lugs *i i' i''* and *i'''*, for the purpose above explained.

73,530.—William S. Johnson, Henderson, Ky.—*Buggy Tap.*—January 21, 1868.—The temper-screw acts as a jam-screw to fix the "tap" to any adjustment to compensate for wear in the washers or box.

Claim.—A buggy tap E, whose screw-threaded orifice *e* is prolonged to its outer end, and provided with a temper-screw F, adapted to operate as set forth.

73,531.—John A. Jones, Baltimore, Md., assignor to self and E. A. F. Mears, same place.—*Roofing Compound.*—January 21, 1868.—Composed of washed coal tar, 10 gallons; borax, ¼ pound; soapstone, 1½ bushel; and ashes, ½ bushel. This is spread on felt.

Claim.—The within-named ingredients used together, substantially in the proportions and for the purpose set forth.

73,532.—W. O. Jones, Portland, Me.—*Combined Rule and Square.*—January 21, 1868.—The rule opens back sufficiently to form a square, and has a scale by which the inclination of a more obtuse angle is denoted.

Claim.—Making the joint in the manner described, so that the rule can be used as a square, and this in combination with the graduated scale, so that it can be used as a bevel.

73,533.—Charles Kaulbeck, Boston, Mass., assignor to self and Watson W. Roberts, same place.—*Manufacture of Hinge Hooks.*—January 21, 1868.—The blanks are stamped from a strip of metal, the shank being stamped from the bifurcation of the next blank.

Claim.—The mode, substantially as above described, of manufacturing shutter or blind hinge hooks.

73,534.—PETER KELLER, New York, N. Y.—*Gas Cock.*—January 21, 1868.—The gas tube has a perforated top covered by a screw cap, which is adjustable, and whose lower end descends into a water bulb, through which the gas passes on its way to the burner.

Claim.—1. A gas cock, which, when opened, forms a space *d*, and an annular channel *e*, substantially as and for the purpose described.

2. The arrangement and combination of the pipe B with a perforated tip, adjustable shell C, and bulb A, substantially as and for the purpose set forth.

73,535.—E. W. KIMBALL, Hudson, N. Y.—*Bottom for Coal Hods.*—January 21, 1868.

Claim.—A cast-iron bottom for coal scuttles or hods, when the same is cast with a lower rim or base C, having a hand recess B, and is also provided with suitable means of attachment to the body of the scuttle or hod, substantially as described.

73,536.—JOHN L. KNOWLTON, Philadelphia, Pa.—*Circular Saw Mill.*—January 21, 1868.

Claim.—1. The combination and arrangement of the carriage M and yokes N and R, or their equivalents, the latter bearing the circular saw S, when the parts are so constructed and arranged that the yoke R rests upon the yoke N, and the latter is pivoted to the carriage, so that the saw can be moved to and from the log, or inclined in any direction, the carriage being at liberty to move back and forth as the inclination of the saw may require, and without the aid of any mechanical arrangements, substantially in the manner and for the purpose specified.

2. The combination of the wedge roller P with the yoke R, and constructed with lateral movement in such a manner as to allow angular movement of the saw mandrel without disturbing its relative position with the log.

73,537.—WILLIAM LIVINGSTONE, N. Y.—*Water Meter.*—January 21, 1868.—The induction and eduction pipes both communicate through valve ports with the ends of the cylinder. The piston is connected to its rod by toggle levers, and reciprocates the slide valves by an inclined block at the upper end of the rod. The block slides in an inclined cavity or slot in the valve stem. The reciprocations of the valve stem are registered.

Claim.—1. The construction of a water or fluid meter, consisting of a measuring vessel or cylinder, enclosed in an outer casing or jacket, the intervening space or spaces forming the water ways to and from the measuring cylinder.

2. The combination of a piston with jointed plates or bars, or other proper flexible material, that will extend and close up with the motions of the piston, and give positive action to the valves at either end of the stroke.

3. The combination of a piston and intermediate flexible attachments with the valves, either slide valves or other valves, by means of the rod F and its inclined plane S working the valve rod E, or, by means of a bell crank or other lever, taking motion from the piston at certain points of the stroke, and transferring the same to the valves, substantially as described.

73,538.—EDWARD A. LOCKE and WILLIAM N. WEEDEN, Boston, Mass.—*Lamp.*—January 21, 1868.—The chimney is secured to its support by tongues on the latter, which hold against the construction at its base. This supporting annulus is slipped on to the cone, and serves to hold its bi-sections together.

Claim.—1. A sectional lamp cone, made to open and close, as and for the purpose substantially as set forth.

2. A removable chimney-supporting ring or base, holding the parts of the cone together, substantially as described.

73,539.—ORAZIO LUGO, New York, N. Y., assignor to JOHN F. COLLINS, same place.—*Apparatus for Distilling Spirituous Liquids.*—January 21, 1868.—A blast of hot air is forced through a strong solution of caustic soda and mingled with the spirituous vapors. The current of air is passed through a vessel containing sulphuric acid to change the alcoholic vapors into ether, which is collected.

Claim.—1. Introducing into a distilling apparatus a current of alkalinetted air, substantially in the manner described and set forth.

2. One or more receivers or analyzers between the still and condenser, having enclosed rotating and stationary fans, for the purpose described and set forth.

3. Producing, in connection with or continuation of the process of distilling alcohol, ethers during the same operation, substantially as described and set forth.

73,540.—J. T. A. MALLET, Paris, France, assignor to JEAN MARIE ONESIME TAMIN, same place.—*Producing Oxygen and Chlorine.*—January 21, 1868.—Sub-chloride of copper is transformed by the air into an oxi-chloride, which parts with its oxygen when subjected to a red heat in rotating retorts lined with fire clay. The oxi-chloride is mixed with 15 or 20 per cent. of sand in the retorts. The oxygen passes through a washing vessel to the gas holder. The oxygen is restored to the contents of the retort by first cooling by jets of steam, and then forcing a current of air through it. For production of chlorine and oxygen combined, hydro-chloric acid is injected in place of steam. According to the amount of acid injected oxi-chloride or pure chlorine may be evolved.

Claim.—The process for producing, conjointly or separately, oxygen and chlorine gas, substantially as herein described.

73,541.—GEORGE A. MANDEVILLE and W. E. PINE, Newark, N. J.—*Machine for Blocking and Stretching Hats.*—January 21, 1868.

Claim.—1. A forming block, combined with a system of radially adjustable brim-supporting arms, constructed and operating substantially as described.

2. A circular series of radially-sliding brim-supporting arms, to enter the body of the hat, and adjustable in fixed positions to and from a center, substantially as shown and described.

3. The adjustable ring 4, sliding in the inclined slots, to vary the positions of and hold securely the radial brim-supporting arms in the desired fixed position, either to or from a center.

4. The combination, with a radially mortised plate, of a circular system of radial brim-supporting arms, arranged to receive the hat block within the circle they describe.

5. The radial arms of the system of brim-supporting arms, constructed with their outer surfaces tapering gradually downward from the top of the sectional band plate, as and for the purpose described.

6. The combination of the ring 4, its supporting frame, and an adjustable lever, for operating it and holding the brim-supporting arms positively and firmly in the position to which they may be adjusted.

7. The combination of a perforated hat-forming block with a grooved, perforated, or skeleton supporting plate, for the purpose set forth.

8. The arrangement of the series of clamping fingers with the series of stretching arms, and with their supporting frame, whereby is provided the means for adjustment of the clamping fingers, independent of the means for the adjustment of the stretching arms, substantially as described.

9. The combination of grooved cam plate F, whether with or without its rim or handle, with the system of radial stretching arms, substantially as and for the purpose set forth.

10. The arrangement, in a hat-blocking machine, of lever 18 with the adjustable stop 22, to limit the upper movement of the hat block, for the purpose set forth.

11. The combination of a set of radial stretching arms with a set of slides, the inner surfaces of such slides forming the banding rim, substantially as described.

12. The combination of the loose adjustable ring J with the outer system of stretching arms, for the purpose of graduating the amount of stretch to be given to the brim of the hat body, substantially as described.

13. The loops or guards upon the radial stretching arms, to sustain the ring J, and serving therewith to form slots or guides, to insure the positive expansion of the system of stretching arms by the action of the ring when raised.

14. The combination, with the stretcher carrying sliding frame, of the counterbalancing weights, substantially as shown and described.

15. The combination of an outer system of rising and falling stretching arms with an inner system of radially sliding brim-supporting arms, which have no rising and falling motion.

16. The combination in the same machine, and for joint action, of a system of radially-adjustable brim-supporting arms, a system of stretching arms, and a rising hat-forming block, the same operating substantially as described.

73,542.—Louisa J. Maxey, Troy, Ind., administratrix of the estate of Edward G. Maxey, (deceased,) and William R. Mason, Lewisport, Ky.—*Hay and Cotton Press.*—January 21, 1868.—The followers are connected to a rack bar, and the press is double-acting; one pair of followers returning while the others are acting upon the cotton or hay. The outer and inner follower of each box are moved simultaneously. The motion is communicated by a sweep revolved in one direction to compress the contents of one box, and reversed to act upon that of the other.

Claim.—1. The combination of the gearing wheels *c d e f g g'* with the double reciprocating rack and compressing beam F, constructed and arranged substantially as and for the purposes herein described.

2. The pitmen *i i'*, in combination with the outer head blocks *b b'* and the doors *k' k'*, and their self-acting apparatus for chocking the head blocks, and releasing them when the doors are opened to take the bale out, constructed and arranged substantially as and for the purposes herein described.

3. The relieving sides *p p'*, in combination with the packing compartments C C, arranged substantially as and for the purpose herein described.

73,543.—William E. Michael, New Holland, Pa., assignor to himself and Abram Setley, same place.—*Stuffing Seats.*—January 21, 1868.—The cushion is supported on a frame which has movement in an inclosing case, and rests on half-elliptical springs adjusted by screws.

Claim.—The combination, with the slats E, of cross strips D and B, screws C, and rounded cover, when constructed and applied substantially in the manner shown, for the purpose specified.

73,544.—Abel Mott, Scott, N. Y., assignor to himself and Warren Kenyon, same place.—*Hay Elevator.*—January 21, 1868.—The hoisting cord is passed over a grooved pulley, whose serrated flanges engage the serrations on a hanging frame of a rib-grooved pulley under which the cord passes, and when the load is sufficiently elevated and the pivoted pin has entered the socket of the stationary frame, the serrations of the frame and pulley engage, and upon the backing of the horse the load is sustained until the pin is tripped, and in its withdrawal swings back the serrated frame and frees the cord.

Claim.—The frames A and H, with their cords and pulleys, the frame F, and pin G, constructed and used substantially as and for the purpose set forth.

73,545.—J. B. Newbrough and E. Fagan, New York, N. Y.—*Treating Caoutchouc and other Gums.*—January 21, 1868.—Iodine and bromine, previous to mixture together, are each mixed with a compound of oil of turpentine, 3; and sulphuric acid, 1 part. The proto-bromide of iodine, 3 ounces, is mixed with caoutchouc, 1 pound; and after molding, is subjected to a heat of from 200° to 320° F. to harden it.

Claim.—The within-described new manufacture or substance, consisting of caoutchouc, or equivalent gum, incorporated with iodine and bromine, (after treating the said iodine and bromine with turpentine, or equivalent oil, substantially as described,) and subjected to heat.

73,546.—C. C. Pease, Jamestown, assignor to himself, Giles Milks, and S. B. Brininstool, Kennedy, N. Y.—*Instep Stretcher.*—January 21, 1868.—The instep piece is raised by a set screw stepped in the body of the last.

Claim.—1. The slide, slot, and screw 2, as herein described, for raising and lowering the instep block of a last, as and for the purpose specified.

2. Connecting the slide, slot, and screw, to a last, when arranged so as to be used and operated for the purpose described.

73,547.—Charles Rich and Oscar L. Neisler, Poughkeepsie, N. Y.—*Combined Cultivator and Harrow.*—January 21, 1868.—A two-row adjustable cultivator and harrow.

Claim.—1. The adjustable bars K' K', when arranged on the sides of the hill, and when provided with handles *j j*, connected at their upper ends so that the teeth can be accommodated to irregularities in the hill, or can be connected for broadcast harrowing or tilling, substantially as herein shown and described.

2. The device for connecting the harrow frame C with the axle A and driver's seat I, consisting of the bars E and F on the axle, of the links G, levers H and J, and connecting rods *h* and *i*, all made and operating substantially as and for the purpose herein shown and described.

3. The above, in combination with the notched bar M, when made as and for the purpose described.

4. Securing the draught bars N to the rear of the harrow holders K, substantially as and for the purpose herein shown and described.

5. The hollow cultivator tooth P, when arranged so that it can be fitted to and easily removed from a harrow tooth L, substantially as and for the purpose herein shown and described.

73,548.—A. Rowe, W. H. Mitchell, and E. B. Hammill, Macomb, Ill.—*Seed Sower.*—January 21, 1868.—The segmental seed opening in the hopper bottom is adjusted in size by the oscillating valve to regulate the amount of seed sown. The seed is distributed by the rotating, fluted disk.

Claim.—1. The fluted or ribbed concave disk D, made of a single plate struck up with the ribs *k*, in the form and manner substantially as shown and described.

2. The oblong curved opening I, for the passage of the grain from the hopper to the disk, as set forth.

3. In combination with the opening I, the oscillating slide valve *f*, for regulating the delivery of the grain at different points of the disk, as described.

4. The rotating arm *p*, mounted on the shaft F, and arranged to revolve within the hopper E, as shown and described.

73,549.—P. F. Schneider, Hartford, Conn., assignor to himself and W. H. D. Callender, and B. C. English.—*Cartridge Box.*—January 21, 1868.—The periphery of the cylinder has a series of radial sockets containing metallic cartridges. The cylinder is arranged to turn in the case, and is actuated by a spring catch at the end of a spring arm journaled concentrically with the cylinder, the catch acting on a ratchet upon the cylinder.

Claim.—1. The spring lever G, provided with spring lug *a*, operating the ratchet D of the cartridge chamber in its forward motion, and returning to its original position, sliding over the ratchet in the manner described, substantially as specified.

2. The plate or lid J, provided with slot I, through which plays the handle H of the spring-lever G, having spring lug *a* operating the ratchet wheel of the cartridge chamber, allowing the ejection of but one cartridge at a time, and admitting the operating of said ratchet wheel continually from the same point, and the lever to return to its proper position, ready for its next operation, substantially in the manner represented and described.

73,550.—George K. Smith and Joseph Strasser, Allegheny City, Pa.—*Plow.*—January 21, 1868.—The heel of the beam and the beam handle are attached to a slotted plate which is adjustable on the landside to regulate the depth of furrow.

Claim.—1. The combination of the graduate C, with the beam D, constructed, arranged, and operating as herein described, and for the purpose set forth.

2. The combination of the movable cap B with the beam R and graduate C, constructed, arranged, and operating as herein described, and for the purpose set forth.

73,551.—JOSEPH B. SPURGIN and THOMAS A. KIRK, Kansas City, Mo.—*Railway Switch.*—January 21, 1868.—The switch is intended to allow trains to pass without the aid of a switchman, and to furnish means, by backing the train, to transfer the same from one side to the other.

Claim.—1. The combination and arrangement of the two main tracks, A and B, one or more oblique or inclined tracks D, and one or more switch tracks C, with each other, substantially in the manner herein shown and described, and for the purpose set forth.

2. The pieces G and H, one or both, constructed substantially as described, in combination with the rails of two tracks, at the point where the said tracks meet and unite to form one track, substantially as herein shown and described, and for the purpose set forth.

73,552.—JAMES T. STEWART, Peoria, Ill., assignor to SAMUEL R. WHITLOW, Rochester, Ill.—*Medical Compound.*—January 21, 1868.—Used as a tonic, and composed of whisky, 1 gallon; water, ½ gallon; white sugar, ½ pound; tincture of orange peel, 4 ounces; compound tincture of gentian, 2 ounces; compound tincture of cardamom, 2 ounces; tincture of cureuma, 2 ounces; and oil of lemon, 64 drops.

Claim.—An improved medical compound, prepared of the ingredients and in the proportions and manner substantially as herein set forth and described.

73,553.—WASHINGTON STICKNEY and NATHAN B. CHASE, Lockport, N. Y.—*Composition for Fuel.*—January 21, 1868.—Composed of coal screenings, 3; spent tan bark, 2; sawdust, 2; peat, 1 part; and coal tar sufficient.

Claim.—The improved composition for fuel, prepared of the materials and substantially in the manner herein set forth.

73,554.—JOHN TIPTON and J. CARL, Malaga, Ohio, assignor to JOHN TIPTON.—*Boot Crimp.*—January 21, 1868.—The leather is forced against the crimping-board by plates whose edges are out-turned, and which has arms traversed by right and left hand screw bolts. The bolts have spur wheels engaging together to insure simultaneous rotation, and act to press the plates and leather against the board. The plates are drawn back by arms which hook over a ratcheted cross bar that is traversed by a screw stepped in the board.

Claim.—1. The combination of the plates A A with the two right and left screws $r\ r'$, and the spur wheels $g\ g$, substantially as and for the purpose specified.

2. The combination and arrangement of the plates A A with the arms $e\ e$, braces $e'\ e^2$, joints l, and arms C C, substantially as and for the purpose specified.

3. The bar M, when constructed with slotted ends, a ratchet surface on its upper side, and a central female screw, substantially as and for the purposes set forth.

4. The combination of the plates A A with the arms C C, bar M, screw rod R, and board B, substantially as and for the purposes specified.

5. The combination of the plate O, board B, jaws $o\ o\ o$, and screw rod R, when the parts are constructed and applied together, substantially in the manner and for the purposes specified.

73,555.—ELISHA W. WALTON, Drytown, assignor to JOSEPH H. ATKINSON, San Francisco, Cal.—*Tamping and Blasting Machine for Splitting Wood.*—January 21, 1868.—The barrel is inserted into an auger hole in the wood, and the contained charge exploded by drawing off the spring hammer with a cord.

Claim.—1. The construction of the barrel with a charge cavity and screw, with cross-head, handles, nipple, and hammer, substantially as described, and for the purposes set forth.

2. The screw cleaner, for the purposes set forth.

73,556.—J. WHIPPLE, Orville, Cal., assignor to self and JOSEPH H. ATKINSON.—*Churn.*—January 21, 1868.—The rectangular churn has journals on its diagonal corners.

Claim.—A metallic or wooden churn, in which all the parts described and represented are arranged in the manner set forth.

73,557.—GILBERT WHITE, Harlem, assignor to himself and GUSTAVUS PIERREZ, New York, N. Y.—*Hand Hole Joint for Boilers.*—January 21, 1868.—The outer face of the head is flat, and the gasket extends all over it, and has outside it a flat plate which fits the hand hole. The latter plate is kept in place by a key driven through the bolt.

Claim.—The packing C of the face a, and the cover A, in combination with the plate D, all constructed and arranged substantially as shown and described.

73,558.—MOSES WIEAND and GEORGE GORR, Emaus, Pa.—*Stone and Stump Extractor.*—January 21, 1868.—The windlass is supported on a frame on the running gears.

Claim.—The portable power, consisting of the mechanism arranged substantially as described, and provided with the chain f, having the stationary hook p and the sliding hook p', all mounted on the frame, constructed as set forth.

73,559.—DANIEL WITT, Hubbardston, Mass., assignor to DEXTER HOWE, New York, N. Y.—*Spring Holder.*—January 21, 1868.—The ends of the springs are passed through the clamping bolts and rest in the concave portions of the sockets.

Claim.—The spring A, in combination with the screw-bolts C, sockets B, and nuts $b\ b$, substantially as described, for the purpose specified.

73,560.—E. WORTH and C. A. DAVIS, Oswego, Ill.—*Ditching Machine.*—January 21, 1868.—The point of the mold board is jointed, and connected to a cutter-bar passing through the beam and adjusted by a screw. The sides of the ditch are cut by knives, and the earth raised by inclines.

Claim.—1. The knives L, arranged to operate substantially as and for the purpose set forth.

2. The point F, jointed to the shoe E, in combination with the cutter-bar K, screw J, and standards I I, arranged to regulate the depth of the machine in the ground, substantially as set forth.

3. The combination of the horizontal shears D, inclined flanges C, with cutter-bars K′ K′, knives L, and mold board B, substantially as set forth.

73,561.—HUGH S. WRIGHTSON, Baltimore, Md., assignor to M. M. WELBY and C. H. SLICER, same place.—*Wrench.*—January 21, 1868.—The portions of the head connected to the adjustable and movable jaws have counterpart ribs, grooves, and serrations. When placed together a button on the fixed part takes over the adjustable part.

Claim.—1. A wrench, with its adjustable jaw constructed and applied to its handle and stationary jaw, as described, when its ratchets or teeth are located as and operated in combination with groove b and tongue d, in the manner and for the purpose specified.

2. Button E, in combination with groove b and tongue d, for holding the removable jaw to its seat, as herein described.

73,562.—C. M. AMSDEN, Wooster, Ohio.—*Sash Fastener.*—January 21, 1868.—The spring bolt slides horizontally in the sash and engages sockets in the frame. It is operated by a lever on the face of the sash.

Claim.—The spring bolt b in the side of the sash B, provided with the shaft c, working in the slot f of the sash, and operated by means of the slotted lever C or H, pivoted to the sash B, constructed and arranged as described for the purpose specified.

73,563.—W. R. ANDERSON, New York, N. Y.—*Fastening for Stair Rods.*—January 21, 1868; antedated January 8, 1868.

Claim.—The combination of the stationary framework A, movable arm B, and hook h, substantially in the manner and for the purpose set forth.

73,564.—P. D. Beckwith, Dowagiac, Mich.—*Plow Gauge Wheel.*—January 21, 1868.—The spindle is cast upon one side of the wheel, and the box upon the lower end of the shank.

Claim.—1. The axle or skein B cast upon the wheel A, as and for the purpose set forth.

2. The shank C, with a hub cast upon its lower end, and used in combination with the wheel A and its axle B, substantially as herein set forth.

73,565.—Sigismund Beer, New York, N. Y.—*Process for Seasoning and Preserving Wood.*—January 21, 1868.—The wood is immersed in a boiling, saturated solution of borax, and removed therefrom and immersed in a fresh solution of the same strength. The discoloration may be removed by washing.

Claim.—Seasoning, preserving, and purifying wood, by extracting its perishable matters, without injuring the wood substance, and associating therewith a durable and antiseptic substance, which makes it harder, water-proof, indifferent to atmospheric changes, and less combustible, by the process above described, in which borax or some other borate or boracic acid, or a like compound, is employed, substantially as and for the purposes specified.

73,566.—Edwin Bell, St. Paul, Minn.—*Coffer Dam.*—January 21, 1868.—Two barges have between them two frames, each giving bearing to planks which are driven into the ground, leaving a space between the two walls of driven boards, into which the apron is sunk by the weights in the pipe at its lower edge. The upper edge of the apron is fixed above the water line. When the pipe is sunk it is filled with water to pack against the planking.

Claim.—1. In combination with a floating "coffer dam," constructed substantially as described, the flexible bag, sack, or pipe F, for packing the same and excluding the water.

2. The use of an apron, of rubber cloth, canvas, or other flexible material, made water-proof, for packing the joints between the tiers of planks forming the inner walls of the dam, substantially as described.

73,567.—William Bellamy, Newark, N. J.—*Construction of Handles for Metal Tea and Coffee Pots.*—January 21, 1868.—The plaster is introduced as a non-conductor of heat to keep the handle cool.

Claim.—A tubular metal handle filled with plaster of Paris for metal tea and coffee pots, substantially as and for the purpose set forth.

73,568.—W. H. Bennett, New York, N. Y.—*Culinary Vessel.*—January 21, 1868.—Improvement on patent of John Zimmerman, May 9, 1865. The bottom of the inner vessel is restricted to the same diameter as the bottom of the sides of the said vessel, so as to permit the cleansing of the annular space between the said vessel and the case.

Claim.—The combination of the vessel D, divided into various compartments by the vertical partitions *c*, each compartment having its own tap, the perforated receptacle B leaving the space between its sides and the outer casing C open, and widest at the bottom, and the hot-water vessel A, all arranged as described for the purpose specified.

73,569.—Bainbridge Bishop, New Russia, N Y.—*Violin.*—January 21, 1868.

Claim.—1. The supplementary bridge J, to the extended finger-board D, substantially as and for the purpose specified.

2. The combination of the bridge E, supplementary bridge J, and finger-board and tail-piece, made in one piece, substantially as described for the purpose specified.

73,570.—Lyman R. Blake, Boston, Mass.—*Cutting Channels in Boots and Shoes.*—January 21, 1868.—The following knife, by which the string of leather is removed from the bottom of the slit, is made adjustable so as to expose more or less of its edge below the sheltering back of the leading knife, thus regulating the size of the groove.

Claim.—1. The combination of leading and following knives, for the purpose of forming different sized grooves in channels, when the leading knife is constructed with such a breadth of back as will cover the cutting edge of the following knife, substantially as described.

2. The formation of the channel, substantially as shown and described.

73,571.—Lewis R. Boyd, New York, N. Y.—*Manufacture of Locking Rings for Closing Fruit Jars.*—January 21, 1868.—The cylindrical ring is formed from a strip of sheet metal whose ends are soldered together, and the thread is then spun on.

Claim.—The above-described improved method of manufacturing screw rings for fruit jars and other analogous articles, substantially as and for the purposes set forth.

73,572.—Solomon Brock, Brooklyn, N. Y.—*Paper File.*—January 21, 1868.

Claim.—1. The employment of threaded needles, arranged stationary in the file, and operating with a paper flap, for the purpose of passing a thread in the letters or papers, with the operation of filing the same in the file, so that the letters or papers may thereby be secured when removed from the file, substantially as herein shown and described.

2. The combination and arrangement of the file case or frame A with the side B, and needles E E, the flap D, and springs F F, and notches H H, operating together substantially as and for the purpose herein shown.

73,573.—Almond Brooks, Columbus, Ind.—*Machine for Supporting Tin Cans when being Soldered.*—January 21, 1868.—The segmental blocks forming the frame are forced apart by blocks which slide down their inclined inner surfaces.

Claim.—The combination of the adjustable frame pieces A, with inclined faces and grooves A′, the spider B, tubular shaft C, internal rod D, plate E, elastic bands F, and pawl G, constructed and arranged to operate substantially in the manner and for the purpose set forth.

73,574.—Jairus Brown, Portland, Mich.—*Tuyere Iron.*—January 21, 1868.—The cap has a series of blast openings, and the false cap a series which may be brought in conjunction by turning the latter. The false cap is turned by a crank upon its vertical stem to which a bar is connected.

Claim.—The construction and arrangement of the cylinder A, the head or cap B, provided with more or less openings C, D, E, F, and G, the rod H, the false cap I, provided with appropriate openings J, the crank K, the lever L, the cylinder M, the false bottom N, and the door O, when constructed and operating substantially as and for the purposes set forth.

73,575.—Charles E. Buck, Racine, Wis.—*Axle Tree.*—January 21, 1868.—The metallic bar passes beneath the axle and axially through the outer end of the spindle, forming an attachment for the nut and a brace to the axle.

Claim.—The rod C applied to the straight axle A, its ends passing through the under sides of the thimble skeins B, securing them in place, and its center held in position by means of the brackets *a*, the rod C being tightened by means of the nuts D, as herein shown and described.

73,576.—T. J. Burke, Chicago, Ill.—*Concrete Brick Press.*—January 21, 1868.—The brick receives pressure by the cam wheel, which is operated by a lever. The block is raised from the mold by the rack lever, which engages a rack bar connected to the follower.

Claim.—The cam wheel R, in combination with lever J, follower D, slides X X, lever N S, and box B B, arranged to operate in the manner as herein set forth.

73,577.—John F. Carll, Brooklyn, N.Y.—*Sand Pump for Oil Well.*—January 21, 1868.—The valve stem passes through a yoke which is slotted to receive a pin projecting from the stem, and also to receive a pin traversing the stem, and projecting on both sides. When the pump is lowered the pin occupying the oblique slot prevents the turning of the stem to allow the traversing pin to pass through its

slots, so that the upper valve is kept closed and the lower one open. When the lower end of the valve stem strikes the bottom of the hole it is turned by the pin in the oblique slot admitting the transverse pin to pass through the yoke, and the upper valve being raised the water and sand rush in, taking the place of air which escapes through the safety valve.

Claim.—1. A sand pump provided with valves D J, and their connecting agencies, arranged in such manner that the valves will be operated automatically, and the pump filled with sand or debris under the static pressure of the water within the well or hole, substantially as herein shown and described.

2. The valve stem G, with the tube H, yoke I, oblique slot *e*, pin *g*, and the slots *ff*, all arranged to operate in connection with the valve J, substantially as and for the purpose specified.

3. The safety valve F, arranged in relation to the valves D J, applied to the cylinder of a sand pump, to operate in the manner substantially as and for the purpose set forth.

73,578.—WILLIAM L. COLLAMORE, Warren, R. I.—*Steam Governor.*—January 21, 1868.—The governor operates the valve through a lever, whose free end has a segmental rack engaging a pinion on a shaft having arms upon which the supplementary weights are adjustable.

Claim.—The combination of the supplemental weights H and lever B with a governor, substantially as herein specified.

73,579.—JOHN F. COLLINS, New York, N. Y.—*Rectifier and Condenser for Alcoholic Spirits.*—January 21, 1868.—The pipes in the vertical series are polygonal in horizontal outline and elliptical in transverse, vertical section. The pipes are connected by vertical elliptical pipes so as to form a continuous pipe.

Claim.—1. The construction and use of a rectifier for alcoholic or other spirituous vapors, in the manner and form substantially as described and set forth.

2. The construction and use of a condenser or worm, in the manner and form and for the purposes substantially as described and set forth.

73,580.—RANSOM COOK, Saratoga Springs, N. Y.—*Scissors.*—January 21, 1868.—The blades are forced together by pressure on the roughened, flattened handles, and opened by a spring.

Claim.—As a new article of manufacture, scissors constructed and arranged substantially as hereinbefore described.

73,581.—E. COVERT and J. C. COVERT, Farmer Village, N. Y.—*Neck Yoke.*—January 21, 1868.—The tongue socket is in a flap of leather secured by a metallic strap at the bar.

Claim.—The metallic clasp B connecting the leather C to the neck yoke A, substantially as and for the purpose set forth.

73,582.—WASHINGTON CUNNINGHAM, Oxford, N. Y.—*Butter Worker.*—January 21, 1868.—The roller frame has springs whose ends carry rollers running beneath the side guides of the table and operating to depress the roller upon the butter spread upon the table.

Claim.—1. The spring roller C, as herein set forth, which allows the compresser A to rise and fall, for the purpose herein set forth.

2. Extending the side rail E for the purpose of preventing the carriage F from falling, as herein set forth.

73,583.—MORGAN O. DAVIS, Warrensburg, N. Y.—*Churn Dasher.*—January 21, 1868.—The dashers pass through diametric mortises in the vertical dasher rod and each one resting upon the one beneath; the upper one is held in position by a wedge above it.

Claim.—A dasher composed of the shaft F and dasher boards *a* and key K, substantially as shown and described and for the purposes set forth.

73,584.—WILLIAM S. DOUGLAS, Richmond, Vt.—*Clothes Wringer.*—January 21, 1868.—The pressure is brought upon the upper roller by levers. The lower lever has bearing upon a rubber spring upon a rod pendent from the free end of the upper lever. The water is turned into the suds tub by a fixed doubly inclined board and a tilting board above it.

Claim.—1. Regulating the pressure of the wringing rollers *d* and *d'* by means of the levers D and F, rod E, and spring *e*, when the same are combined and arranged substantially as described.

2. In combination with the above, the tilting and drain boards H and I, when the same are constructed and arranged substantially as described.

73,585.—ANDREW DOW, Brooklyn, N. Y.—*Apparatus for Manufacturing Sheet Lead and Lead Pipe.*—January 21, 1868.—In making sheet lead the metal is formed into thin pipes which are opened longitudinally and flattened out. In making pipe the lead is forced through an annular space between a core and an inclosing pipe. Hydraulic power is used.

Claim.—1. The combination of the water cylinder block B, post C, piston D, cross-head E having central bolt F, bearing head *b*, cylindrical ram I, and annular block G, all constructed as described for the purpose specified.

2. The combination of the water cylinder block B, tube L, vessel K having core C, and annular block G, constructed as described for the purpose specified.

73,586.—A. K. EDDOWES, Philadelphia, Pa.—*Window Sash.*—January 21, 1868.—The glass is held forward to its position in the rabbet by a flexible packing backed by a metallic frame. The lower edge of the glass rests on an elastic strip.

Claim.—1. The hollow or solid cylindrical flexible packing D or D^1, and grooved clamp or molding D2, in combination with the rabbeted frame A, for securing the glass in said frame, essentially as shown and described.

2. The arrangement within the rabbet *a*, of a strip or bearing *b*, made of a soft and pliable material, such as gum or cork, for the standing edge of the glass to rest upon, essentially as specified.

73,587.—JACOB EDSON, Boston, Mass.—*Nail Extractor.*—January 21, 1868.—The head of the nail is nipped between the teeth which are brought upon it by depression of the lever.

Claim.—The combination of the levers A and B, the wheel C, and the adjustable teeth *e* and *l*, the whole being constructed, applied, and arranged, substantially in manner and so as to operate as and for the purpose or purposes set forth.

73,588.—MARIUS M. ELLIOTT, New England Village, Mass.—*Shoe Shave.*—January 21, 1868.—The cutter is secured by screws which engage its rectangularly projecting arms. Each of these arms rests against two set screws which vary in distance from the edge and serve to regulate the inclination of the latter to the guard.

Claim.—A shave for boots or shoes, having its blade hung in the guard for adjustment, substantially as described.

73,589.—MARTIN R. ETHRIDGE, Locke's Mills, Me.—*Boot and Shoe.*—January 21, 1868.

Claim.—1. The new arrangement of the upper A and the cushion cover B with the wooden sole D, and the leather sole E placed underneath the said wooden sole, the upper A and the cover B, under such arrangement, being carried around the edges of the wooden sole, and being sewed to the sole E, as specified.

2. And in combination with the wooden sole, cushion cover, upper and metallic sole, arranged as described, the finishing welt G, applied between the upper and the metallic sole, as set forth.

73,590.—ALBERT I. FERGUSON, Sharon, Pa.—*Process of Recutting Files.*—January 21, 1868.—The files are cleaned in a weak solution of potash and then washed and dried; they are then laid in a wooden vessel and covered with water, 1 pint; to which is added pulverized blue vitriol, 2 ounces; and borax, 2 ounces; to this is added sulphuric acid, 7 ounces; and vinegar, ¼ ounce. The files are turned to bring the liquid to act on both sides equally. When re-

moved from this they are washed, dried, and coated with olive oil.

Claim.—The combination of the within described ingredients, when used for recutting files, substantially in the manner herein specified.

73,591.—Martin Feuerstein, Williamsburg, N. Y.—*Sausage Filler.*—January 21, 1868.—The plunger is hinged to a rack bar, which is engaged by a spur wheel, actuated by a winch.

Claim.—1. The piston rod *i*, when pivoted to the end of the bent ratchet bar *g*, with which bar the piston rod is arranged and moves parallel, substantially as herein shown and described.

2. The machine for filling sausages, consisting of the upright cylinder A, piston E, piston rod *i*, pivoted to the reciprocating bar *g*, and of the tube *a*, provided to receive and hold the removable tube *c*, all made and operating substantially as herein shown and described.

73,592.—Oliver Follett, Pittsfield, Mass.—*Bellows for Musical Instrument.*—January 21, 1868.—The springs or weights used in the bellows are relieved of part of their tension by other springs or weights regulated by stops or pedals.

Claim.—The application of the subsidiary weights or springs to the bellows of musical instruments, whereby the performer can regulate the pressure of wind by means of pedals or stops, substantially as herein specified.

73,593.—J. G. S. Garwood, Vermillion, Ill.—*Harrow, Cultivator, and Planter, Combined.*—January 21, 1868.—The wheels are rigidly attached to an axle which carries the seeding cylinder, and is removable when the machine is used as a harrow.

Claim.—1. The combination, in one machine, of the harrow A B, plow standards G I, plows H J, seed box C, dropping cylinder D, axle E, and wheels F, substantially as herein shown and described, and for the purpose set forth.

2. In combination with the above the curved spring plate or apron N, seed box C, and dropping cylinder D, substantially as herein shown and described and for the purpose specified.

3. The combination of the slide K, lever L, and hook M with each other and with the seed box C and dropping cylinder D, substantially as herein shown and described and for the purpose set forth.

73,594.—William Gee, New York, N. Y.—*Apparatus for Filling Siphon Bottles.*—January 21, 1868.—The top of the siphon bottle rests in a cup at the upper end of the treadle rod. The cup acts on a siphon valve lever so as to depress it when the bottle is in position for filling. The elevation of the treadle brings the nozzle of the siphon into the mouth of the filling pipe. The two-way cock in the reservoir pipe is first turned to compress the air within the bottle by introduction of liquid, and then allows its discharge, after which the cock is again turned to complete the filling. A shield protects the operator from bursting bottles.

Claim.—1. The telescopic bracket C, adjustable substantially as described, when applied to an apparatus for filling siphon bottles, for the purpose specified.

2. The foot G applied to a sliding rod, D, and arranged to operate in connection with the bracket C and the parts thereto attached, substantially as and for the purpose set forth.

3. The adjustable notched collar *j* on the part *a* of the bracket C, in combination with the pin *h* of the arm *g* of the guard H, all arranged substantially as and for the purpose specified.

73,595.—Henry Gerner, New York, N. Y.—*Steam Generator.*—January 21, 1868.—The steam generator has two cylindrical shells, one inside the other. Two frusto-conical shells are placed, one inside the other, in such a manner that two fire flues are obtained, which gradually contract as they extend from the furnace first to the rear, and then on the return of the smoke stack.

Claim.—1. A steam boiler having a conical flue F, situated in a conical shell E, which is surrounded by cylindrical shells A D, substantially as herein set forth.

2. The combination of the conical flue F with the conical shell E and with the grate G, substantially as and for the purposes described.

73,596.—Charles Gooch, Cincinnati, Ohio.—*Ice Cream Freezer.*—January 21, 1868.—The agitator shaft carries a spur wheel which engages a pinion communicating motion to the cam by an inside ring gear.

Claim.—The internal spur wheel K in combination with the wheels L and M, substantially as herein described, for the purpose of securing an opposite motion to the agitator and the can.

73,597.—George P. Hachenberg, Coxsackie, N. Y.—*Vegetable Cutter.*—January 21, 1868.—The cabbage is placed in the fixed cylindrical box and pressed downward by the follower upon the rotating cutter disk.

Claim.—The combination of the stationary vessel A, revolving toothed ring D, having flange F under the lower edge of the vessel A, slotted revolving disk G, fitted by slots *a* upon the lugs *b* of the toothed ring, cutters I, adjusting screws K, sockets U, fixed bar M, in the vessel A, follower N, and gear wheel Q, all operating as described for the purpose specified.

73,598.—George Hastings, Jr., Wheeling, W. Va.—*Rolling Machine.*—January 21, 1868.—The rolls are geared together, and the middle one is of smaller diameter. The upper two are adjustable vertically.

Claim.—1. The rollers C, D, and E, and the riders, carriages, and boxes F, G, and H, with the supporting rods J J, combined and arranged substantially as shown and described, for the purposes set forth.

2. The collars N, grooves O, and clutch coupling M, in combination with the rollers C D E, sides and carriages and boxes F G H, and supporting rods J, as herein described, for the purpose described.

3. In three high rolls, connecting the middle and upper rolls, so that they shall move up and down together, substantially as shown and described.

73,599.—Hiram W. Hayden, Waterbury, Conn.—*Lamp.*—January 21, 1868.—The chimney holder is supported on arms extending from the cap. The combined deflector and perforated air chamber is slipped down the wick tube to give access to the wick.

Claim.—A perforated air-chamber, *h*, and deflector *g*, fitted to slide vertically upon the wick tube, in combination with the chimney holder, sustained by arms to the burner cap, substantially as and for the purposes set forth.

73,600.—Hiram W. Hayden, Waterbury, Conn.—*Lamp.*—January 21, 1868.—The perforated cup beneath the deflector slides downward to give access to the wick for trimming and lighting.

Claim.—1. A chimney holder, connected permanently to the burner shell, and provided with a short deflector, in combination with a stationary wick tube, and arranged as set forth, so that access is given below the chimney holder for trimming the wick, as set forth.

2. A sliding perforated cup, having a bottom with a slot for the wick tube, and applied between the burner shell and chimney holder, substantially as set forth.

3. The perforated cup *k*, stud *e*, deflector *g*, and chimney holder *f*, in combination with the burner and wick tube *h*, substantially as and for the purposes set forth.

4. A friction spring, in combination with the perforated cup *k*, for sustaining the same at any point to which it may be moved, as set forth.

73,601.—Henry Helm, Pittsburg, Pa.—*Washing Machine.*—January 21, 1868.—The upper large-ribbed roller is turned by treadle and cranks, and acts in connection with a series of small-ribbed rollers turning in wheels, connected by elastic strips to an elastic ring concentric with the shaft of the main roller.

Claim.—1. The elastic rings *e*, upon the grooved wheels *r* of the rollers H, attached by the elastic strips *a* to the central elastic ring *e'*, upon the shaft D, all constructed and operating as described, for the purpose specified.

2. The combination of the rollers H, suspended from the shaft D, by the elastic bands and rings, grooved rollers *r*, washer W, strips *f*, box T, divided into three compartments by the vertical partitions *u*, crank wheel W, rods C, treadle *t*, pivoted seat S, as herein described, for the purpose specified.

3. The combination of the elastic rings *e e'* and elastic strips *a* with the rollers H, shaft D, and vibrating washer W, as herein described, for the purpose specified.

73,602.—H. H. HENDRICK, Dayton, Ohio.—*Steam Engine Globe Valve.*—January 21, 1868.—The valve has an annular lip resting on a flat seat, and turns in the socket at the lower end of the stem.

Claim.—As a new article of manufacture a disk valve B, formed of chilled or case-hardened iron, in the manner described, and loosely attached to the stem, substantially as shown and specified.

73,603.—SAMUEL B. HENRY, Bridgeport, Conn.—*Articles Made of Molded Wood.*—January 21, 1868.—The blocks of wood are pressed between molds in the direction of the grain, and impregnated with a solution of India-rubber. The blocks are then dried and immersed in chloride of sulphur.

Claim.—A block or strip of molded wood, the fibers of which have been displaced by the action of dies applied to the end grain, as described, and the pores of which are filled with rubber, or its equivalent, applied in solution.

73,604.—THOMAS HILL, New Centreville, Wis.—*Lathing Machine.*—January 21, 1868.—The laths are clamped to a frame and the frame clamped to the joists or studs while the laths are being nailed.

Claim.—1. The stand A, in combination with the sliding or adjustable frame B, when used in connection with bars G, in which laths are clamped or secured, and all arranged in the manner substantially as and for the purpose set forth.

2. The sliding or adjustable frame C, connected with the lever frame Gx by the racks and pinions D E, when said parts are used in connection with the frame B, and the bars G, provided with the slides *l*, and arranged to operate in the manner substantially as and for the purpose specified.

3. The slides *l* and springs *m*, placed on the rods *j*, within the bars G, and arranged to operate in connection with the frame C, substantially as and for the purpose set forth.

4. The rods *o o*, arranged with the notch *r*, frame C, springs *g*, and the plates *h* and *t*, to operate in connection with the slides *l* of bars G, substantially in the manner as and for the purpose set forth.

5. The clamps I, applied to the bar J, in combination with the bars G and the slides *l*, which hold the laths, all arranged substantially as and for the purpose specified.

73,605.—ORSAMUS HOLMES, New Lenox, Ill.—*Grain Separator.*—January 21, 1868.—Two of the pivoted bars on which the straw shoe is supported are pivoted at their lower ends to the grain shoe, and cause the shaking motion thereof.

Claim.—The bars S, pivoted near their centers, U, to the frame of the machine, and supporting the straw shoe B, their lower ends pivoted to the grain shoe T, whose outer end is supported by the pivoted bars V, all arranged as described, whereby the movements of the straw shoe B and the grain shoe T are simultaneous, as herein set forth, for the purpose specified.

73,606.—W. T. HOWELL, Alfred, N. Y.—*Plow.*—January 21, 1868.—The share is secured to the standard by a loop which is slipped on the lower end of the standard and retained by a pin driven into the latter. The brace-rod enters a notch in the share and prevents turning.

Claim.—The attaching of the share E to its standard D by means of the band F, fitted on the cylindrical part *b* of the stand, the pin *cx* on which the band rests, and the brace rod Fx, fitting in the recess or depression *e* in the top of the share, all arranged substantially as shown and described.

73,607.—DAVID W. HUGHES, Quincy, Ill.—*Plow.*—January 21, 1868.

Claim.—1. The placing of the plows at the outer sides of the wheels B B, substantially in the manner as and for the purpose set forth.

2. Having the plows or shares I J placed in reverse oblique positions for the purpose of dispensing with a landside, to avoid friction and draught, and to keep the implement in line with the line of draught, as set forth.

73,608.—BENJAMIN IRVING, New York, N. Y.—*Steam Generating Apparatus for Heating Buildings.*—January 21, 1868.—The water is contained in a reservoir communicating with the lower ends of the helical coils of pipe within the cylindrical vertical furnace. The upper ends of the coils communicate with the steam space in the reservoir, and form an injector to supply the said reservoir with waste water from the heaters. Dampers above the coils regulate the circulation within the furnace.

Claim.—1. The combination and arrangement of the dampers N and S, made and operating substantially as hereinbefore set forth.

2. In combination with the coils of pipe, and dampers N and S, the perpetual reservoir of water E, made and operating substantially as hereinbefore set forth.

3. The combination and arrangement of the nozzle H with funnel I, substantially as hereinbefore set forth, and for the purposes described.

73,609.—DAVID D. JONES, Scranton, Pa.—*Clothes Pin.*—January 21, 1868.

Claim.—The pins A and B pivoted together at one end, and provided with the collar C and spring D, the several parts being constructed and used as and for the purpose specified.

73,610.—ORLAN L. JORDAN, Dowagiac, Mich.—*Concrete Building-Block Press.*—January 21, 1868.—The block is compressed by a toggle lever, and ejected from the mold by a simple lever and rod connecting it to the plunger bottom.

Claim.—The combination of the frame A with box B, bars G F, lever E, follower D, bars I I, and lever H, the whole being constructed, arranged, and operating in the manner substantially as and for the purposes set forth.

73,611.—DANIEL KAUFMAN, Boiling Springs, Pa.—*Fence.*—January 21, 1868.—The fence is supported on the lower ends of the braces which are pivoted to metallic shoes and raised above the ground thereby.

Claim.—1. The fence-posts A, when supported above the ground by means of the metallic shoes D, pivoted to the lower ends of the inclined braces C, as herein described, for the purpose specified.

2. The posts A, formed of two parts, slotted for the reception of the rails B, the ends of the rails of one panel fitting against the ends of the rails of the opposite panel, in the center of said posts, in combination with the braces C, horizontal pieces e^1 e^2, and metallic supporting shoes D, as herein described for the purpose specified.

73,612.—CHRISTIAN F. KNAUER, Pittsburg, Pa.—*Curtain Fixture.*—January 21, 1868.—The cord is prevented from flying off the pulley by a covering flange upon the bearing bracket. The sides of the pulley groove are in sections, a projecting section upon one side being opposite to an aperture on the other to increase the tension on the cord.

Claim.—1. The pulley bearing B, with its aperture or flanges *i*, slots *e*, arranged and constructed substantially as described and for the purpose set forth.

2. The cord pulley D, provided with teeth *e* on its periphery, and journals J, when arranged and operated in combination with the cord E, substantially as described and set forth.

73,613.—JOSEPH LANGENBACH, Dorchester, Iowa.—*Ox Yoke.*—January 21, 1868.—The padded bows consist each of two side pieces, which are pivoted to the yoke and their lower ends connected by hame straps.

Claim.—1. The padded bows B, made in two parts and pivoted within slots in the stock A, when provided with a series of holes *d*, in the tenons *a*, all

constructed, arranged, and operating substantially as and for the purpose described.

2. Providing the stock and the upper ends of the bows, or either, with a series of set holes substantially as described, so as to make the yoke adjustable for larger and smaller animals, as set forth.

73,614.—JULES LECOCQ, New York, N. Y.—*Truss and Abdominal Supporter.*—January 21, 1868.

Claim.—Forming trusses, abdominal supporters, &c., of wire A, bent into the form required, and covered with rubber tubing B, substantially as herein shown and described, and for the purpose set forth.

73,615.—ABRAHAM LUTZ, Orangeville, Ill.—*Machine for Sawing Hoops.*—January 21, 1868; antedated January 17, 1868.—The pole is fed between top, bottom, and side guides, to the reciprocating saw.

Claim.—The construction and arrangement of the inclined fixed bearing E, having the pin *e* and concave head *e'*, spring F, provided with the horizontal roller G, and bent spring H, with concave arm *b*, as herein shown and described, for the purpose specified.

73,616.—JAMES B. LYONS, New Haven, Conn., assignor to LYONS PEAT, COAL, AND MACHINE COMPANY, New York, N. Y.—*Machine for Molding Peat.*—January 21, 1868.—The peat is forced by the rotating snail out through the series of spouts, and upon the drying trays, and the cylinders of peat are nicked so as to render them easily divisible.

Claim.—1. Delivering the peat, in rolls or bars, on the drying racks, for the purposes set forth.

2. The revolving marker E, with its blades *e e e e*, as arranged, in combination with the delivering mechanism and drying racks, substantially as herein described, for the purpose described.

73,617.—EDWARD MANICO, London, England, assignor to JOHN P. MANICO, New Orleans, La.—*Marine Foundation.*—January 21, 1868.—Patented in England October 23, 1857.—The angular crate is made of bars crossing each other at right angles, and riveted at the intersections. One side is removable, to allow the introduction of stones.

Claim.—The combination of parts and articles herein described, when the same are used for obtaining foundations for marine and other structures requiring them.

73,618.—FRANCIS B. MARDEN, Bangor, Me.—*Combined Potato Planter, Hoe, and Potato Digger.*—January 21, 1868.—The digger is detachable from the double plow. The plows are adjustable and operate upon both sides of the row simultaneously.

Claim.—1. The mode of operating the shaker F by an eccentric *b* and pitman *f*, so arranged and connected with the hanging irons *j j* that, by raising or lowering the handles to any given point, it does not prevent the free and easy working of the shaker F.

2. The digging point G, shaker F, finger reel E, comb P, with the eccentric *b*, pinion *a*, and driving wheel C, in combination with the journal boxes *h h*, having projecting axles *i i* for attaching the draught irons *j j*, when constructed and arranged substantially as and for the purposes herein set forth.

73,619.—JAMES S. MARSH, Lewisburg, Pa.—*Harvester Rake.*—January 21, 1868.

Claim.—1. The combination, substantially as described, of a main frame, supported upon two wheels, and a laterally-projecting platform and cutting apparatus, so hinged to the main frame that the cutting apparatus shall be in advance of the main axle, with a series of combined rake and reel arms, all revolving on a vertical axis, or one nearly so, on a support mounted on the platform, near its inner front corner, for the purposes set forth.

2. The combination, substantially as described, with a two-wheeled front-cut harvester, of a series of combined rake and reel arms, having a vertical axis, or one nearly so, on a standard or support, mounted on a hinged platform, near its inner front corner, the arms being independently hinged, and having a rising and falling movement independent of their axis of rotation, for the purpose set forth.

3. The combination, substantially as described, with a two-wheeled front-cut harvester, of the main frame between the wheels, the intermediate hinged coupling arms F^1 G, the cutting apparatus, and platform, and a series of rake and reel arms, pivoted to a crown wheel or central hub, revolving on a vertical axis, and driven by an extensible connection from the main axle, for the purposes set forth.

4. The combination, substantially as described, of two driving wheels, a frame arranged between the wheels and projecting beyond their periphery at either end, a laterally-projecting cutting apparatus, and platform pivoted to said frame by hinged connections, both in front and rear of the wheels, the cutting apparatus being in advance of the main axle, and a combined rake and reel, revolving on a vertical axis near the inner front corner of the platform, and always revolving outside of the wheels, for the purposes set forth.

5. The combination, substantially as described, in a two-wheeled front-cut hinged-bar machine, of a combined rake and reel, mounted on the inner front corner of a platform, suspended from the main frame by flexible connections attached to the coupling arms, and with the lifting devices attached to the rear end of the tongue, for the purposes set forth.

6. Attaching each of the rake or reel arms to their pivoted shanks by means of a slot and set screw or bolt, so that these arms can be adjusted and set to work at different heights above the platform, to suit different heights of grain, substantially as described.

7. The combination, substantially as described, with a combined rake and reel, mounted on the inner or gearing side of a grain platform, of the divider D^1, and inwardly-inclined removable deflecting board D^3, for the purposes set forth.

8. The combination, substantially as described, with a revolving rake and reel, mounted on a hinged platform, of an adjustable inner grain guard E, attached both to the shoe and to the inner curved guard D^4, for the purposes set forth.

9. The combination, substantially as described, with a two-wheeled front-cut machine, having a revolving rake and reel, mounted upon a hinged platform, of a lateral hinged curved brace or coupling arm, or its equivalent, attached to the inner side of the platform and main frame, in rear of the wheels, and suspended from the main frame by a chain or other flexible connection, for the purposes set forth.

10. The folding joints *g g*, or their equivalents, as a means of communicating motion to rake or reel arms, which are so supported as to move in harmony with a hinged platform, substantially as described.

73,620.—C. W. MARTIN, Mount Pleasant, Iowa.—*Buckle.*—January 21, 1868.

Claim.—1. The buckle, constructed as described, whereby the trace is passed under the end bar F of the part B, and over the convex side of the plate H, under the notched bar F, over the tongue M and beneath the bar K, as and for the purpose specified.

2. The buckle, constructed as described, consisting of the S-shaped frame B, having the loop G and concavo-convex plate H, and provided with the lugs D, to which the curved frame C is pivoted, said frame having the cross bars K L and tongue M fitting into the notch N of the end bar F of the part B, as herein shown and described.

73,621.—WILLIAM W. MARTIN, Alleghany City, Pa.—*Lubricating Car Wheels.*—January 21, 1868.—The interior of a car wheel has an oil reservoir, which communicates with an oil chamber in the opening for the axle. The oil hole passes through a radial projection into the reservoir, so that when the wheel is at rest the oil will not flow to the journal.

Claim.—The reservoir A, provided with projection O, furnished with an opening 3, for communicating between the reservoir A, chamber *n*, and opening B for the axle, the whole being constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

73,622.—NATHAN MAXEY, Plymouth, Ind.—*Bed Bottom.*—January 21, 1868.—The slats are connected together by metallic loops and links, and suspended from the bed rails by India-rubber loops.

Claim.—The slats C C, provided with loops D D

and collars G G, and connected to the side rails and end rails by the springs I I and *a a* and staples H and *e*, substantially as and for the purpose set forth.

73,623.—J. B. McCormick, St. Louis, Mo.—*Harvester Rake.*—January 21, 1868.—The grain is raked from the platform upon a tilting table, which is operated to deliver the gavel to the binders.

Claim.—1. Operating the pivoted rake head H by means of the fixed cam G, into the groove *f* of which the outer end of the rake arm F is fitted, in connection with the rods *j k* and the bent lever I, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The hinged table M, operated through the medium of the eccentric N, from the driving wheel B, substantially as set forth.

3. The combination of the rake H and hinged table M, constructed and arranged for joint operation, in the manner substantially as and for the purpose specified.

73,624.—Charles E. Merrifield, Indianapolis, Ind.—*Gate Latch.*—January 21, 1868.—The latch oscillates in a horizontal plane, and its inner end is connected to a weighted bell-crank lever, by which its free end is thrust outward. The knob spindle has an arm operating on the lever.

Claim.—1. The catch G, formed by a series of parallel flanges, in combination with a horizontally swinging latch F, substantially as described.

2. The combination and arrangement of the shank C, arm D, bell crank-formed lever E, and latch F, substantially as set forth.

73,625.—John H. Miller, Vernon, Ind.—*Animal Trap.*—January 21, 1868.—The bait is placed on a platform, whose descent trips the sliding doors at each side of the first chamber, and the rat, in entering the second chamber, treads on a platform and closes communication between the first and second, and resets the trap. The rat passes into the third chamber, beneath a rising, grated door.

Claim.—An animal trap, constructed with a case A, subdivided into compartments, with the openings closed by doors C C′, K, and L, which are actuated by means of the platforms G and H, trigger F, shaft D, and arms E and I, arranged to operate substantially as set forth.

73,626.—Nicholas B. Miller, Orion, Mich.—*Harrow.*—January 21, 1868.—The harrow has wheels, supporting it at a certain height.

Claim.—The frame A, teeth D D, bars B B, with wheels C C, and wheel E, when constructed, combined, and arranged as and for the purposes specified.

73,627.—John D. Mills, Dayton, Ohio.—*Paint Compound.*—January 21, 1868.—Composed of air-slaked lime, 5; oxide of zinc, 4; wood ashes, 3; soft sandstone, 2; and plaster of Paris, 1 part. Linseed oil and a dryer are added.

Claim.—The composition of the above named ingredients as a paint, and to be applied as I apply them, by grinding, bolting, oiling, and painter's brush.

73,628.—Rufus S. Mitchell, Elizabeth, Ind.—*Flour Scoop and Sifter.*—January 21, 1868.—The scoop bottom consists of a sieve, through which the flour is forced by the beater.

Claim.—A flour scoop, consisting of the sides A, having shoulders *a*, lip D, sieve B, wooden back C, beater E, and spring F, all constructed, arranged, and operating as and for the purpose set forth.

73,629.—Horace Molby, Davisburg, Mich.—*Corn Harvester.*—January 21, 1868.—The cutting frame is carried beside the wheel frame which is somewhat similar to that of a wagon. The corn is cut by the rotating cutter and carried by a lower and upper reel to the circular stand, which receives a semi-rotation by tightening the belt connecting a pulley upon its shaft with one on the main shaft. The turning of the stand presents the stalks to the operator who ties them into a bundle and places them upon the hinged frame which is operated by cords and is swung over to deposit the bundles on a wagon alongside.

Claim.—1. In combination with the frame A, provided with the rack D and cords *d d* and standards *a a*, the hinged frame C, rotary cutter, cord *s*, and lever T, arranged in the manner and for the purposes set forth.

2. The revolving platform K, with its bars L L and R, for supporting the cornstalks, and operating as and for the purpose specified.

3. The arrangement of the cutter wheel O with the revolving platform K and the reels P and *q*, substantially as and for the purpose specified.

73,630.—T. W. Moore, New York, N. Y.—*Culinary Apparatus.*—January 21, 1868.—The water draining from each one of the vertical series of steamers is returned to the boiler without contaminating the matters in the steamers lower in the series.

Claim.—1. Providing the inner side of the channel *a* at the joints with holes or recesses, substantially as and for the purpose herein shown and described.

2. The inclined channels *c*, when arranged within the vessels B and C along their walls for conducting the condensed steam back to the boiler, substantially as herein shown and described.

3. The steam way D, when arranged as described so as to convey the steam from the boiler into the upper vessels B C, and to reconduct the condensed steam to the boiler, as set forth, the steam way being either attached to the upper vessel B C, or to the boiler, or both, as described.

4. The perforated pipe D, when arranged as set forth, in combination with the recessed or perforated flange of the channel *a*, and with the inclined channel or channels *c*, all made and operating substantially as and for the purpose herein shown and described.

5. Making the bottoms of the vessels B and C inclined to one or more sides so as to guide the liquids to a certain desired point or points, as set forth.

6. The vessels B C having inclined bottoms and provided with pipes E and steam pipes D, in combination with a vessel B, as and for the purpose described.

7. The vessels A B C, when provided with perforated channels *a* and steam pipes D, and when otherwise made as described, in combination with the channel or channels *c*, pipe or pipes E, and vessel or vessels F, all made and operating substantially as herein shown and described.

73,631.—Duncan Morrison, Portland Me.—*Converting Reciprocal into Rotary Motion.*—January 21, 1868.—The oscillating arm has a pawl on each end. The pawls act alternately on the ratchet gear.

Claim.—The weighted swinging arm *a*, swinging on the pivot *b*, and the two pawls *c d*, one above and the other below the pivot *b*, and operating upon the gears *c f* alternately, so as to impart to the shaft *g* a continuous revolving motion, as described, together with the standard *x*, catch *w*, rod and pulleys *u t*, all arranged and operating for the purposes set forth.

73,632.—John F. Mullen, New York, N. Y.—*Top Prop for Carriages.*—January 21, 1868.—The screw has a left-hand thread and serves to prevent the escape of the right-hand screwed nut beneath it.

Claim.—The screw *f*, constructed and applied substantially as and for the purpose described.

73,633.—Heimann Neumann, New York, N. Y.—*Buckle.*—January 21, 1868.—The tongue turns upon one side bar and its point passes through a notch in the inner side of the other side bar. The tongue lies in the bight of the strap.

Claim.—The arrangement of a notch or recess in the side bar G of a buckle frame, substantially as and for the purpose described.

73,634.—Augustus W. Newell, Bradford, Pa.—*Steam Generator.*—January 21, 1868.—The fire box is made separate from the cylindrical part of the steam generator and is attached thereto by angle brackets. The steam and water spaces are connected by pipes with expansion joints.

Claim.—The construction of an adjustable fire box, as hereinbefore described, provided with suitable

fastenings C C, steam pipes D, with expansion joints E and proper water pipes F, arranged substantially as and for the purposes described.

73,635.—Samuel B. B. Nowlan, New York, N. Y.—*Arcade Railroad.*—January 21, 1868.

Claim.—The arcade road and railroad, constructed and arranged as described consisting of the roadways A, B, and C, the upper roadway supported by iron columns D, and having gas and water tubes *a*, and the second by masonry, through which the sewers *c d* and pneumatic dispatch K pass, said roads provided with open spaces F for the admission of light, and having the stairways E, substantially as herein shown and described for the purpose specified.

73,636.—H. J. Noyes, Ashtabula, Ohio.—*Tin-Ware Seaming Machine.*—January 21, 1868.—When the cylindrical part of the can is formed and the flange turned upon the bottom the seam is completed by the grooved roller and pressure head. The pressure head is drawn downward by a treadle and raised by a spring.

Claim.—1. The adjustable rotating gauge pressure head E with the spring F and support E″, constructed and operating substantially as specified.

2. The inclined rotatiug pressure head B, when constructed substantially as shown, and operating on the seam of the ware in the manner stated.

3. The rotating seaming head A, and slotted bearing C′, constructed and operating as described, in combination with the said pressure head B and adjustable gauge pressure head E, as and for the purpose specified.

73,637.—L. A. Oellig, Martinsburg, Pa.—*Dry-House for Fruit, &c.*—January 21, 1868.—The cylindrical dry house has an air register at bottom and a furnace whose flues pass upwardly between the rectangular sides of the trays and the shell.

Claim.—A circular dry house, made in sections of sheet iron or other suitable material, with drawers, furnace, pipes, and slides, arranged substantially as described.

73,638.—Charles W. Palmer, Lynn, Mass., assignor to L. B. Fraizer, trustee for C. W. Palmer, L. B. Fraizer, H. E. Palmer, and Charles Houghton.—*Machine for Finishing the Edges of Boot and Shoe Soles.*—January 21, 1868.—The edge of the detached sole is submitted to the action of the rotating rollers, which may be heated to increase their action.

Claim.—For the purpose of finishing the edges of detached soles, the machinery constructed and operating substantially as described.

73,639.—Charles H. Parshall, Detroit, Mich.—*Air Whistle.*—January 21, 1868.—The pump is double acting, discharging through valves at its upper and lower ends into a chamber having a whistle upon its head. This chamber is in communication with a cylinder in which a weight plunger gravitates to furnish a constant supply of air to the whistle.

Claim.—The combination of the pump B, the air chamber C, the cylinder E, plunger K, and whistle or horn A, constructed and arranged to operate substantially as set forth.

73,640.—John E. Pattison, Thibodeaux, La.—*Apparatus for Treating Cane Juice with Sulphurous Acid.*—January 21, 1868.—Improvement on his patent, September 11, 1866. The juice is retained at a fixed depth in the cylinder by the partition, and is raised by the revolving troughs and poured through the sulphurous acid gas with which the upper portion of the cylinder is filled.

Claim.—1. A stationary cylinder A, in combination with revolving troughs E, one or more or their equivalents, said troughs being contained within said cylinder and employed to raise and drop the juice in order to bring it under the effective action of sulphurous acid, substantially as described.

2. The projection or partition F, arranged and employed in the manner and for the purpose set forth.

3. The provision in the troughs E of the partitions *e′*, substantially as and for the purpose set forth.

73,641.—Henry W. Pell, Rome, N. Y.—*Harvester.*—January 21, 1868.—The object is to overcome side draught. A segmental bar is secured beneath the tongue. The lever to which the doubletree is connected is supported on anti-friction rollers tracking on a segmental bar attached to the lower side of the tongue.

Claim.—1. The segmental strap or guide-way D, mounted on the tongue A, in combination with the lever G, substantially as set forth.

2. The lever G in combination with the draught chain I, connected to the frame B, substantially as and for the purposes specified.

3. Mounting the whiffletree bolt in line with the tongue, or nearly so, upon the center of a lever fulcrumed at one end and at the other connected by a draught chain to the frame of the machine, substantially as described.

73,642.—Henry W. Pell, Rome, N. Y.—*Harvester.*—January 21, 1868.—The draw-bolt of the doubletree is pendent from the longitudinal bar, swinging on links beneath the tongue. The draw-chain is connected to the said bolt by a clevis.

Claim.—1. The longitudinal bar C, connected at each end to the tongue, by swinging arms B B′, and carrying a stud or bolt, D on which the doubletree and draught clevis are mounted, substantially as and for the purposes set forth.

2. One or more pairs of swinging arms, B, supporting the draught clevis and whiffletree bolt, vertically and laterally, and permitting their free play longitudinally beneath the tongue.

73,643.—Antonio Pelletier, Washington, D. C.—*Barrel and Cask for Containing Oil, &c.*—January 21, 1868.—A paint composed of red lead, 4 ounces, and silicate of soda, 1 gallon, is applied to the inside or both sides of a barrel.

Claim.—1. The composition consisting of silicate of soda and red lead united, as a coating for oil barrels and similar vessels, as described.

2. As a new article of manufacture, an oil barrel or similar vessel, when coated with the composition herein described.

73,644.—David Petticrew, Westville, Ohio.—*Garden Plow.*—January 21, 1868.—The fore end of the beam is supported on a roller, and the plow is driven by the person holding the handles.

Claim.—A garden plow, constructed with a single shovel, A, standard B, handles E, beam C, and wheel G, said parts being respectively constructed and arranged substantially as set forth.

73,645.—Samuel B. Pierce and Pembroke Pierce, Homer, N. Y.—*Concrete Roofing.*—January 21, 1868.—Composed of gravel, ground sand, asphaltum, ground sandstone, rosin, ashes, lime, coal tar, each 1 part, and "Roseudale" cement, 8 parts.

Claim.—The mixture of the above-named ingredients, when used substantially as and for the purpose specified.

73,646.—A. H. Potter, Williamsburg, N. Y.—*Chronometer Escapement.*—January 21, 1868.—Each of the teeth of the scape wheel comes in course in contact with each of the three pallets. The first pallet serves to lock and unlock only, and the others have movement with the teeth of the scape wheel. A pin on the roller carrying the last pallet enters the fork of an arm on the shaft of the other two pallets.

Claim.—The pallets B and B′, rigidly attached to the arbor K, in combination with the obtusely-pointed toothed escape wheel A A A, lever C, fork L, pin Q, roller R, and pallet D, all constructed, arranged, and operating substantially as herein described and specified.

73,647.—Onsville E. Pray, Portsmouth, N. H.—*Machine for Cutting Dye Wood.*—January 21, 1868.—The rotating drum has adjustable serrated cutters. The wood is fed on an inclined slide, and propelled by a toothed follower, actuated by a spur wheel and rack.

Claim.—The drum B, constructed as described, its radial arm *c* provided with chambers *d* in their outer ends for the reception of the adjustable cutters C, and

the periphery of said wheel, provided with transverse slots *dx*, as herein described, for the purpose specified.

73,648.—ANDREW J. PRESCOTT, Catawissa, Pa.—*Tool.*—January 21, 1868.—The tool is intended for cutting grooves in the sides of holes in flue sheets. The cutter is upon a hinged lever, whose inner end is thrust outward by a spring, and is drawn inward by the flaring portion of the feed nut, to project the cutter.

Claim.—1. The cutter shaft B, provided with the cutting projection *a*, pivoted in a slot in the mandrel, through an elongated hole, and adjusted in one direction by means of the pivot screw 2, substantially as herein set forth for the purpose specified.

2. The feed nut D, provided with a flaring mouth, in combination with the stop screw 1, mandrel A, and the cutter shaft B, constructed substantially as and used for the purpose set forth.

73,649.—WILLIAM RAYHILL, Pana, Ill.—*Corn Planter.*—January 21, 1868.—The seed slides are connected to a slide bar which is reciprocated transversely by levers, operated by cams, upon a wheel upon the axle. The rear end of the hopper frame is supported on an adjustable bar, and may be raised or depressed by treadles.

Claim.—The bars D D, wheel C, with its cams, slide F, and seed slides G G of the hoppers, arranged and used with the frames A A′, standard J, bar K, and lever I, substantially as and for the purpose set forth.

73,650.—ELIAS RHOADES, Sr., Clyde, Ohio.—*Horse Hay Fork.*—January 21, 1868.—The rod to whose lower end the projecting points are pivoted is retained in its lower position by a spring bolt which is drawn out by the tripping cord to release the hay.

Claim.—The cross-piece or head H, in combination with the bolt or slide I, lever J, spring K, rod D, and shaft A, all constructed, combined, and arranged to operate in the manner set forth.

73,651.—WILLIAM A. ROBINSON, Grand Rapids, Mich.—*Hame Fastener.*—January 21, 1868.—One of the bars is hung to each hame. The loop takes over the shoulder of the upper bar and the ratchet of the lower. The spring retains the loop in position on any slacking of the strain upon the hames.

Claim.—The combination of the grooved and ratchet bars A and F with the spring *d* and loose loop E, said loose loop operating in connection with the shoulders *b* and C, substantially as and for the purposes set forth.

73,652.—S. J. ROCKWOOD, Elsah, Ill.—*Candlestick or Holder.*—January 21, 1868.—The socket is tapering, to suit various sized candles.

Claim.—The conical or tapering-shaped socket or tube D, for holding a candle, substantially as and for the purpose described.

73,653.—SAMUEL ROEBUCK and JOHN ROEBUCK, New York, N. Y.—*Pulley and Block.*—January 21, 1868.—The cord runs freely in the central groove, but is clamped against the other roller by being made to take either of the spiral side grooves.

Claim.—The block A, when combined with the rollers C and B, of which the latter is provided with concentric and eccentric grooves, substantially as and for the purpose herein shown and described.

73,654.—P. H. ROOTS and F. M. ROOTS, Connersville, Ind.—*Rotary Blower.*—January 21, 1868.—The formation is similar to that of a two-headed rotary engine, although wood may be substituted for metal in some of the parts. The packing strips are metallic ribs, either cast with the case or radially adjustable therein.

Claim.—1. The packing strips *g g*, arranged substantially as herein shown and described, upon the interior surface of the case of a rotary blower, pump, or engine, to render the same tight.

2. The abutments A B or A′ B′, in combination with an enclosing case, rendered tight by means of packing strips, substantially as and for the purpose set forth.

73,655.—ABBOTT Q. ROSS, Cleves, Ohio.—*Safety Pocket.*—January 21, 1868.—The clamp is attached by studs to the sides of the garment, and the toothed jaws are drawn together upon the edge of the pocket.

Claim.—The within-described pocket safe, composed of the arms A A, provided with the slide C, lock-catch *d*, teeth *e e*, and blade *f*, the whole combined and arranged as herein set forth.

73,656.—T. F. ROWLAND, Greenpoint, N. Y.—*Sub-Aqueous Tube.*—January 21, 1868.—The outer casing of cement in form of blocks is attached by bolts, whose forked ends are riveted to rings of angle iron surrounding the metallic part of the tube. The blocks are connected together by tongues and grooves.

Claim.—The application to the exterior of a sub-aqueous iron tube of blocks composed of cement, tile, or other suitable material, secured to the tube by tongues and grooves and bolts, in the manner substantially as herein shown and described.

73,657.—ELIAS SHOPBELL, Ashland, Ohio.—*Lifting Jack.*—January 21, 1868.

Claim.—The standard A, provided with a tenon *a*, and pivoted at A′ to the lever B, the rack C passing through a slot in the lever, and pivoted at *b* to the standard, when arranged and combined as herein described for the purpose set forth.

73,658.—FRANZ G. SIEMERS, Winona, Minn.—*Ice-Cream Freezer.*—January 21, 1868.

Claim.—1. An ice-cream freezer, provided with vertically-moving concave scrapers, arranged to operate substantially as described and for the purpose set forth.

2. The combination of the rotating case B and vertically-moving concave scrapers L, when constructed and arranged to operate substantially as described.

3. The rotating case B, provided with the socket O and the locking stud *d*, constructed and arranged to operate as set forth.

73,659.—ISAAC J. SILER, Arcanum, Ohio.—*Churn.*—January 21, 1868.—The spiral-armed dashers rotate in opposite directions within the oblong cream-box.

Claim.—The spiral arms F, and their arrangement with reference to the two shafts C C, forming a churn-dasher, substantially as and for the purpose specified.

73,660.—DARIUS SKIDMORE, Seneca Falls, N. Y.—*Billiard-Table Cloth.*—January 21, 1868.

Claim.—A new manufacture of billiard-table cloth, consisting of cotton, linen, or other cloth, coated on the surface in the manner of preparing oil-cloth, but with dead colors, substantially as and for the purpose described.

73,661.—JOHN SOWLE, Boston, Mass.—*Hinge.*—January 21, 1868.

Claim.—Slitting or dividing the pin or spindle *a*, made of tempered steel or other metal, so that it will produce the required degree of friction within the hinge, substantially as and for the purpose set forth.

73,662.—HENRY SPEELER, Trenton, N. J.—*Fire Grate.*—January 21, 1868; antedated December 21, 1867.—The steam pipe passes longitudinally through the grate bar and throws jets of steam from its upper surface.

Claim.—The within-described grate bar A, provided with the tube B, bent as described, the upper portion of said bar and tube being perforated as specified, and used substantially as and for the purposes set forth.

73,663.—CHARLES F. SPENCER, Rochester, N. Y.—*Lamp.*—January 21, 1868.

Claim.—1. So arranging and combining the parts of the burner that the chimney is located below the level of the spur-wheel shaft, and in close contact with the lamp body, and made to inclose the said shaft, as herein set forth.

2. The combination, with the chimney, of any suitable gear that will impart motion to the wick by simply turning the chimney, as herein set forth.

3. The arrangement of the revolving cap C, serv-

ing both as the support for the chimney and as the gear for actuating the wick, as herein set forth.

73,664.—Stephen Spoor, Phelps, N. Y.—*Lamp.* January 21, 1868.—The reflector plate is placed above the cone and attached thereto. It has an aperture for the passage of smoke and serves to reflect the light downward.

Claim.—A shade E, within the chimney A, arranged and operating substantially as and for the purposes herein set forth.

73,665.—William Stevenson, Alleghany City, Pa.—*Puddling Furnace.*—January 21, 1868.—An additional chamber is furnished which is heated by the caloric current from the puddling furnace, and in which the pig-iron is heated.

Claim.—In combination with a puddling furnace, the heater G, arranged substantially as and for the purposes described.

73,666.—H. H. Storrs, New York, N. Y.—*Locking Knob Latch.*—January 21, 1868.—When the latch enters the recess in the door jamb, and the locking bolt is forced back by contact with the jamb, the locking bar engages a stud and locks the latch until raised by a key.

Claim.—The combination of the locking bar *b*, pivoted to the latch bolt, with the bolt F and latch bolt B, substantially as shown and described.

73,667.—Benjamin F. Stover, Ladoga, Ind.—*Washing Machine.*—January 21, 1868.—The roller is attached by connecting arms to uprights, and runs over the clothes upon the curved bottom of the suds box.

Claim.—The arms I and J and rods *a* and *b*, and uprights K, combined, substantially as shown, with the roller H and bottom surfaces F and G, all as set forth.

73,668.—Enoch Swain, Lewistown, Pa.—*Wheel Tightener.*—January 21, 1868.—The tire has a groove around its inner side which receives the projections on the screw caps at the end of the spokes, and the tire is held upon the wheel by this means.

Claim.—The combination of the circumferential grooved tire *s* with the screws C D and spoke, constructed as described, for the purposes set forth.

73,669.—J. F. Tapley, Springfield, Mass.—*Ruling Machine.*—January 21, 1868.—Adjustable cam stops are arranged on the drum cylinder which acts in connection with the rulers, and a gate which regulates the feeding of stock to the rulers.

Claim.—The combination, with the drum B, of two sets of adjustable cams *e e*, &c., one set at one end of the drum operating the pen board or bar, and the other set the stop gate, substantially as shown.

73,670.—William J. Tate, New Haven, Conn.—*Adjustable Spirit Level.*—January 21, 1868.

Claim.—1. The adjustable spirit level, consisting of the box B, provided with the perforated projections *a*, through which the screw bolts *b*, surrounded by the springs *d*, pass, and the adjusting nuts *e*, working in the recesses of the case A, as herein described, for the purpose specified.

2. The combination of the adjusting nuts *e* and springs *d* with the perforated flanges *a* of the box D, and the screw bolts *b*, as herein described, for the purpose specified.

73,671.—Zalmon Taylor, New York, N. Y.—*Drawer Truss.*—January 21, 1868.—The garment has a metallic strap which gives bearing to the pad.

Claim.—The strap C, or its equivalent, (when the pad is arranged therein, substantially as and for the purpose set forth,) whether the same is elastic or non-elastic.

73,672.—William G. Thomas, Centralia, Pa.—*Gauge Cock for Boiler.*—January 21, 1868.—The valve stem is thrust in by the screw bolt.

Claim.—The combination of the screw E with the valves D and H and parts B and C, substantially as shown and described.

73,673.—Ira F. Thompson, Providence, R. I.—*Knife Cleaner.*—January 21, 1868.—The box has small openings to admit the knives between the adjustable, ribbed, rubber plates.

Claim.—1. The knife cleaner, formed of the rubbers *f*, introduced with the box *a*, and provided with the pins or screws *g*, as and for the purposes set forth.

2. The elastic septum *e*, fitted as specified, in combination with the said rubbers *f*, box *a*, and pins or screws *g*, as and for the purposes specified.

73,674.—Theodore R. Timby, Saratoga, N. Y.—*Paper Cutter.*—January 21, 1868.—The angular knife is retained inside its cylindrical case by a spring, and is projected through the periphery by a thumb knob which projects through the curved slot in one side of the case.

Claim.—1. The paper cutter, so constructed that when the knife is thrust out its cutting edge will form an acute angle with the edge of the case.

2. The slot F, adapted and employed to guide the paper to the edge of the knife, substantially as set forth.

73,675.—John Tipton, Malaga, Ohio.—*Hoof Expander.*—January 21, 1868.—The serrated ends of the arms are placed between the heels of the shoe and forced apart by the screw.

Claim.—The instrument above described, when constructed substantially as and for the purpose specified.

73,676.—Henry Turner, New York, N. Y.—*Feeding Apparatus for Flocking Machine.*—January 21, 1868.—The box has radial agitators on a vertical, rotating shaft. The endless apron passes up one side and has cups carrying up the material and conveying it to the hopper of the tearing cylinder. The material is forced down upon the tearing cylinder by reciprocal plungers.

Claim.—1. The automatic feeding apparatus for flocking machines, consisting of the box A, provided with stirrers or agitators *m*, in combination with the apron E, when the same is provided with cups *f f*, and in combination with the plungers J and K and hopper F, all made and operating substantially as herein shown and described.

2. The plungers J and K, when made of different lengths, and when attached to cranks that project from the rock-shaft at different angles, substantially as and for the purpose herein shown and described.

73,677.—George Twigg, Birmingham, England.—*Corkscrew.*—January 21, 1868.—The handle is secured to the top of the main screw when inserting the spiral into the cork, and is turned down, parallel with the screw, while resting upon the bottle top to draw the cork. The barrel is bisected at bottom and the sections drawn inward by the slide ring, and has an India-rubber bearing on the bottle neck.

Claim.—1. The handle *e*, in combination with the shank *a*, swivel *f*, and nut *d*, as shown in Fig. 1, substantially as described, for the purpose specified.

2. The handle *e*, in combination with the set screw *i* and groove *k*, as shown in Fig. 6, substantially as described, for the purpose specified.

3. The handle *e'*, in combination with the screw *a*, pin *l*, and clutch-piece *m*, as shown in Fig. 8, substantially as described, for the purpose specified.

4. The rubber ring or band *v'*, Fig. 3, in combination with any bell or barrel *b*, Fig. 1, substantially as shown and described, and for the purposes set forth.

5. The split barrel *w*, Fig. 14, in combination with the ring or ferrule *r*, substantially as shown and described, and for the purposes set forth.

73,678.—Thomas Walsh and Augustin Walsh, New York, N. Y.—*Bucket for Dredging Machines.*—January 21, 1868.—The semi-cylindrical dredger is bisected and the sections separated when lowered down upon the mud. In raising, the toggle levers draw the sections together.

Claim.—The arrangement of the jointed levers *e*, shaft *b*, guide rods *h*, shaft *d*, chain *e*, and buckets *a a'*, when the shaft *d* is adapted to be drawn down to the shaft *b* by the chain *e*, for opening the buckets, the guide rods *h* passing through the shaft *d*, as herein shown and described.

73,679.—JOHN E. WATKINS, Smithfield, Ky.—*Railroad Rail Clamp or Chair.*—January 21, 1868.

Claim.—1. The combination of the flanged clamp C, brace key K, and tightening key F, when secured in position upon the rails by means of the spikes passing through the flange C^1, the key K and the base plate C^2 upon the outside of the rail, and by the wedge-shaped spikes A, passing through the flange C^3, key F, and base plate C^2 upon the inside of the rail, as herein shown and described for the purpose specified.

2. The combination of the flanged or dovetailed clamp C, brace key K, tightening key F, and wedge-shaped spikes A, with each other, substantially as herein shown and described, and for the purpose set forth.

73,680.—EDWARD WATTIS, Jr., Philadelphia, Pa.—*Fastening Metallic Collars to Bottles.*—January 21, 1868.

Claim.—1. Fastening the collars to the necks of bottles by spinning or expanding the metal beneath the projecting lips or flanges of bottles when the necks are not grooved. or by spinning the same into a groove or grooves in the neck, substantially as described.

2. Preventing the metallic collars of bottles from turning round by forming one or more flat sides on the lips or flanges, and fitting the collars thereto, substantially as described.

73,681.—WILLIAM WEILER, Washington, N. J.—*Car Coupling.*—January 21, 1868.—The lever supporting the link is held by a catch upon a pin that is thrust backward by the approaching bumper, and allows the link to fall upon the hook.

Claim.—The catch *f* and lever *h*, arranged on one of the bumpers of a railway car, for supporting and releasing the link, substantially as set forth.

73,682.—JAMES H. WHITE, San Francisco, Cal.—*Hydrocarbon Burner.*—January 21, 1868.

Claim.—1. The combined use of the products of decomposed steam and wet or ordinary steam, each being introduced separately, and in such proportions as may be required, into a gas holder or mixer, for the more perfect combustion of the vapor of hydrocarbon oils, substantially as described.

2. The superheating and decomposing apparatus, consisting of the cylinders J J′ and I, and the gas or supply tube within the mixer or holder D, substantially as described.

3. The horizontal cylinders or mixers D D, having openings or burners entirely around their circumference, on the under side as well as the others, which causes them to be more effectually heated, and also prevents their filling or being clogged by a residuum.

4. The combination and arrangement of the interior perforated tubes or pipes F, *g*, and *d*, with the exterior cylinders or mixers D D, substantially in the manner and for the purposes set forth.

5. In combination with the above-claimed apparatus the perforated air tube L, for supplying hot air to render the combustion of the vapor and gases issuing from the mixers more perfect.

73,683.—PAUL WILLIAMS, Winona, Mass.—*Cotton Press.*—January 21, 1868.—The lever is connected to the follower at one end, and has a cylindrical nut at the other which rocks in bearings at the other end of the lever, and is engaged by a screw which is stepped in the frame.

Claim.—1. Combining the lever beam A with the screw H, follower J, and thrust beam M, to form a cotton press, substantially as shown and described.

2. The partially revolving tap I, combined with its recess *m* and the screw H and lever beam A of a cotton press, substantially as shown and described, and for the purpose specified.

73,684.—JOHN HENRY WOOD, Trenton, N. J.—*Wagon for Unloading Coal.*—January 21, 1868.—The cart has a jointed chute attached to its rear part through which the coal may be delivered to the hole leading to the cellar.

Claim.—1. The attachment of a funnel-shaped or incline mouth D, of any material, to the rear or side of a cart or wagon, as herein described, and for the purpose set forth.

2. The valve or gate E at the end of the mouth D, or in the chute or tube G, when combined, as herein described, and for the purpose set forth.

3. The hinged or sliding chutes or tubes H, when attached to an open mouth, or to the end or side of a cart or wagon, for the purpose herein set forth.

73,685.—ALEXANDER WRIGHT, Allegheny City, Pa.—*Plow.*—January 21, 1868.—The mold board and share of the hillside plow turn over above, and are secured by a sliding rod in reach of the operator.

Claim.—A plow constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

73,686.—GEORGE S. ZEIGENFUSS, Doylestown, Pa.—*Wagon Clip.*—January 21, 1868; antedated January 16, 1868.—The thill irons are engaged by hooks at the ends of the clips, and retained therein by hook-headed bolts.

Claim.—The segmental head *d*, having a screw *e*, which passes diagonally through the curved projection *a* on the end of the thill iron A, for the purpose of securing the looped thill iron B, all constructed and used as specified.

73,687.—ESTES ABBOTT, Willoughby, Ohio.—*Construction of Milk Cans.*—January 28, 1868.—The cylindrical part and the bottom and top are each made of one piece of metal. An annular space is left between the down-curved edge of the bottom and the side, which is filled with solder. The cam is strengthened at its bottom, top, and mid-height by metallic bands, which are soldered in place by immersing that portion of the cam in melted solder and causing it to rotate.

Claim.—A new and improved milk can, as described, constructed in the manner substantially as herein set forth.

73,688.—HIRAM ARNOLD, Gowanda, N. Y.—*Well Tube.*—January 28, 1868.—The end of the point is conical and its shoulder ribbed to enable the turning of the outer tube upon the inner one, to which the point is secured. The water apertures in the inner tube are inclined slots.

Claim.—The combination of the interposed shoulder *f* of the driving point C, and the interposed section of tubing *i*, with the external tube H H′ and internal tube A, said interposed portions being of a different material, for the purpose of relieving the parts in contact from the injurious effect of the concussion in driving, constructed and arranged substantially as set forth.

73,689.—HAYDEN M. BAKER, Rochester, N. Y., assignor to himself and H. M. FRENCH, Springfield, Mass.—*Manufacture of Soda and Sulphuric Acid.*—January 28, 1868.—"Salt cake" is decomposed with silicic acid and charcoal, at an elevated temperature and within close vessels, forming silicate of soda, and liberating sulphurous acid. The resulting silicate of soda, while in solution with water and at a boiling temperature, is decomposed by caustic lime.

Claim.—1. The recovery of sulphuric acid from salt cake by the use of silicic acid, with or without charcoal, in the manner herein described, or any other process substantially the same.

2. The decomposition of the silicate of soda with quicklime, in the manner herein described, or any other manner substantially the same, and which produces the same intended results.

73,690.—E. U. BENEDICT, Chicago, Ill.—*Car Spring.*—January 28, 1868.—Each end of the spring has two bearings at different distances from its mid-length, and the car has a central and two side bearings, which operate as stated, to graduate the tension of the spring to the load.

Claim.—1. A spring, so applied between bearings that the weight of a light load is sustained about midway of the length of the spring, and the weight of a heavy load is sustained near the ends of the spring, the manner of application being also such that the resisting power of the spring is proportionately increased according to the increase of the

weight to be sustained, all substantially as herein described.

2. The upper bearing, block or blocks, so constructed and applied upon a spring, that the weight of a light load is sustained at the middle of the length of the spring, and the weight of a heavier load transferred nearer the ends of the spring, substantially as described.

73,691.—D. K. Boswell, Columbus, Ohio.—*Fruit Drying Apparatus.*—January 28, 1868.—The sides are connected by girders whose dovetailed tenons enter suitable mortises in the said sides, which thus give each other mutual support. The doors are hinged to the sides, and the back fits between them, and is held by the top.

Claim.—1. The herein described dryer, when constructed in sections so that it can be taken apart and put together, in the manner and for the purpose substantially as set forth.

2. The top B′, when constructed so as to form an air chamber H, provided with ventilations I, dampers F′, in combination with the walls of the dryer, for the purpose and in the manner substantially as described.

3. The flue L, jacket I′, as arranged, in combination with the chamber H, in the manner as and for the purpose set forth.

73,692.—Frederic Bucknam, Portland, Me.—*Reversible Frying Rack.*—January 28, 1868; antedated January 11, 1868.—The article to be cooked is inclosed in a wire frame which turns in a bail. The frame is placed in a vessel containing the heated medium, (as fat or water,) and may be inverted therein.

Claim.—The reversible frying rack, substantially as herein set forth and described.

73,693.—G. W. Cilley and G. H. Spaulding, Norwich, Conn, assignors to The American Molded Collar Company.—*Machine for Molding Paper Collars.*—January 28, 1868.—The collar is inclosed between the two curved plates which are hinged together, and forced inward upon the collar by cams.

Claim.—1. The two flexible clamping plates or formers A B, in combination with eccentrics *h* and handles *i*, for closing and bending the same, substantially as and for the purpose specified.

2. The cams or eccentrics *h*, handles *i*, hinge straps *f*, and bars *g*, in combination with the clamping plates A B, springs *m*, and supporting piece *n*, substantially as and for the purpose specified.

73,694.—G. F. J. Colburn, Newark, N. J.—*Composition of Matter.*—January 28, 1868.—Asbestos is mixed with shellac to increase its strength when used as an adhesive.

Claim.—1. Doing away with the frangibility of gum shellac by means of asbestos, as specified.

2. Increasing the strength and tenacity of shellac, in the manner described.

3. Rendering the shellac less liable to the action of heat by the incorporation with it of asbestos, in the manner specified.

4. The compound, substantially as and for the purpose named.

73,695.—John Collins, Jr., and N. R. Nickson, Richmond, Ind., assignors to N. R. Nixon, Thomas Nickson, and Allen T. Bennett.—*Rag Cutting Machine.*—January 28, 1868.—The cutters are attached to a hub rotating beneath the table, and traverse a slot in the table top. A guard protects the operator, and has a portion removed to allow introduction of rags.

Claim.—The combination of the knives *n n n*, arranged upon the shaft *c*, with the guard plate A, all constructed and operating substantially as and for the purposes described.

73,696.—Emil Cornely, Washington, D. C.—*Sewing Machine.*—January 28, 1868.—The length of the looper is increased in the direction of its axis, and a projection made upon it. The auxiliary looper displaces the thread on the former looper in such manner that the needle in descending will not enter the loop of its own thread, but will enter the extended loop of the auxiliary reciprocating looper, forming the double-thread stitch.

Claim.—1. The combination with the revolving looper, constructed as described, of an auxiliary looper, under the arrangement described, whereby a Wilcox and Gibbs machine, without changing its functions as a single-thread machine, may be used as a double-thread machine, substantially in the manner and for the purposes described.

2. Operating the reciprocal auxiliary looper, when combined with a rotary looper, constructed as above described, by means of a circular eccentric, substantially as and for the purposes set forth.

3. The combination of the driving-mechanism of the reciprocal looper with the driving-mechanism of the rotary looper, by means of a reciprocating lever, receiving its movement by means of an oblique pin on the connecting-rod of the eccentric of the main shaft.

4. In combination with the lever N, for driving the reciprocating looper, of the coupling and uncoupling device, substantially as and for the purposes described.

73,697.—Thomas Crane, Fort Atkinson, Wis.—*Knitting Machine.*—January 28, 1868.

Claim.—1. The mechanism, substantially as described, for allowing the cam plate, by which the needles are moved, to have an oscillating motion, substantially as described.

2. Mechanism, substantially as described, for the adjustment of the needles in front of the cam plate H, when it is desired to throw some or all of the needles out of action, substantially as described.

3. The attachment of the arm J, or its equivalent, directly to an oscillating cam plate H, which is provided with a pivot *f*, about which it moves, substantially as described.

4. The combination of an adjustable work holder D, and an adjustable jack, substantially as described.

5. The spool or yarn holder F, with the tube I, or the equivalent thereof, constructed to operate substantially as described.

6. The bow spring G, applied to the reciprocating perforated arm C^2 in such manner as to lift the yarn between the two passages *c d*, on its way from the spool to the work, said spring being so constructed as to keep an even tension upon the yarn, with little or no friction, substantially as described.

7. A setting up device, S *t*, constructed with its hooks *t*, all arranged in the direction of the length of the plate S, as shown and described.

73,698.—William G. Creamer, Brooklyn, N. Y.—*Signal Rope Guide.*—January 28, 1868.—The uprights are spread at the upper end so as to form a guide for the entering rope, and one of them has a gravitating latch which prevents the escape of the rope.

Claim.—The application to the roofs of railroad cars of a pulley guide for the signaling rope, substantially as described, and for the purposes mentioned.

73,699.—Thaddeus Donely and J. B. Cressler, Southampton, Pa.—*Adjustable Shovel Plow.*—January 28, 1868.—The plow beams are so connected to hand levers that they may be moved transversely or vertically, and raised from the ground either simultaneously or independently.

Claim.—1. The combination of lever L with subordinate levers *l l*, and their attachments, pawls and springs, when operating upon the sleeves S S, substantially as described.

2. The combination of lever L with sleeves S S and shaft s^1, to move laterally, substantially as described.

3. The arrangement of levers T^2 T^1, and *t*, in connection with the tongue, substantially as described.

4. The use of a central plow, F, detachably arranged, in connection with the side plows, substantially as described.

5. The combination of lever L and its attachments, forming a combined lever, with vertical and horizontal motions, coincident when necessary and convenient, together with the adjustable devices T^2 T^1, and *t*, all operating together, substantially and for the purposes specified.

73,700.—Martin Henry Dooly, Atlanta, Ga.—*Railway Switch.*—January 28, 1868.—The pitmen

at both ends of the switch are connected to cranks on a longitudinal rock bar beside the track, and are operated simultaneously by a hand lever.

Claim.—The elongated crank shaft D, connecting with the sliding bars J and C by the pitmen *e* and K, in combination with the rails A′, A′, A″, and B′, and the target-signals, whereby the switch rails and signals are shifted simultaneously, and the ordinary "frogs" dispensed with, substantially as specified.

73,701.—Ezra Philo Doty and Ellis Doty, Janesville, Wis., assignors to themselves and William M. Doty, New York, N. Y. — *Washing Machine.*—January 28, 1868.

Claim.—1. The segmental arm for carrying the washboard, the center of the curve of said arm being the pivot or axis upon which it oscillates, substantially as and for the purposes herein shown and described.

2. The combination with the segmental arm, of a radial arm, which, while uniting the segmental arm with its pivotal point, constitutes a socket for the lever handle, substantially as and for the purposes set forth.

3. Forming the bowed or segmental arm, which carries the washboard of angle iron, so as to reduce the size of the opening in the tub, through which the said arm plays, without detracting from the strength of the arm itself, substantially as shown and set forth.

4. The combination, with the wash tub, of a hinged cover and spring, or its mechanical equivalent, applied to the cover-hinge in the manner described, so that the cover may be readily adjusted to or removed bodily from the tub, substantially as and for the purposes shown and set forth.

5. The combination with the legs, when united with the wash tub by a tongue-and-grooved joint, as described, of the braces or handles, extended between the legs, and attached to each, in the manner and for the purposes shown and set forth.

73,702.—Timothy Drake, Hartford, Conn.—*Adjustable Hoe.*—January 28, 1868.—The blade is attached to a shank whose head turns in a socket at the end of the handle. The head has a segmental rack engaged by a rack upon a gib which is secured by a key or taper screw. The blade may be set to any angle in relation to the handle.

Claim.—The mode of construction and arrangement of the blade *a*, shank *b*, shank and head *c d′*, gib *e*, fastening screw *f*, substantially as described.

73,703.—R. G. Elder, New York, N. Y.—*Baking Pan.*—January 28, 1868. — The openings between the supporting sections, and the perforations in the bottom are to allow a circulation of heated air beneath the lower crust.

Claim.—A baking dish, provided with a sectional or broken rim, *b*, under, and holes, *a*, in its bottom, substantially as and for the purposes described.

74,704.—Charles H. Embree, West Dresden, N. Y.—*Gate.*—January 28, 1868.—One of the rails of the gate slides on a sheave in the swivel hanger block. The gate is moved endways into balance, and is then swung open. The swivel stem is adjustable in its socket to give means for vertical adjustment of the gate.

Claim.—The arrangement and use of the adjustable extension stem *g* and the inclined slots *l l* with the swiveled suspension loop C, operating in the manner and for the purpose herein set forth.

73,705. — Lewis Emmons, Hamilton, Ohio.—*Grate of Cooking Stove.*—January 28, 1868.—The supplementary grate is supported on end plates whose edges rest upon the bottom and back of the main fireplace. The grate has perforated back and bottom plates, and a deflector projecting nearly vertically from the latter.

Claim.—The elevated removable fireplace for cooking stoves, constructed and used in the manner substantially as and for the purpose described.

73,706.—John A. Evarts, West Meriden, Conn., assignor to Bradley and Hubbard, same place.—*Match Safe.*—January 28, 1868.—The front, including the bottom, is cast with lugs upon it, and the back plate is cast upon the same.

Claim.—The match safe herein described, consisting of the front and back, constructed from cast-metal, and the two parts united in the manner described, as a new article of manufacture.

73,707.—A. Farrow, Carrolltown, Ill.—*Gang Plow.*—January 28, 1868.—The plow beams are vertically adjustable by levers both at the fore and rear ends.

Claim.—1. The combination and arrangement of the lever C, link *c*, and traction connections *b b*^{1}, herein shown and described.

2. The lever C^1, arm C^2, sector C^3, rack C^4, and plow beam B, when combined and operated substantially in the manner and for the purpose herein shown and described.

73,708.—J. Melledge Flagg, Providence, R. I.—*Stamp Moistener.*—January 28, 1868.

Claim.—The combination of the elastic reservoir *a*, the perforated cup or top *b*, the absorbent material *d*, and the wire-gauze support, substantially as and for the purpose specified.

73,709.—Edwin W. French, South Scituate, Mass.—*Sewing Machine.*—January 28, 1868.—The object is to sew tubular work, as hydraulic hose. The looper is contained in a tube, and is reciprocated by a bar in such a manner that one or more rows of stiches may be sewn in the hose.

Claim.—1. The combination, with a tube, a looper, and a folding mechanism, of a sewing and feeding mechanism, substantially such as described, so that the material being operated upon may be fed and sewed successively forward and backward, and around the tube, so as to connect the edges of the material, and the ends of portions of the same, all in one continuous operation, substantially as described.

2. The feed formed of the parts *n* and *p*, in connection with the presser-bar, and operated through a system of levers by the action of the needle-bar, as set forth.

3. The combination with a presser-bar of a pawl and ratchet, substantially as and for the purpose set forth.

73,710.—John A. Frey, Washington, D. C.—*Lamp.*—January 28, 1868.

Claim.—1. The water chamber making a part of the burner, when provided with an oil-feeding duct, and a water-feeding duct, with the wick tube passing through the same, and nearly or entirely surrounded by water, arranged and combined, substantially as described.

2. The deflection in the top of the cone *g*, as and for the purpose set forth.

73,711.—Wilson Garrison and Charles H. Stevens, Syracuse, N. Y.—*Halter.*—January 28, 1868.—The connections and buckle attachments are made by iron plates, which are riveted to the leather.

Claim.—1. The metallic eye H, constructed by two hooked plates being clamped upon each other, and upon their strap, substantially in the manner and for the purpose set forth.

2. The method of securing the opposite parts of the metallic connections to each other, and to their straps, namely, one plate provided with pins or projections *h′*, and the opposite plate with corresponding holes *h*, in connection with a binding screw or rivet J, as and for the purpose set forth.

3. The transverse rib *j*, with corresponding recess in the opposite plate, at the junction of the plates, as herein shown, and for the purpose described.

4. The combination of buckle P^1 with the double securing plate M *m*, as herein shown, and for the purpose described.

5. The cross-bar *r*, substantially as and for the purpose set forth.

6. In connection with the cross-bar and tongue *r* R, the shoulder *s*, to improve the downward-bearing surface of the tongue, substantially in the manner described.

73,712.—Robert Grant, Brooklyn, N. Y.—*Apparatus for Charging Water with Carbonic Acid.*—January 28, 1868; antedated January 17, 1868.—The portable cylinder is filled with gas under a pres-

sure of from 450 to 600 pounds to the inch. The cylinder is connected to the regulator; the gas is turned on with the pressure regulated to 90 pounds. The water tank is then filled with water; the gas is then turned on the water, the fans being revolved to assist the absorption. The water is drawn through the mixing coil and is intimately mixed with the gas by the injector.

Claim.—1. The cylinder A, regulator C, injector P, water tank B, and regurgitating valves 2 and 3, arranged and operated as described, and shown in the drawings, or otherwise modified, for the purpose set forth.

2. The continuous automatic process of compressing carbonic acid or other gases in water by the means substantially as described, and for the purposes above set forth.

73,713.—THEODORE GUYOL, New Orleans, La.—*Metallic Tie for Cotton Bales.*—January 28, 1868.

Claim.—In connection with a copper or other suitable wire, for encircling and fastening bales of cotton or other baled material, a metallic saddle A, with its brace *c*, constructed and operating to hold the two ends of the wires, substantially as herein described and represented.

73,714.—JOSEPH HADFIELD, New York, N. Y.—*Machine for Cutting Soap.*—January 28, 1868.—The slab of soap is placed on the slotted table, and is carried beneath the printing cylinder and to the wire cutters, by which it is converted into printed bars. The printing cylinder is dampened from a roller covered with saturated flannel. The racks actuating the table are connected therewith by a spring catch, which is automatically freed by a cam on reaching the end of the stroke.

Claim.—1. The combination and arrangement of the movable table C, the follower D, and the racks E E, which are attached, as specified, to the follower, substantially as described.

2. The arrangement and combination of the latch K, attached to the table C, with the cam J, for the purpose of detaching the table from the follower, substantially as described.

3. Making the follower D separate and detachable from the rest of the machine, and attaching it thereto by means of removable pins *n n*, substantially as described, for the purpose of being able to change the follower at pleasure.

4. The arrangement and combination, with the printing roller M, of the bars G H, and the gear wheels F, F^1, F^2, and I, substantially as and for the purpose described.

5. The moistening roller Q, arranged and combined with the printing roller M, substantially as and for the purpose described.

6. The cutting frame R, made substantially as described, with the truss V, and straining screws X X Y, for tightening the wire *z*.

7. Making the several cutters of the cutting frame of a single strand of wire, substantially as described.

8. The transverse cutting wire *f*, combined and arranged substantially as described, with the sliding rods *c*, the slotted tubes *d*, the springs *e*, and the shaft B, whereby the soap is divided transversely during the return movement of the table.

73,715.—GUSTAVUS P. HARDING, Chiswick, England.—*Apparatus for Drawing Tapered Tubes.*—January 28, 1868; patented in England September 14, 1865.—The faces of the series of "wordles" form a circular die, whose diameter is increased or diminished by the movement of the "wordles" upon their pivots. This movement is effected by a rack and gearing operated by the longitudinal movement of the dies.

Claim.—The combined arrangement herein described, with reference to figures 1 to 8 of the drawings, consisting of the parts *h h i j* j^1 j^2, with suitable gearing for giving motion thereto, when a tube or rod is being drawn by hydrostatic or other power, substantially as above described.

73,716.—J. MOORE HENDRICKS.—Philadelphia, Pa.—*Rice Hulling Machine.*—January 28, 1868.—The rotating stone has radial arms which act on the cuticle in connection with the wire gauze surface of the inclosing cylindrical case. From the stone the grain passes to the mortar, and is beaten by the ribbed pestle. From the mortar it passes to a horizontal cylindrical chamber having wire gauze at the sides, and containing a rotating cylinder with corrugated curved arms. From the latter the rice passes to the polishing cylinder.

Claim.—1. The cylinder *o*, in combination with its shaft and corrugated curved arms *q*, for chafing the cuticle, and removing the same from the rice, substantially as set forth.

2. The combination of the mortar and pestle *k l*, the cylinder *o*, (with its shaft *p*, and corrugated arms *q*,) and the polishing cylinder *u*, with its covered drum, all constructed and arranged in the manner and for the purpose substantially as set forth.

73,717.—CHARLES W. HERMANCE, Saratoga, N. Y.—*Stone Drilling Machine.*—January 28, 1868.—On rotation of the wheels, the pitmen connected thereto act alternately on the cross head by means of the pawls. When the cross head with the drill rod is sufficiently raised, the pawl is tripped by the bevelled plate, and the rod descends by force of the spring, aided by gravity. The drill receives partial rotation at each stroke by a ratchet wheel upon the drill rod above the cross head, and operated by a pawl.

Claim.—1. The arrangement of the follow blocks E and their lifting pawls *e*, with the cross head H and its lugs *a*, and the plates *o*, for the purpose of lifting and discharging said cross head, as is herein set forth.

2. In combination with the cross head H and rod I, thus operated, ratchet wheel K, lever J, and slotted guide L, all constructed as described, for the purposes set forth.

3. In combination with the follow blocks, pawls, and cross head, carrying the drill rod, the arrangement of the pitmen F F and wheels G G, all constructed and operating substantially as described.

73,718.—ORLANDO M. HIGGINS, Lowell, Mass., assignor to himself and FREEMAN HIGGINS, Manchester, N. H.—*Stove Pipe Coupling.*—January 28, 1868.—An adjustable, endless, metallic band is arranged between oblong heads, which have inwardly projecting flanges, forming bearings for the edges of the band. Each side of the band has a tubular projection for application of a stove pipe. The object is to make connection between portions of a stove chimney which are out of line with each other.

Claim.—1. The endless metal band *a* and coupling tubes A, combined with the heads *b*, for the purpose, and substantially as described.

2. The heads *b*, constructed as described, whereby the endless metal band may be adjusted, substantially as set forth.

3. The partition E and screws *g*, combined with the heads *b* and endless band *a*, as and for the purpose set forth.

4. The dampers F, combined with the partition E, heads *b*, and endless band *a*, in the manner and for the purpose substantially as described.

5. In combination with the head *b*, the slide *k* and holes *h*, for the purpose and substantially as described.

6. The perforated movable disk or stand *m*, applied to the top of the case or heater, as and for the purpose described.

7. The combination of all the correspondent parts specified, arranged for action and effect substantially as described, and for the purposes specified.

73,719.—ALONZO HITCHCOCK, New York, N. Y.—*Producing a Vibrating Swell in Organs.*—January 28, 1868.—The fan is divided into sections, the vanes of the adjacent sections standing rectangularly to each other.

Claim—The construction of a fan in sections, substantially as described, for the purposes herein set forth.

73,720.—MARTIN V. B. HOWE, Gardner, Mass., assignor to himself and LEVI HEYWOOD, same place.—*Wood Bending Machine.*—January 28, 1868.—The coupling links have each two disk-like heads connected by a neck. The heads enter segmental cavities in the link blocks of the bending chain.

Claim.—The coupling links *a*, or their equivalents, for connecting the ends of the links A of a chain for bending timber, constructed to operate substantially as and for the purpose set forth.

73,721.—Martin V. B. Howe, Gardner, Mass., assignor to Heywood Brothers & Co., same place. —*Tilting Chair Seat.*—January 28, 1868.—The seat is connected by springs to the cross bar at top of the rear legs, and when tilted backward comes in contact with the spring top, which is connected to the cross bar and the top round of the front legs.

Claim.—1. Connecting the seat of a chair to the rear posts E F, or their cross bar D, by means of springs *b*, substantially as and for the purpose set forth.

2. The stop *e*, in combination with the above, substantially as and for the purpose specified.

3. The springs *b*, constructed, applied, and operating substantially as and for the purpose set forth.

73,722.—A. G. Hunter, Flint, Wales. —*Manufacture of Soda and Potash.*—January 28, 1868.—Common salt is converted into silicate and carbonate of soda and caustic soda, and chloride of potassium into silicate and carbonate of potash, and caustic potash, with the production of muriatic acid from the chlorides. The chloride is subjected to heat to volatilize it, and the chloride vapor acts on highly heated silica in presence of aqueous vapor, whereby silicate of soda or potash and muriatic acid are produced. The silicate of soda or potash is rendered soluble by fusion with carbonate of soda or potash respectively. The soluble silicate is dissolved in water and converted into the corresponding carbonate by treatment with carbonic acid, or into corresponding alkali by treatment with caustic lime, baryta, or magnesia.

Claim.—The process substantially as herein described of decomposing chloride of sodium and chloride of potassium, for the purpose of converting them into silicated, carbonated, or caustic alkali.

73,723.—Seth T. Hutchins, North Anson, Me., assignor to Horace A. Lathrop, Sharon, Mass.—*Spoke Shave.*—January 28, 1868.—The gauge plate is adjusted by the abutments at its ends, and is pivoted at one end so as to be thrown back when sharpening the cutter.

Claim.—1. The combination of the separate abutments D E, applied to the stock A, so as to be adjustable, in manner as described, with the gauge C hinged to one of such abutments, and being separate from the other, and to operate with respect to it, substantially as explained.

2. The application of the gauge to its adjusting devices, so as to be removable from them or either of them, and the knife, when the means of the adjustment of the gauge is held stationary relatively to the stock, as described.

73,724.—W. L. Imlay, Philadelphia, Pa.—*Closing Fruit Jars.*—January 28, 1868.

Claim.—1. The rectangular recess or cavity E, in the neck of the jar, with its inclined and corrugated side F, retaining the bail and tightening it by sliding the bail over the corrugations, as shown and described.

2. The combined arrangement and construction of the jar A, cover B, bail or loop C, with its springs D, plain round recess G, rectangular and inclined recess E, corrugations F, substantially as and for the purposes specified.

73,725.—Asa A. Jennings, Webster, N. Y.—*Dumping Cart.*—January 28, 1868.—The wagon box is divided transversely, so that the portion over each axle may be tilted by itself to dump the load.

Claim.—In combination with the pivoted sections B B, the rigid sides *f f* of the body A, and the transverse and longitudinal braces *x x* and *y y'*, connecting the same with the bolsters, substantially as and for the purposes set forth.

73,726.—John C. Johnson, Philadelphia, Pa.—*Soda Fountain.*—January 28, 1868.—The fountain is constructed of one piece of metal, with a sufficient oblong opening in the bottom to give access for lining with incorrodible enamel. An oblong head is inserted through and brought to cover the opening in similar manner to the hand-hole head of a steam generator. Access is had through a pipe screwing into the top of the vessel.

Claim.—A soda-water fountain, which is constructed with a contracted perforated bottom, and a flanged foot piece B, and provided with a removable bottom C, fitted within said fountain, upon a seat which surrounds an oblong opening *c*, and held in place by means of a screw *b*, and external cap or bar D, substantially as described.

73,727.—Moses A. Johnson, Lowell, Mass.—*Felted Fabric.*—January 28, 1868.—The bat is formed as stated to give greater strength and elasticity by running the fibres in various directions.

Claim.—The manufacture of felt cloth, by forming the bat, and as it is fed to the felter, of a series of side drawings or rovings, laid together lengthwise or crosswise, or lengthwise and crosswise both, and run in from spools, creels, or otherwise, substantially as herein described and represented.

73,728.—Charles Kane, Pittsburg, Pa.—*Dies for Heading Bolts.*—January 28, 1868; antedated January 16, 1868.—The faces of the ledges are inclined toward the axis of the bolt as they extend from the round part.

Claim.—The inclining of the plane of the ledges in the direction of the griping dies, and from the axis of the bolt, in combination with pressing surfaces parallel to the axis of the bolt, as specified.

73,729.—Charles H. Kimball, Quincy, Mass. —*Casket for Preservation of Corpses.*—January 28, 1868.—The coffin has an upper and lower compartment. The lower has a rack to sustain the body, and has communication with the upper one to allow the descent of cool air therefrom. The upper compartment has a metallic floor, and a drain pipe, and contains ice.

Claim.—1. The ice chamber or casing *a*, in combination with the compartments A and B, as and for the purpose set forth.

2. The ice chamber *a*, in combination with the compartment A and air spaces *s*, as and for the purpose specified.

3. The casing or opening *b*, in combination with the ice chamber *a*, as and for the purpose set forth.

73,730.—Henry Lake, San Francisco, Cal.—*Japan Paste Blacking.*—January 28, 1868.—Composed of ivory black, 14 pounds; molasses, 8 pounds; alum, ¼ pound; indigo, ¼ pound; soda, ¼ pound; water, 7½ pounds; vinegar, 8 pounds; sulphuric acid, 5 pounds; and solar oil, 4 pounds.

Claim.—The making of a superior article that I call the Japan Paste Blacking, of the commodities specified, and substantially as set forth.

73,731.—Stephen M. Livingston, Clavcrack, N. Y.—*Hay Raker and Loader.*—January 28, 1868; antedated January 17, 1868.—The side levers of the rake frame are pivoted near their midlength to the elevator frame, and cords attached to their ends pass to a windlass at the fore end of the wagon. The rake is raised from the ground by winding up the cords. On release of the cords the rake is depressed by the springs, which bear against the lower sides of the levers.

Claim.—1. The combination, substantially as described, of the rake, the balance levers, the rope and windlass, whereby the rake can be controlled from the front of the wagon, as set forth.

2. The combination, as described, of the rake arms or balance levers, mounted on the detachable frame, with the pressure springs mounted on the main frame.

73,732.—James A. Loomis and Alonzo Johnson, Springfield, Mass., assignors by mesne assignments to Charles Gifford, of Gardner, Me.—*Calculating Machine.*—January 28, 1868.—A flanged disk is fixed to the handle and has a central arbor upon it, upon which turn two disks. The fixed plate is marked around its flange from 1 to 100, and the upper disk is similarly marked near to its periphery. The two moving disks turn together, except that for each circle

the lower one drops behind one figure, thereby registering 100, seen by referring to the dial plate. The units are counted by a pointer which turns on the arbor, and which fits into holes in the dial plate, carrying the same around as far as needed. The pointer moves a small disk each time it is moved, to indicate the number of pieces measured.

Claim.—1. The plates A, D, and E, when connected by the pins *b* and *e*, respectively, and when operated by means of the pointer H, all made substantially as herein shown and described.

2. The plates A, D, and E, and pointer H, in combination with the pawl *j*, plate G, and ratchet disk I, (or I and J,) all made and operating substantially as herein shown and described.

3. The device for counting the hundreds, consisting of a combination of the spring F with the lug *o* on spring *n*, and with the disks A D E and pin *m*, all made and operating substantially as herein shown and described.

73,733.—Wheaton Luther, Niagara Falls, N. Y.—*Bleaching Cloth, Yarn, &c.*—January 28, 1868.—The material is boiled in lime water, rinsed, immersed in dilute sulphuric acid, and after the liquid has permeated the fabric it is immediately immersed in the bleaching liquid; after this it is again, without rinsing, immersed in the dilute acid and then rinsed.

Claim.—1. By the use of the chemicals herein mentioned, or by those which produce equivalent results, the process substantially as herein described.

2. Immersing the article in the bleaching mixture while it is saturated with the acid.

73,734.—F. W. Maes, Iserlohn, Prussia.—*Buckle.*—January 28, 1868.—The tongues are upon the ends of the loop, and pass through the journal spindle. The spindle turns in sockets formed in the ends of the bow.

Claim.—A buckle composed of a separate axle *b*, perforated to admit the tines *d d*, and provided with journals at its ends which fit into boxes *e e*, formed by the ends of the bow *a*, as set forth.

73,735.—Henry S. Magrane, Hoboken, N. J.—*Button Fastening.*—January 28, 1868.

Claim.—An improved button fastener, made in substantially the form and manner herein shown and described, as a new article of manufacture.

73,736.—Thomas H. McCulloch, Monmouth, Ill., assignor by mesne assignments to the Hart Grain Separator Company.—*Grain Separator.*—January 28, 1868.—The cylinders have cavities on their faces which admit a grain of wheat, but are too short to admit an oat, so that the wheat is carried over to the receptacle, but the oats are brushed back and carried out at the proper outlet.

Claim.—1. The employment of one or more cylinders, with cellular convex surfaces, arranged and operating substantially as and for the purposes specified.

2. In combination with said cylinders the employment of a brush or brushes, arranged and operating as and for the purposes specified and shown.

73,737.—W. L. McDowell, Philadelphia, Pa.—*Ash-pit Cover for Stoves.*—January 28, 1868; antedated January 14, 1868.—The cover has a register and turns on hinges at its lower corners. It is retained by gravity in either its open or closed position.

Claim.—The gravitating plate E and the sloping side plates B B′, in combination with the hearth plate A and the front plate C of a stove, substantially as and for the purpose set forth and described.

73,738.—R. M. McGrath, Lafayette, Ind.—*Thimble Skein.*—January 28, 1868.—The ends of the spindle and box are strengthened by bands of wrought iron.

Claim.—As a new article of manufacture, the thimble skein, of cast-iron, with wrought-iron bands or supports, as herein set forth.

73,739.—Henry Meigs, Jr., Bergen Point, N. J.—*Priming Metallic Cartridges.*—January 28, 1868.—The radially-slotted, perforated iron disk has a fulminate chamber on its under side. The outer edges of the disk are thinned down and compressed to permit it to drop into the shell, and it is then expanded by pressure so as to fit closely in the flange of the shell.

Claim.—1. The thin-edged, radially-slotted, centrally-perforated iron-disk anvil, constructed as described.

2. The combination, as described, of the flange shell, the radially-slotted, centrally-perforated, thin-edged iron-disk anvil, and the central fulminate chamber, all constructed and arranged as described for joint operation.

73,740.—Henry Mellish, Walpole, N. H.—*Machine for Making Wooden Bowls.*—January 28, 1868.—The solid cylindrical blank is clutched by the rear end in the lathe, and its forward end turns in the cylindrical rest, which is adjustable longitudinally, and gives fulcrum bearing to the lever carrying the curved cutting tool. The blank is rotated, and the bowl cut by sweeping the lever around a curve of 90°. The necessarily increased thickness of the bottom gives opportunity to remove a plano-convex disk to form a flattened bottom.

Claim.—1. The hollow cylinder E, when constructed with the cutter guide H, or its equivalent, substantially in the manner and for the purpose above described.

2. The concavo-convex cutter G, when arranged in combination with the cylinder E to swing in a circle corresponding to its curve, substantially in the manner and for the purpose above described.

3. The cutter *l*, when constructed and arranged to operate with the cutter G and lever F, or its equivalent, substantially as and for the purpose above specified.

73,741.—George Metcalf, Leland, Ill.—*Brick Machine.*—January 28, 1863.—The mold is carried in a horizontal, longitudinally-reciprocating bar, which lies beneath the pug mill, and extends through the vertical, reciprocating frame carrying the cover and press block. The cover is moved above the mold by a button on the forward movement of the mold bar, and the levers which are pivoted to the vertically-reciprocating frame engage the cover and press-block to compress the brick. After the pressure the button is freed from its holding plate and releases the cover, which is left by the sliding bar, and the lever frame is still further raised by another lever to eject the brick.

Claim.—The vertically-oscillating frame H, with its levers A, B, and C, the mold cover E, press block D, and mold bar M, with button and slide F and *u*, all combined and arranged to operate substantially as and for the purposes set forth.

73,742.—L. H. Miller, Baltimore, Md.—*Permutation Lock.*—January 28, 1868.—A pair of notched wheels is mounted on the spindle and derives a common rotation therefrom. The wheels are so connected as to have a limited independent rotation. During the continued rotation of these wheels the hinged arm of the lock bolt rides on their peripheries; but if the spindle is slightly reversed when in certain position the said arm engages the notches in the wheels and enables the throwing of the bolt.

Claim.—1. A permutation lock, so constructed as to bring the spindle or arbor which operates it on the outside of the lock proper, substantially as set forth.

2. The two wheels F G, capable of limited independent motion, in combination with a suitable catch, adapted to engage with the said wheels F G, when they are properly adjusted, and at other times riding on the unbroken periphery of the two wheels, substantially as explained.

3. The flaring or under-cut rim m^2 of the rotary tumblers, to adapt them for ready removal by hand, substantially as explained.

4. The combination of the notches m^3, radial holes m^4, and pin Q *q*, when constructed, arranged, and employed substantially as and for the purposes specified.

73,743.—Myron H. Monroe, Rochester, N. Y.—*Potato Masher.*—January 28, 1868.—The lower face

of the masher consists of a coil, and it is attached to the handle by ribs.

Claim.—The combination of the coil *a*, stays or braces *b b b b b*, and handle *c*, all in the manner and for the purpose herein set forth and described.

73,744.—AUGUSTUS W. NEWELL, Bradford, Pa.—*Spring Bed Bottom.*—January 28, 1868.—The ends of the longitudinal spring slats are curved down and attached to the cross-bars, into whose ends the casters are inserted. The head and foot rails are secured to the slats.

Claim.—The combination of the braces E G, the boards F H, with the springs A, the cross-bars C, the casters D, and the webbing I, when constructed and operating substantially as and for the purposes described.

73,745.—ABRAHAM G. NEWKIRK, Warren, Pa.—*Lamp Chimney Cleaner.*—January 28, 1868.—A wire is bent shortly at midlength and a section of a handle attached to each end. A wash cloth is secured in the bend, and the bisections of the handle secured together by dowel pins.

Claim—The rod or wire B B, constructed and bent in the form substantially as shown, and arranged in the manner and for the purpose specified.

73,746.—HENRY E. NEWTON, Manchester, N. H.—*Blacking Brush.*—January 28, 1868.

Claim.—1. The combination of the angularly-surfaced block *c*, the angular handle *f*, and the back *e*, all in one piece, connected to block *a*, substantially as set forth.

2. The combination of the block *c*, handle *f*, and back *e*, in one piece, substantially as described.

73,747.—W. T. NICHOLS, Rutland, Vt.—*Hay Raker and Loader.*—January 28, 1868.

Claim.—1. A combined hay rake and hay wagon, in which the rake is made the wagon bed, whereby the separate uses and purposes of a hay rake and hay wagon can be accomplished by one and the same machine, using the same for either purpose at will, and by which hay and grain can be raked and loaded at the same time without any intermediate appliance other than the rake itself, substantially as set forth and described.

2. The device of a rake, which for purposes of transportation may be raised to form a part of the bed of a wagon for carrying the hay gathered thereon, substantially as and for the purposes set forth and described.

3. The combination of the unloading rope H and gathering rake A, or their equivalents, substantially as and for the purposes set forth and described.

4. A rake having four or more ground or carrying wheels, so that it may be used both for raking and carrying the hay when raked.

5. A coupling device for connecting the rear and forward parts of the machine, substantially as described.

6. The combination of the rake A, hoisting lever N, and hinged clapper K, or their equivalents, substantially as and for the purposes set forth.

7. The teeth extending in rear of their supporting axle, so that the rake and its load may be balanced upon said axle or nearly so, substantially as and for the purposes set forth.

73,748.—W. T. NICHOLS, Rutland, Vt.—*Hay Stacker.*—January 28, 1868.—Two frames have a common brace in position of a hypothenuse. The rectangular corners are hinged to base pieces set at a distance apart and the load being attached to the depressed end of the brace piece is raised by drawing down the upper end of the said piece.

Claim.—A hoisting machine for unloading hay or other purposes, composed of a lever beam B attached to four or more legs A, revolving upon fulcra H H, operated by rope C, or their equivalent, substantially as set forth and described.

73,749.—A. M. OLDS, New York, N. Y.—*Folding Basket.*—January 28, 1868.—The bottom is bisected and folds up against the sides, which are flattened together diagonally. The sections of the bottom are sufficiently wide to form mutual support when their free edges fall together.

Claim.—1. As an improvement in the art of constructing baskets, boxes, or crates, forming the sides of a series of slats or bars, united at the corners by means of a wire or rod passing through them, and pivoting the same together, so as to permit the article to be folded, substantially as described.

2. The folding bottom, when constructed and arranged to operate substantially as set forth.

73,750.—GARRET J. OLENDORF and ALBERT O. PARSHALL, Middlefield, N. Y.—*Poling Hops.*—January 28, 1868.—The top of each pole has connection by a cord to the lower ends of poles upon opposite sides of it.

Claim.—The herein described combination and arrangement of the poles A, cords B, and rings C, as and for the purpose set forth.

73,751.—GEORGE T. PALMER, Brooklyn, N. Y.—*Filter.*—January 28, 1868; antedated January 16, 1868.—The filtering material is contained in perforated receptacles which are removable from the case. The case has several sections, and the supply and exit pipe may be connected with either of them by valves so that all may be used or any one shut off to allow renewal of the filtering material.

Claim.—1. The combination and arrangement of the filters B B′ B″, water channels H and *a*, valves *i i′ i″* and *b b′ b″*, and stop-cocks *k k′ k″* and *l*, in manner substantially as shown and for the purpose set forth.

2. The removable filter B, having an inside water chamber *g*, provided with a neck or pipe *o*, all constructed substantially as shown.

3. The ribs *f* and *s* on the inside of the perforated plates *c c*, arranged in relation to each other, substantially as set forth and for the purpose specified.

4. The arrangement and combination of the coarse wire supporting screen D with the perforated plates *c c*, fine wire confining screen E, and filtering medium F, as and for the purpose shown and described.

5. A filter containing chest having casing A A, partitions A′ A″, water channels H and *a*, valves *b b′ b″* and *i i′ i″*, and cocks *k k′ k″*, arranged substantially in the manner shown.

73,752.—WILLIAM B. PATTON, Harrisburg, Pa., assignor to himself, THEOPHILUS WEAVER, and ISAAC LLOYD, same place.—*Railway Switch.*—January 28, 1868.—The wing of the key is slotted to receive the shank of the key bolt, which is drawn back by turning the key. The key is then inserted further and is turned to unlock the switch bolt. The key cannot be withdrawn until the switch is moved so as to complete the main track, when it is turned backward, and the switch bolt again springs upward and locks the switch.

Claim.—1. The arrangement of a lock shield and key, in combination with the shifting mechanism of a railroad switch, so that the key can only be withdrawn from the lock when the switch has been returned to the main track, and been locked in that position, substantially as set forth.

2. The guard L, in combination with the key 2, and a lock, attached to the shifting mechanism of a railroad switch, substantially in the manner and for the purpose set forth.

73,753.—HENRY WARD POOLE, South Danvers, Mass.—*Enharmonic Key Board for Organs, &c.*—January 28, 1868.—The object is to enable the player to execute the melodies and harmonies in perfect tune, or without temperament, and without the use of pedals or the usual mechanism.

Claim.—1. The four broad white keys, and the three elevated black keys, in each octave and in each signature, arranged in the positions and relations substantially as described and shown.

2. The arrangement of keys divided into the five series of key notes, thirds, perfect sevenths, dominant thirds, and dominant sevenths, each series being uniform in shape, color, and size, but different from the other series, substantially as described and figured.

3. The pedal key board, containing the three rows of pedals for the three series of sounds, key notes, thirds, and sevenths, arranged in a series of fifths, substantially as shown and described.

73,754.—GEORGE PURPLE, Wellington, Ohio.—*Neck Yoke Slide.*—January 28, 1868; antedated January 16, 1868.—The slide is placed on the breast strap and preserves it from the wear of the neck yoke ring. Side claws prevent accidental disengagement of the ring.

Claim.—A slide, constructed in the manner as described, as a new article of manufacture, for the purpose set forth.

73,755.—BARNEY REAR, Toronto, Canada.—*Spring Bed Bottom.*—January 28, 1868.—The spiral springs are attached to the slats by metallic sockets. The side pieces are detachable, and the longitudinal slat connections are flexible, to permit the rolling up of the mattress.

Claim.—The combination of the springs E, sockets F, and webs C, C, supported by a frame having detachable side pieces A, substantially as and for the purposes set forth.

73,756.—JOHN REYNOLDS, San Francisco, Cal.—*Preparation of Dye.*—January 28, 1868.—Yellow prussiate of potash is dissolved in hot water, to form a solution of a gravity of 20° B. A stream of chlorine gas is passed through the solution in sufficient quantity to prevent precipitation.

Claim.—A new article of manufacture in a preparation for dyes of the materials specified, and substantially as described.

73,757.—SAMUEL RUE, jr., Chester County, assignor to himself, SAMUEL MCCAMBRIDGE, and EDWARD G. MARTIN, Philadelphia, Pa.—*Injector for Steam Generator.*—January 28, 1868.—The water nozzle is on a piece sliding in stuffing boxes, so as to render that nozzle adjustable in relation to the steam nozzle.

Claim.—The construction and arrangement of the receiving chamber A with its nozzle B, the water-receiving chamber C, and adjustable plug E, substantially as hereinbefore described.

73,758.—JOHN W. RUSSELL and DAVID JOLINE, Tottenville, N. Y.—*Anchor.*—January 28, 1868.—The shank is double. The heads are pivoted. On the outer sides of the arms at the base of the blades are spurs, to assist in turning the lower arm from the shank.

Claim.—The combination of the double and pivoted flukes with the double shanks of the anchor, when constructed substantially in the manner and for the purpose as herein described and shown.

73,759.—T. S. SCRANTON, Madison, Conn.—*Gauge for Sewing Machine.*—January 28, 1868.—The obliquely-ribbed guide is set upon the work so as to have equal pressure on the whole surface, and may be detached from the gauge, and the latter used singly.

Claim.—The arm C, combined with the elastic guide D, the said guide being attached to the arm C, and the said arm made elastic at or near its connection with the gauge by the reduction of the said arm, substantially as herein set forth.

73,760.—JOHN C. SHAW, Manayunk, Pa.—*Condensing Carding Machine.*—January 28, 1868.—The slotted plate is adjustable in respect to the end of the rubber roller, and has bearing against the same, to prevent lost motion in the reciprocation of the said roller.

Claim.—In combination with the collar D of the roll C and bracket A, the slotted plate B, and set-screw E, substantially as and for the purpose set forth.

73,761.—A. SHELDON, Greenwich Station, Ohio.—*Fence.*—January 28, 1868.—The rear end of the gate rests on bars connecting two heel posts. In opening, the gate is slipped backward on the bars, and when at a balance is swung open.

Claim.—The bar a', provided with rounded corners, so that the gate on being opened will easily vibrate, as indicated by the dotted lines d, thereby allowing it to pass readily over obstructions, in combination with the rails A, cross bars B, in the manner and for the purpose specified.

73,762.—ANTONIO F. SMITH, Ellsworth, Me.—*Stove Drum.*—January 28, 1868.—The smoke passes beneath the edge of the deflecting plate, up inside the frustum, and is discharged into the inclosing case from which it issues through a side opening. Opposite the exit is a chamber having a register and connected by pipes with the discharge opening at the mouth.

Claim.—1. The arrangement as well as the combination of the hollow frustum B with the deflector D, and the box A provided with induction and eduction passages or conduits b E, arranged in it as specified.

2. The arrangement as well as the combination of the auxiliary air chamber F and its air register or valve, and opening or openings with the box A, the frustum B, or the said frustum and its deflector D, the whole being substantially as specified.

73,763.—WILLIAM SMITH and EMERY M. PIKE, McDonough, N. Y.—*Carriage Top.*—January 28, 1868.—The umbrella is secured to the seat in such manner as to admit of an inclination in any direction or of removal.

Claim.—1. The construction of the sleeve c, the brace stay d and o, when made and used as and in the manner described.

2. The sway piece g, when made and used as and for the purpose described.

3. The arrangement of the sway piece g, and the brace stay and segment o and d, in combination with the sleeve c and spring b, for tilting and holding the top in any desired position.

73,764.—JOSEPH STEGER, New York, N. Y.—*Car Starting Apparatus.*—January 28, 1868.—The traction bar is allowed some longitudinal movement, and is secured to a chain winding upon a drum. The end of the drum has an eccentric wrist pin carrying a draw pawl engaging a ratchet wheel upon the fore axle.

Claim.—The springs e e, in combination with the traction bar H, rope or chain a, lever pawl I, drum G, and ratchet wheel D, all constructed and operating substantially as and for the purpose set forth.

73,765.—J. F. WALTER, Jr., New York, N. Y.—*Metallic Lathing.*—January 28, 1868.—The sheet metal is punched with slots whose burrs are turned out to hold the plaster.

Claim.—1. Sheet-metal lathing, formed with oblong apertures A A, B B, the same being punched in the metal, so as to produce the projecting lips or burrs a a, at the edges thereof, substantially as herein specified.

2. The overlapping or "break-joint" arrangement of the alternate rows of apertures A A and B B, substantially as and for the purpose herein set forth.

73,766.—GEORGE C. WESTOVER, Paducah, Ky.—*Combined Churn and Ice Cream Freezer.*—January 28, 1868.—The cream is placed in the inner cylinder, and the ice in the annular space between the cylinders.

Claim.—The revolving inside cylinder H, pivot J, beaters K K, and wire wing L, when arranged, combined, and operated as herein described, and for the purposes set forth.

73,767.—JOHN H. YOCUM, Ashland, Pa.—*Grate.*—January 28, 1868.

Claim.—1. The provision, in a grate, of one or more openings E, to permit the removal of slag, clinkers, stones, and other substances too large to be raked through the interstices of the grate bars, substantially as described.

2. The bars or shields F, in combination with the enlargements or extensions G, to form shields to the openings E, substantially as and for the purpose set forth.

73,768.—H. R. ALLEN, Charleston, Ill.—*Apparatus for Straightening Club Feet and Crooked Legs.*—January 28, 1868.—The jointed frame is attached by straps, and has pads and adjustable spring bars by which the abnormal state of the lower member is corrected.

Claim.—1. The employment of a jointed frame, substantially as shown at A B D C D′, and straps E F G, in combination with any constant spring tension applied to the said frame for the purpose of

straightening it when on the limb, and thereby overcoming any anchylotic rigidity of the knee or angle joints of the said limb, all as set forth.

2. The vertically movable foot plate J, substantially as shown and described, in combination with its proper spring attachment, as described, or other equivalent device, and frame plates C, all as and for the purposes set forth.

3. The laterally moving foot plate I, in combination with the bearing plates L and O, and lateral spring attachment, all substantially as shown and described, and for the purposes set forth.

4. The lock S, substantially as shown and described, or other equivalent device, in combination with the frames A and C, substantially as and for the purpose shown and described.

5. The spring attachment, consisting of the hooked wire *f'*, shoulder lugs *k'*, springs *g'*, and burr *i*, constructed and operated substantially as shown and described, in combination with the foot plate J and frame plate C, for the purpose of removing anchylosis, all as set forth.

6. The foot strap G, or other equivalent device, in combination with the movable foot plates J and I of an apparatus for straightening feet or lower limbs, all substantially as shown and described, and for the purpose set forth.

7. The elastic strap H, or other equivalent device, applied, substantially as shown and described, to the frame plate A of an apparatus for removing anchylosis, all as and for the purpose set forth.

8. The metallic strap P, or other equivalent device, in combination with the strap G and movable foot-plates J and I, substantially as and for the purpose shown and described.

73,769.—NATHAN E. BADGLEY, New York, N. Y.—*Broom.*—January 28, 1868.

Claim.—The combination of the scalloped-edged cap D, its neck E, the tying of broom corn in one place, and securing the same with cord C to the square end of handle B, all as and for the purpose herein described.

73,770.—A. MILTON BLAKE, Canton, Ohio.—*Spring Bed Bottom.*—January 28, 1868.—The slats are connected by transverse canvas straps beneath them, and are supported on springs whose upper ends surround the cylindrical blocks beneath certain of the slats.

Claim.—The arrangement and combination of the slats F G, straps D D, bungs H H, and springs A A, when said slats F G are so arranged as that each alternate one is supported by a spring A, and the others by the straps D D, substantially in the manner and for the purpose herein specified.

73,771.—ELIJAH BORTON, Morris, Ill.—*Operating Pumps.*—January 28, 1868.—The segmental racks upon the pivoted blocks and lever, operate the pump rod by oscillation of the lever.

Claim.—The eccentric segment F, supported at *b* upon the bed piece B, the eccentric semicircular gears upon the lever D sliding vertically in the slot *i*, the upper eccentric segment E sliding vertically in the slotted frame B', and pivoted to the arm G carrying the pump rod C, all constructed and arranged to operate as herein shown and described.

73,772.—CHARLES BRADFORD and WESLEY BRADFORD, Crown Point Centre, N. Y.—*Rein Holder.*—January 28, 1868.—The bar is clamped to the plow beam, or other implement, or to the vehicle, and serves to support the lines which are passed through the terret eyes.

Claim.—The bar A, having the worm *a* at its lower extremity, in combination with the eyes *b* and clamp C, in manner substantially as above set forth and described.

73,773.—LIBERTINE BULLARD, Marlboro, Mass.—*Shoe*—January 28, 1868.—The vamp is cut so as to place the side seam vertical, and in position similar to that of a boot. The vamp may be cut so as to run one seam to the center of the heel and dispense with one "quarter."

Claim.—The combination of the parts A or A', B and C, constituting, respectively, the vamp, quarter, and counter of a shoe, when the said parts are cut in the form and secured together in the manner shown and described.

73,774.—J. H. BUNNELL, New York, N. Y.—*Telegraph Repeater.*—January 28, 1868.

Claim.—1. The employment of two governor magnets, placed in the same local circuit as the respective local sounders in a telegraphic repeater, when the said governor magnets are there placed for the purpose of making the repeater self-breaking and controlling its operation, substantially as herein shown and described.

2. A governor magnet, wound with wire of such relative size and resistance to that upon the local magnet, as that when both are included in the local circuit, the governor magnet shall be charged while the local magnet is not.

3. The combination of fine wire governor magnets, as herein described, with the regular local batteries and sounder magnets of a repeater, as and for the purpose set forth.

73,775.—J. CALDWELL, Chillicothe, Ohio.—*Vegetable Cutter.*—January 28, 1868.—The sliding box containing the material has notches to permit its passage over the vertical scoring knives, which act on the said material previously to the horizontal knife.

Claim.—1. The rear extension B, in combination with the platform A and horizontal knife D, substantially as herein set forth and described.

2. The box E, provided with the grooves *e* in the bottoms of its walls, substantially as herein shown and described.

73,776.—JAMES CAMPBELL, Peoria, Ill.—*Ventilating Millstones.*—January 28, 1868.—The hoods are set with their mouths forward to force air down the pipes within the stone, causing it to circulate between the grinding surfaces.

Claim.—The hoods *g g*, and the pipes *e e*, passing through the cap-piece B', the channels *e' e'* in the runner B, the washer *c*, the flange *h*, and the vent holes *m m* in the curb D, all arranged and operating as and for the purpose herein described.

73,777.—JOHN S. CAMPBELL, Newton, N. J.—*Check-Rein Hook.*—January 28, 1868.—A tongue is hinged to the post top and may be swung back against the point of the cheek hook to prevent the escape of the rein.

Claim.—The hinged tongue B, in combination with the plate *b*, for attachment to the cheek-rein hook, substantially as set forth.

73,778.—S. P. CAMPBELL, Quincy, Mass.—*Button for Carriage Curtains.*—January 28, 1868.—The button stem passes through two plates which are secured to the carriage and kept asunder by cylindrical blocks traversed by the attaching screws and supporting the spring which rests against the rectangular part of the stem and prevents its turning accidentally.

Claim.—The button B, provided with a stem, part of which is rectangular, in combination with a pressure spring S, the whole constructed and operating substantially as and for the purpose set forth.

73,779.—B. F. CAUFFMAN, Millerstown, Pa.—*Cane Mill.*—January 28, 1868.—The cane is rolled between one upper and two lower rollers, forming two points of pressure, the first being somewhat lighter and serving to extract pure juice without completely mashing the stalk; and the last pressure extracting the remainder. The juice from the separate pressures is received in different sections of the trough.

Claim.—The combination and arrangement of the compartments *c c'*, partition D, and curved perforated plate E, substantially as and for the purpose specified.

73,780.—EDWIN CHAPMAN and C. T. ALLAIRE.—Rochester, Minn.—*Steam Generator.*—January 28, 1868.

Claim.—The steam generator, constructed as described, consisting of the conical furnace D, having

the air tube F, and supporting the conical combustion chamber E, the points of their connection forming shoulders, connected by the diving flues J with the casing B, inclosing the water space, and placed concentrically within the outer casing A, the space between said casings forming the ascending flue H, all arranged and operating as herein shown and described.

73,781.—R. A. CHESEBROUGH, New York, N. Y., assignor to WILLIAM H. CHESEBROUGH, same place.—*Heating Railroad Cars.*—January 28, 1868.—A steam pipe passes from the locomotive through the whole length of the train, and may branch so as to pass both inside and outside the car, or may be inclosed by a jacket therein. The heat imparted is regulated by cocks. The connections between the cars are of rubber.

Claim.—1. The arrangement, in a railroad car, of steam pipes *a b*, in combination with registers *g h*, or equivalents, whereby the heat can either be thrown into or to the outside of the car without interrupting the action of the steam in the succeeding car or cars, substantially as set forth.

2. The arrangement, with a railroad car, of inside and outside steam pipes, when constructed and applied substantially as described in Fig. 3, for heating purposes.

73,782.—JAMES R. CHILES, Richmond, Va.—*Head Rest for Seats.*—January 28, 1868.—The support of the head rest slides in curved guides so as to cause the forward movement of the rest when it is raised for use. The side projections of the support engage the ratchets when the rest is forced backward, but by drawing the rest forward the projections may be freed from the ratchets and adjustment allowed.

Claim.—The head rest C, when made adjustable by means of a ratchet *r r*, substantially as and for the purpose specified.

73,783.—ROWLAND CROMELIEN, Washington, D. C.—*Paddle Wheel.*—January 28, 1868.—The outer gear ring carries the paddles, and is connected to a sleeve on the paddle wheel shaft. The inner wheel is fixed to the said shaft and communicates motion to the series of pinions having larger spur wheels on the same shaft, engaging the outer gear ring to which the paddles are attached.

Claim.—The combination of paddles or buckets with annular-toothed wheels, operated substantially as described, for the purpose specified.

73,784.—CHARLES DIEDRICHS, Philadelphia, Pa., assignor to JAMES S. MASON & CO.—*Punching and Raising Disks from Metal.*—January 28, 1868.—The disk is punched out and automatically carried to the raising die, by which the edge is turned up, after which the disk is discharged from the press. The punch and die act simultaneously, but on different blanks, and are operated by connection to an eccentric on the main shaft.

Claim.—The combination of the punch G, stamp J, feed board K, consisting of the parts *l*, *m*, *n*, *n'*, and carrier N, sliding beneath the punch in the channel M *s*, and advancing but one disk directly to the stamp before another is cut, substantially as described.

73,785.—WILLIAM EBERHARD, Akron, Ohio, assignor to himself and A. P. BALDWIN, same place.—*Washing Machine.*—January 28, 1868.—The frame is attached to a common wash tub, and has a lower, circumferentially-grooved wooden roller, having slow rotation by a screw gear, and an upper roller covered with rubber, or a hard cord, and having reciprocation to and from the other roller, and free rotation therewith. The clothes are passed between the rollers.

Claim.—1. The washing machine constructed as described, and consisting of the rollers B C, frame A, shaft *b*, vibrating frames *g g*, pitman *h*, crank-shaft *k*, shaft *e*, crank *m*, worm *d*, pinion *e*, fly and gear wheels, lever *p*, and rod *n*, all arranged and operating as described, and for the purpose specified.

2. In combination with the vibrating frames *g* and roller C, the lever *p* and rod *n*, substantially as and for the purpose set forth.

3. In combination with roller B, the guards *q*, substantially as set forth.

73,786.—L. H. G. EHRHARDT, London, England, assignor to GEORGE B. UPTON, DAVID D. STACKPOLE, and SAMUEL H. GOOKIN.—*Gunpowder.*—January 28, 1868.—Improvement on his patent of June 19, 1866. Composed of chlorate of potash, 1; nitrate of potash, 4; mineral coal, 5 parts by bulk; or, chlorate of potash, 1; nitrate of potash, 2; and coal, 3 parts. The ingredients are finely pulverized.

Claim.—The powder herein described, consisting of the ingredients named, prepared and mixed as described.

73,787.—EPHRAIM ELLIOTT and CHARLES E. NEWTON, Lowell, Mass.—*Artificial Leg.*—January 28, 1868.—The adjustable side bars are jointed at the knee, and the ankle block is pivoted to their lower ends. These bars give support to the bands to which the sockets are secured. The extensor tendon of the knee joint connects the lower thigh band to a spring coiled on a barrel having adjustment by a ratchet wheel and pawl. A similarly arranged spring is connected by the flexor tendon of the ankle to the fore end of the ankle block. The rear end of the ankle block is connected by an adjustable jointed bar to the back bar of the leg, and forms a stop to the ankle joint.

Claim.—1. The self-adjusting sockets *c* and *c'*, for the purposes substantially as described and set forth.

2. The extensions *i i* and *j j*, applied to the upper and lower sockets *b b'* and *c c'*, for the purpose of adjusting the same in position, as described and fully set forth.

3. An artificial leg, provided with straight side beams *a a*, bands *b b'*, *c c'*, and *d*, when arranged as herein described, and for the purpose set forth.

4. The double stop *h h*, in combination with the straight side beams *a a*, for the purposes as described and set forth.

5. The arrangement and combination of the thumb-wheel *o'*, ratchet *o*, pawl *p*, and frame *m m*, for the purpose substantially as described.

6. The combination of the ankle-seat *q*, pivots *u u* and *w*, block *v*, and adjustable heel-cord *t*, when arranged to operate substantially as described and set forth.

73,788.—E. EMMERT, Franklin Grove, Ill.—*Harvester.*—January 28, 1868.—The pitman lies behind the cutter bar, is hinged to the outer end of the latter, and has ratchet teeth to scatter the grass.

Claim.—The combination of the fingers and cutter bar with the notched pitman, when the latter is pivoted to the outer end of the cutter bar, for the purpose of scattering the cut grass, as herein shown and described.

73,789.—DANIEL FISHER and WILLIAM CUMMING, Oil City, Pa.—*Car Replacer.*—January 28, 1868.—The inclines are so pivoted to the clamp blocks as to allow lateral or vertical adjustment in their free ends. The said blocks are placed beneath the rails and clamped to them by screws impinging against the web.

Claim.—1. The universally-pivoted reversible inclines C D, constructed and adapted to operate substantially as and for the purpose described.

2. The pivot e^1, in combination with the reversible guide e^1, incline C, and bearing E, substantially as set forth.

3. The combination of the dog F $f f^1 f^2$, bearing E, and incline C, substantially as described.

4. The combination of the dog I $i i^1 i^2$, bearing G, clamp H, and incline D, substantially as and for the purpose specified.

5. The adjustable support d^2, substantially as and for the purpose set forth.

73,790.—HENRY G. FISK and T. J. FLAGG, New York, N. Y.—*Neck Tie.*—January 28, 1868.—The band incloses an elastic ring, through which the scarf is drawn and is retained by the grip.

Claim.—As a new article of manufacture, a scarf, constructed as described, consisting of the cylindrical knot A, to which the scarf B and apron C are attached, said knot provided with an elastic pocket, which expands to permit the scarf B to pass through, and contracts to hold it in place, as herein shown and described.

73,791.—ADDISON C. FLETCHER, New York, N. Y.—*Bale Fastener.*—January 28, 1868; antedated January 16, 1868.—The ends of the hoop are passed beneath the ends of the plate and upward through the central slot, and are then turned down on the plate and secured by the pins which are passed beneath the arches.

Claim.—A bale fastener, composed of a plate A, provided with an opening *a*, and a slot or slots *b*, one or both of the latter having arches *c* at their sides, for use in connection with a pin or nail, or pins or nails D, to secure the bent or doubled end or ends of the baling hoops or wires, substantially as specified.

73,792.—EMANUEL FORNEY, Fishersville, Pa.—*Harrow.*—January 28, 1868.—A set of harrows is pivoted to the main frame, the said harrows turning on arbors which are inclined from the vertical so as to cause rotation of the harrows as the frame is drawn forward.

Claim.—1. The combination, with the main frame of the harrow, of two or more sets or pairs of revolving frames or arms for carrying the teeth, tilted or set at angles to the main frame, in the manner described, and arranged to gear or mesh with each other, substantially as herein shown, and for the purposes set forth.

2. The combination with the harrow frame of the reversible drag bar and eye bolt, or equivalent means for holding the said bar in position, under the arrangement and for operation as herein shown and specified.

73,793.—T. J. FRAZIER, St. Paul, Minn.—*Heating Stove.*—January 28, 1868.—The calorie current passes over the bulkhead or bridge to the rear chamber, and then along the horizontal side flues to the front flues, which discharge into the arched flue on which the stove pipe is set. The bridge contains an open-bottomed cavity.

Claim.—The combination of the flues D, up-take E, and bulkhead B, substantially as described, or their respective equivalents, with a stove, as herein set forth.

73,794.—G. W. GAIL, Baltimore, Md.—*Bag for Packing Tobacco.*—January 28, 1868.—The upper end of the bag is folded in, and secured by a string attached to the edge, so as to form a pocket receptacle for the user.

Claim.—A bag for packing tobacco, when folded as described, and secured by means of a cord passing round its centre, substantially in the manner set forth.

73,795.—E. J. GERDOM and C. W. SCHINDLER, Albany, N. Y.—*Oil Cup for Lubricating Shafts.*—January 28, 1868.—The cylindrical stem of the oil cup is inclined from the horizontal so as to cause the rotation of the shaft within the stem.

Claim.—In combination with an oil-cup A, a shaft S, constructed of tubes, communicating with the journal J, and rotated by the motion of the journal, substantially as and for the purpose described.

73,796.—EDWARD F. GILBERT, Lyons, N. Y.—*Screen Attachment for Wash Stands.*—January 28, 1868.—The edges of the central part of the screw slide in grooves in cleats behind the stand. The wings when turned out rest on the cleats and sustain the screw.

Claim.—1. The combination of an adjustable screen, covered with oilcloth or equivalent, with a washstand, so arranged that it may be raised or lowered at will, and hidden from view when not in use, substantially as herein set forth.

2. The combination of the wings C C with the adjustable center B, so arranged as to expand and retain the screen elevated, or to fold to be depressed from sight, substantially as herein set forth.

73,797.—JAMES GILBERT, Wyalusing, Wis.—*Corn Planter.*—January 28, 1868.

Claim.—1. Connecting the plow standards S to the frame A, by means of the rollers U, substantially as as herein shown and described, and for the purpose set forth.

2. The combination of the levers V and connecting rods or chains W, with the plow standards S and frame A. for raising, lowering, and supporting said standards, substantially as herein shown and described.

3. The combination of the weighted elbow lever O and shaft M, having arms or stirrers N attached to it, with the seed box G, and with the projections R formed upon or attached to the dropping cylinder H, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the harrows Y with the plow-standards S and frame A, substantially as herein shown and described, and for the purpose set forth.

5. Applying the draught below the horizontal plane of the frame A, substantially as herein shown and described, and for the purpose set forth.

73,798.—JOEL GLEASON, Whitestone, N. Y.—*Construction of Soldering Iron.*—January 28, 1868.

Claim.—Constructing a soldering tool formed of the copper point A, screwed into a cast-iron base B, and provided with a wrought-iron handle C, as and for the purpose herein described.

73,799.—F. C. GRIDLEY, Hudson, Wis.—*Bed Bottom.*—January 28, 1868.—The ends of the slats rest upon bars, which are supported by elastic loops passing around them and around other bars attached to the rails.

Claim.—The arrangement of the bars *b* and G, elastic straps *g g*, and slats D D, in the construction of a bed bottom, when such bottom is made in sections, and adjustable in the manner shown and described.

73,800.—JOHN W. GRISWOLD, Philadelphia, Pa.—*Grate for Stoves and Furnaces.*—January 28, 1868.—The bottom of the cylindrical grate is convex on the upper side, and has a gear engaged by a bevel wheel upon a winch shaft. The grate is turned by the winch or tilted by another shaft.

Claim.—The conical rotating grate B, in combination with the cylinder A, both provided with teeth *i i* at the base, constructed, arranged, and operating substantially as and for the purpose herein described.

73,801.—ROBERT HALE, Chicago, Ill.—*Baby Holder.*—January 28, 1868.

Claim.—An improved suspended baby holder, formed by the combination of the two larger hoops or rings A, the two smaller hoops or rings C, the cloth or equivalent coverings B and D, the three or more supporting straps or cords E, and the slide or buckle H, with each other, substantially as herein shown and described, and for the purpose set forth.

73,802.—ROBERT HALE, Chicago, Ill.—*Couch or Cradle.*—January 28, 1868.—The jointed frame is suspended on an adjustable cord, and has a cloth bottom stretched thereon to support the bedding.

Claim.—An improved portable suspended couch or cradle formed by the combination of the jointed frame A, removable cover or bottom F, straps or cords B, and adjustable cord or strap D, and slide or buckle E, with each other, substantially as herein shown and described, and for the purpose set forth.

73,803.—THOMAS HANCOCK and JOHN H. LEAMAN, Richmond, Va.—*Machine for Cleaning Grain.*—January 28, 1868.—The faces of the cylinders have cavities which carry up the small seeds and convey them to the spouts within the cylinders. The scraping bars prevent the passage of the wheat.

Claim.—1. The combination of the hollow rollers or cylinders B and C, having small holes or cavities formed through or partly through their walls, with each other, and with the frame in which they work, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the bars D and spouts F with the interior of the hollow cylinders B and C, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the guard plates or bar G with the exterior of the cylinders B and C, substantially as herein shown and described, and for the purpose set forth.

4. Forming shallow grooves H around the lower ends of the cylinders B and C, for the escape of the fine seed, substantially as herein shown and described.

73,804.—James Hatton, New York, N. Y.—*Metallic Handle.*—January 28, 1868.—The handle consists of two metallic sides, which are connected by the screw ferrule and a transverse screw. The shank socket contains leather packing, which is held in place by an enlargement within the socket.

Claim.—Constructing the handles for files, screwdrivers, and for other purposes, of metal, with elastic packing, substantially in the manner herein shown and described.

73,805.—John T. Herndon, Bancroft, Mo.—*Cultivator.*—January 28, 1868.—The plow beams have vertical movement, and the inner plows transverse movement, by stirrup treadles connected by levers and chains to the regulating mechanism.

Claim.—1. The combination and arrangement of the beams E J, connected by chains U to pulleys V, on the shaft W, substantially as and for the purpose set forth.

2. The connecting of the inner beams J J by the bar *h*, and the attaching of the uprights *g g* on said beams to the arms Q, by the bars N, arms O, and shafts P, for the purpose of giving a lateral movement to the shares or shovels L, substantially as and for the purpose specified.

73,806.—I. H. A. Hervey, Cleveland, Ohio.—*Skating Rink.*—January 28, 1868.—The foundation of the platform around the water has doors which allow access to the air when desired.

Claim.—A skating rink, provided with a cold air trunk D, extending partially or entirely around its foundation or lower part, and provided with doors *b b'*, at its inner and outer sides, for the admission of external air, in connection with the openings *a* in the roof of the rink, all constructed and arranged substantially in the manner as and for the purposes set forth.

73,807.—Amariah M. Hills, Hockanum, Conn.—*Lawn Mower.*—January 28, 1898.—The straight cutter bar acts in connection with the spiral rotating cutter. A roller follows.

Claim.—1. The balanced frame on the roller E, provided with the fixed cutter bar D, in combination with the bail-shaped rod Q, to which the handle S is secured, all constructed and arranged substantially as and for the purpose set forth.

2. The horizontal cutter M, having the spiral flanges *c c*, when adjustably hung in the slotted upright O upon the covered shoe N, and in front of the cutter D, all constructed as described, for the purpose specified.

3. The combination of the frame, roller, cutting device, and the handle attachment, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

73,808.—Leonard L. Hodges, Boston, Mass.—*Picture Frame Supporter.*—January 28, 1868.—The suspension hook engages one of a series of slots in a plate fixed to each side of the frame, being changed from one to another to adjust the inclination of the frame.

Claim.—The combination of the catches and catch racks with the suspension cord and picture frame, the whole being substantially as described.

73,809.—S. Grant Hoyt, New York, N. Y.—*Ice Pick.*—January 28, 1868.—The ends are intended for dividing into large blocks, or for breaking into small pieces for use.

Claim.—An ice pick, consisting of a handle A, having a many-pointed pick B at one end, and a single-pointed pick C at the other end, substantially as and for the purpose herein shown and described.

73,810.—John S. Inskeep, West Middleburg, Ohio.—*Sugar Mold.*—January 28, 1868.—The box is made from a single sheet, whose corners are cut out, and the sides and ends being turned up vertically, their tops are turned out horizontally to rest upon a wooden frame.

Claim.—A sheet-metal box B, having its vertical corners loose or detached, in combination with a frame, A, into which it fits, and within which it is supported by its horizontal edges or flanges, substantially as described, and for the purposes set forth.

73,811.—Chas. R. Jenkins, Philadelphia, Pa.—*Curtain Fixture.*—January 28, 1868.—One of the journal caps is secured to the roller by an intervening cylindrical piece of soft rubber, so as to force the cap outward and sustain the shade by friction.

Claim.—Interposing between pulley-cap and roller a tube of India rubber, yielding laterally and vertically as and for the purpose described, and serving itself as a pulley for the cord.

73,812.—Reuben Johnson, Danbury, Conn.—*Felted Hat Body.*—January 28, 1868.—The fur and wool are mixed by means of the air, and collected on a porous former from whose inside the air is exhausted. The wool is carded and then the fibers cut short before mixing with the fur.

Claim.—The admixture of wool and fur fibers, the former being cut into short lengths to equalize the relative weight of fibers, substantially as and for the purpose described.

73,813.—George B. Kirk, Newark, N. J.—*Pipe and Bolt Cutter.*—January 28, 1868.—The jaw is adjustable by a nut and screw on its shank, and the cutter is also adjustable. The device operates by revolving it around the pipe.

Claim.—1. The cutting tool *d*, consisting of a fixed steel cutter, pointed substantially as shown and described, in combination with the screw shank *l*, stock A, and adjustable claw B, all constructed and operating as and for the purpose set forth.

2. The flange *i* and pin *g*, substantially as shown and described, or other equivalent device, when in combination with the holder G, stock A, and cutting tool *d*, for the purpose set forth.

3. The slot *n*, substantially as shown and described, in combination with the cutting tool *d* and stock A, all as set forth.

73,814.—Philander P. Lane and Joseph T. Bodley, Cincinnati, Ohio.—*Sawing Machine.*—January 28, 1868.—The regular feeding movement of the saw carriage is assured by weights taken up by a counter-balance cord as the oscillating frame departs from a vertical position. The same object is accomplished by a counter-balance upon the oscillating frame below its axis, or by springs against which the carriage impinges.

Claim.—In a cross-cut sawing machine, the combination of a reciprocating saw carriage with a graduated counter-balance, constructed and operating substantially as described.

74,815.—John F. Laplace, Hamburg, Conn.—*Bearing for Shafts.*—January 28, 1868.—The disk is secured to the vertical shaft, and rests on anti-friction balls, which are held in place by the perforated circular plate which turns freely in the groove in the inner side of the down-turned circumferential flange of the disk.

Claim.—1. The perforated plate E, carrying the balls D, when such plate is arranged to turn loosely in the groove, constructed as described, in the flanges *a* of the disk, as herein set forth, for the purpose specified.

2. The disk B, constructed as described, bearing the perforated plate E, held in place by the ring *b* and pins *c*, in combination with the balls D, shaft A, and stationary plate C, as and for the purpose specified.

73,816.—W. H. Laubach, Philadelphia, Pa.—*Gas Engine.*—January 28, 1868.—The inflammable

gas is admitted to the cylinder, and when the piston has moved some distance the inlet valve closes, and an aperture in a small pipe which is supplied with gas by a flexible pipe, enters the cylinder through a stuffing box in the head. The gas having been ignited in passing a gas burner just outside the cylinder head, explodes the gas within the cylinder, the explosion extinguishing the flame.

Claim.—The combination and arrangement of the devices, as herein set forth, whereby the igniting flame is caused to pass directly through the inflammable gas, inside of the cylinder, substantially as herein set forth and described.

73,817.—WILLIAM LAW, Birmingham, England.—*Hook and Eye.*—January 28, 1868.—The ends of the eye open to pass over the contracted portion of the tongue, the flexible sides drawing them inward beneath it.

Claim.—The hook and eye, the latter constructed of a bar bent at right angles to the plane, and divided in the middle at *m n*, for engaging with the bent sides of the tongue *l*, which fits in the angular part O of the eye, the sides *p* and *q* of the latter springing open to admit of the attachment, and closing upon the narrow part of the tongue *l*, as herein shown and described.

73,818.—RICHARD LEACH, Linwood Station, Pa.—*Picker for Looms.*—January 28, 1868.—The pad is formed of several strips of sole leather secured together and placed edgeways to the picker staff, and secured thereto by a leather band.

Claim.—The combination of the pad B, band C, staple clasp *b*, and screw *c*, with the staff A, all constructed, arranged, and operating as described.

73,819.—DANIEL LOMBARD, Boston, Mass.—*Machine for Hulling Coffee.*—January 28, 1868.—The husk is removed from the coffee while passing between the serrated blocks of the endless belt, and the serrated lower surface of the yielding plate.

Claim.—1. The combination of the endless band *d*, composed of serrated metal plates, with the serrated plate *e*, provided with the sides *e'*, substantially as and for the purpose set forth.

2. The combination of the endless band *d*, the supporting frame *h i*, and the elastic bearings *r'* as described.

73,820.—C. O. LUCE, Brandon, Vt.—*Horse Rake.*—January 28, 1868.—The rake is raised by the segmental rack at the end of a lever which engages a similar rack on the rake head. The clearer bar is connected by spring rods to the frame, and slides over the teeth as they are raised.

Claim.—The oscillating axle D, connected with the thills by the straps *a*, segment rack C on the lever *b*, foot board B, segment rack *c'*, and curved teeth *e*, in combination with the clearer bar E, extending across the teeth *e*, and supported by the curved bars *s* from the foot board B, as herein described, for the purpose specified.

73,821.—H. W. LIBBEY, Cleveland, Ohio.—*Suspending Carriage Bodies.*—January 28, 1868.—The body is suspended on arms on each side, which depend from C-springs secured to the axle, and rise to the height of the carriage top.

Claim.—The special arrangement of the bars D D, with their springs *d d* and the rods E E, in combination with the running part of the carriage, provided with sliding extension bar I, substantially in the manner shown, as and for the purpose set forth.

73,822.—JOHN MARCHBANK, Lansingburg, N. Y., assignor to WILLIAM H. SON, same place.—*Faucet.*—January 28, 1868.—The inclines bear against the guide, and insure special tightness when the gate is fully opened or closed.

Claim.—1. The arrangement of the guide brace C in relation to the gate B and the body A, substantially as and for the purpose herein set forth.

2. The inclined plane *b*, provided upon the gate, and arranged in relation with the body A and the guide brace C, substantially as and for the purpose specified.

3. The inclined plane *e*, arranged upon the gate, and in relation with the body A and guide brace C, substantially as and for the purpose specified.

4. The stud *a**, arranged upon the gate, and in relation with the guide brace, substantially as and for the purpose specified.

73,823.—JOHN MAYS and E. W. BLISS, Brooklyn, N. Y.—*Die Press.*—January 28, 1868.—The sliding head has V-bearing ribs which rest in grooves in the brass gibs slipped into the solid boxes.

Claim.—The solid boxes E E, the sliding head D, with V bearings, and the adjustable gibs *a a*, all constructed and arranged with the lever, substantially as and for the purpose herein described.

73,824.—JOHN B. MIGNAULT, Boston, Mass., assignor to himself and ALFRED B. HALL, same place.—*File Cutting Machine.*—January 28, 1868.—The cutter is loosely pivoted to a spring arm, and so pressed as to throw its outer edge down upon the blank, while its inner edge is slightly raised above it. The latter is subsequently brought down by the increased leverage of the spring arm, whereby the chisel adjusts itself to the surface of the blank before being struck by the hammer.

Claim.—1. A cutter X, pivoted loosely to a spring arm W, in combination with a spring Y, substantially as and for the purpose set forth.

2. The combination of the adjustable block Z, cutter X, and bed R, substantially as and for the purpose set forth.

3. The lever 27 with its slotted arm 29, in combination with the adjustable screw 31, or its equivalent, substantially as and for the purpose described.

73,825.—FREEMAN F. MYRICK, Dublin, N. H.—*Thread and Yarn Holder.*—January 28, 1868.—The spindle is passed through the ball and supported in the bail.

Claim.—The combination of the frame A with the spindle B, substantially in the manner as and for the purpose set forth.

73,826.—FREDERICK NISHWITZ, Brooklyn, N. Y.—*Harvester.*—January 28, 1868.—The platform is curved concentrically with the reel shaft, so that a rake attached to one of the arms of the reel will sweep the grain into the dumping box, which is tilted diagonally to deposit the gavel out of the track of the horses in the next round.

Claim.—1. A dumping box tilting diagonally on a rolling fulcrum, substantially in the manner and for the purpose described.

2. The combination of a concave platform with a diagonally tilting dumping box, substantially as described.

3. The combination of a reel rake, a concave platform, and a diagonally tilting dumping box, substantially as described.

4. The combination of a reel rake with a dumping box, tilting diagonally to the reel shaft, substantially as described.

5. The combination, with the tilting dumping box, of the tilting lever, operated either by the hand or foot of the driver, or by both combined, substantially as described.

6. The combination of the projecting supporting arm K with the tilting platform or dumping box, rolling fulcrum, and retaining guide, substantially as described.

7. The adjustable supporting arm K, constructed and arranged as described.

73,827.—FREDERICK NISHWITZ, Brooklyn, N. Y.—*Harvester.*—January 28, 1868.—The variation from the preceding (No. 73,826) is explained by the claim.

Claim.—The combination, in the manner described, of the concave platform, the reel rake, the reel supports, and the tilting dumping box, in an independent frame, so that they can be bodily attached to or removed from the machine.

73,828.—H. L. OGDEN, Atkinson, Ill.—*Try Square.*—January 28, 1868.—The square adjusts itself to the object and indicates the inclination of the planes upon a scale.

Claim.—A try square constructed as described,

and consisting of the blade B, provided with a slot *a*, and pivoted within a slot in the handle C, spring F, and stop pin *b*, the square being provided with a graduated scale, all arranged and operating as set forth.

73,829.—Joseph B. Okey, Indianapolis, Ind.—*Spring Door Holder.*—January 28, 1868.—The spring is attached to a base plate secured to the floor and the bottom of the door is received in the concave bend of the spring to keep it open.

Claim.—A device for holding a door in any desired position, when constructed with the base A, and standard B made in one piece, with the spring C held in position by the key D, substantially as described and set forth.

73,830.—Walter Payton, London, England.—*Lathe for Turning Irregular Curved Forms.*—January 28, 1868.—In cutting two series of vanes to work together, the axes with their vanes are affixed to separate mandrels, and subjected to the action of cutters carried by the traveling table; and they are so arranged that one cutter may commence to cut across the surface of one vane of an axis at its smaller diameter and progressively outward. The other cutter acts to cut across the vane of the other axis commencing at the larger diameter and progressing to the smaller.

Claim.—1. The combination and arrangement of devices herein set forth, for cutting or planing curved forms, when operating in manner substantially as described.

2. The axes F F and L^2 L^2, when operated by rack and pinion L L and clicks L^6 L^8, so as to give the desired progressive motions to the work to be cut or planed, or to retain such work stationary during the return motion of the cutters, in manner substantially as described.

3. The arrangement of the cutters, so as to admit of their several adjustments and correct action in manner substantially as described.

4. The method of imparting motion to the support N^1 of the cutting tool or tools, by an adjustable arm, J^9, and parts acting therewith, in manner substantially as described.

73,831.—Oliver E. Pillard, New Britain, Conn., assignor to Frederic H. North, same place.—*Permutation Lock.*—January 28, 1868.—The tumblers are set and the bolt retracted by rotation of the spindle; but communication is cut off between the knob and tumblers when the bolt is retracted, to prevent displacement of the tumblers. A ring is suspended from the dog, and the hub of the spindle can be drawn into the ring, thereby preventing the spindle being drawn back to act on the bolt until the proper arrangement of the tumblers allows the dog to drop. On retraction of the bolt a plate thereon prevents the hub being pushed into contact with the tumblers. A spiral range of holes around the spindle allows the knob to be so placed as to accommodate it to any thickness of door.

Claim.—1. The ring or blocking-piece *o*, suspended from the dog *i*, in combination with the hub *g* and arm 2 on the spindle *d*, as and for the purposes set forth.

2. The plate or lip 9, in combination with the hub *g*, ring *o*, and bolt *h*, as and for the purposes set forth.

3. The combination of the ring *o*, dog *i*, bolt *h*, hub *g*, lip 9, and circular tumblers *k k*, as and for the purposes set forth.

4. The combination of the bolt *h* and hub *g* with the plate or flange 9, that is notched, to allow the hub *g* to be moved to connect with the tumblers when the bolt is projected, but prevents the tumblers being acted on when the bolt is retracted, substantially as set forth.

73,832.—Auguste Poirel, New York, N. Y., assignor to himself and Pierre Bernard, same place.—*Boiler Scraper.*—January 28, 1868.—The metallic disks are strung upon the screw bolt with supporting sleeves between, and are secured by a nut.

Claim.—1. The construction of the metallic scraping disks, of unequal diameters, arranged upon the same rod, whereby each disk will perform a portion of the work without permitting the front disk alone to scrape the tube, as herein shown and described.

2. The construction of the metallic disks, with perforations, to give them elasticity, whereby obstructions in the tube will not prevent the operation of the scraper, as herein shown and described.

73,833.—Lyman B. Prindle, Litchfield, Conn.—*Lifting Jack.*—January 28, 1868.—The fulcrum pin of the lever rests in rounded notches in the standard and is held down by an extension pawl which is pivoted to the standard and engages a ratchet on the upper side of the lever.

Claim.—The extension pawl C D, as constructed, in combination with the ratchet or notched lever B, and the single mortised and notched standard A, whereby the fulcrum of the lever may be placed in any position for the height of the article to be raised, as herein set forth.

73,834.—Samuel C. Pruden, Harmony, Ohio.—*Burner.*—January 28, 1868.—The wick tube has a perforated bottom and contains alum.

Claim.—A burner, made substantially as and for the purpose described.

74,835.—J. S. Reid, Orange, Ind.—*Single Harness.*—January 28, 1868.—The harness is attached to the thills by studs beneath them, and before and behind the thill loops.

Claim.—The straps C C′, when combined with the back strap B and shaft A, substantially as above set forth and described.

73,836.—A. H. Rennie, Binghampton, N. Y.—*Scissors.*—January 28, 1868.—The rear ends of the blades are supported on a roller, which has an inside gear turning a pinion. To a wrist pin on the pinion, the upper and moving blade is connected and is driven thereby as the shears rest upon the roller, and are moved forward by the hand.

Claim.—The combination of the blades A B, handle C, arms *a*, wheel *b*, crank *c*, and pinion *d*, substantially as described, for the purpose specified.

73,837.—William Richardson and Louis Ber Müller, Baltimore, Md.—*Bending Machine.*—January 28, 1868.—The side bearings of the central roller are connected at the top by a hinged link, and one of them hinged so that the roller may be removed to allow the introduction of the tire.

Claim.—The combination of the roller R with the jointed frame which supports it, constructed substantially as described.

73,838.—Louis Edouard Rivot, Paris, France, assignor to Jacques Gaillardon, San Francisco, Cal.—*Treating Ores of Gold and Silver.*—January 28, 1868.—Improvement on his patent of May 31, 1864. The roasting is effected by steam at a high temperature, which is injected upon ore while at a red heat, the ore being separated from the caloric current by cast-iron plates.

Claim.—1. The roasting of silver and gold ore by superheated steam in the manner as herein described, that is, by separating the ore from the flames by the interposition of cast-iron plates, and by superheating the steam in the furnace itself, substantially as shown and set forth.

2. The reverberating furnace, substantially as herein described, when provided with steam pipes on or about the fire bridge for discharging steam upon the sole, whether such furnace be arranged for burning vegetable or mineral fuel, as set forth.

3. The arrangement, herein shown and described, of a double furnace, or of a single furnace with two fire chambers, together with the use of cast-iron plates at the level of the fire bridge, to separate the flames from the ore, substantially as set forth.

4. The arrangement of the furnace herein shown and described, in which superheated steam is made to impinge upon the ore, when separated from the flames of the fire chamber.

5. The method of amalgamating the roasted ore, without the adoption of any re-agents, in apparatus of ordinary or suitable construction, substantially as herein shown and set forth.

73,839.—Louis Edouard Rivot, Paris, France, assignor to Jacques Gaillardon, San Francisco, Cal.—*Apparatus for Amalgamating Gold and Silver Ores.*—January 28, 1868.—The ore is placed in an annular bed, upon which the vertical grinding wheels revolve. The main shaft may stand in a central aperture of the bed and receive motion from a horizontal shaft beneath. The pulverized ore, mixed with water, is loosened up by rakes, and scraped from the sides to the wheel tracks by knives. The wheels follow different tracks.

Claim.—The herein described method of and apparatus for amalgamating auriferous and argentiferous ores.

73,840.—Louis Edouard Rivot, Paris, France, assignor to Jacques Gaillardon, San Francisco, Cal.—*Treating Ores with Superheated Steam.*—January 28, 1868.—Improvement on his patent of May 31, 1864.—The ore is placed in a horizontal rotating cylinder. Superheated steam is received through a central pipe at one end of the cylinder, and the products pass off through a pipe at the other end into the chimney. The cylinder rotates in a furnace. The caloric current first superheats the steam, and after heating the cylinder, passes off by the chimney.

Claim.—The herein described method of and apparatus for roasting argentiferous and auriferous ores, that is to say, the employment, in connection with superheated steam, of a rotary roasting cylinder, substantially in the manner shown and specified.

73,841.—George Ruppel, Harlem, N. Y.—*Trunk Lock.*—January 28, 1868.—A T-headed pin turns in the plate attached to the lid, and the head passes through the slot of a circular plate attached to the front of the trunk. A circular lock plate is placed over the aforesaid circular plate, and in turning carries with it the T-head. The spring bolts prevent the lock being returned until they are pushed into the requisite distance by the key.

Claim.—The manner herein shown and described of attaching the cup B to the plate A, and to the two parts of the trunk or bag, by means of sliding bolts D D, and central headed stem C, all made and operating substantially as herein shown and described.

73,842.—Sidney B. Sill, Three Rivers, Mich.—*Heat Radiator.*—January 28, 1868.—A disk damper is seated in a diaphragm stretching nearly across the drum, and then turned upward. An elliptic pipe slides in the stove pipe above the drum, and may be brought in contact with the upwardly projecting part of the diaphragm.

Claim.—1. The adjustable chamber B, when furnished with valve G, vertical plate *n*, and horizontal plate S, in combination with flue D, the whole constructed and operating as set forth.

2. The four radiating chambers, arranged in the manner and for the purpose specified.

73,843.—James Simpson, St. Louis, Mo.—*Brick Machine.*—January 28, 1868.—The clay descends through an adjustable throat at the bottom of the hopper, and is carried forward by a plunger to near proximity to another plunger, and pressed between the two. The brick is then carried to the discharging aperture, and is carried off by the receiving plate at the end of the pivoted arm.

Claim.—1. The combination of the pivoted arm P, having receiving plate *r*, bar S, and rod *t*, with the cross head *h*, compressers F G, and opening *m* in the bottom plate *i*, as herein described, for the purpose specified.

2. The plate *n* and screw *o*, in combination with the hopper J and compressors F G, as herein described, for the purpose specified.

73,844.—John A. Snyder, Georgetown, Pa.—*Machine for Mortising Fence Posts and Sharpening Fence Rails.*—January 28, 1868.—The posts are sawed with a circular saw, are then bored and mortised, and the rails sawn and pointed by the tools, which are mounted on an adjustable sliding carriage.

Claim.—1. The rail carriage, consisting of the adjustable bar D, mounted on the upright reciprocating carriage C, and provided with the swiveling clamp standard D^1, the whole constructed and operating in the manner and for the purpose set forth.

2. The reciprocating rail carriages I and K, adapted to be moved in paths at right angles to each other, in combination with the toothed racks and pinions for operating said carriages, the whole arranged and operating as described.

73,845.—Benjamin L. Southack, New York, N. Y.—*Reclining Chair.*—January 28, 1868.

Claim.—A reclining chair, constructed as described, and consisting of the fixed seat A, hinged back C, and leg piece E D, hinged rack bar F G, pawl H, lever I, legs *a*, arms B, and hinges *a' b c c*, all arranged and operating as described, and for the purpose specified.

73,846.—Charles F. Spencer, Rochester, N. Y.—*Fruit Jar.*—January 28, 1868.—The lid has a loop on each side which engages a ratchet on the side of the neck.

Claim.—The combination of the hinged loops *f* of cover B with the notched lugs *g* of jar A, for the purpose of adapting to different thicknesses of the packing rings, and to different inclinations of their seats, the whole arranged as described, and operating in the manner and for the purpose set forth.

73,847.—Laroy S. Starrett, Newburyport, Mass.—*Shoe.*—January 28, 1868.—Metallic lace hooks are riveted to the shoe.

Claim.—As an article of manufacture the fastening *a a'*, when constructed and applied to a boot or shoe, as and for the purpose specified.

73,848.—William Strevell, Jersey City, N.J., and G. B. Kerper and S. B. Wells, New York, N. Y.—*Leather Belting.*—January 28, 1868.

Claim.—1. A leather belt produced by combining with a "side" a split, whether such split is from the same or a different "side," and whether it be continuous or in detached pieces, as described.

2. A leather belt produced by combining with the inner or flesh surface of a leather side, a split from the corresponding or the flesh surface of another side, as described.

73,849.—George Stricker, Catawissa, Pa.—*Vehicle.*—January 28, 1868.—The reaches consist of upcurved springs to which the body is attached.

Claim.—The arrangement of the supplemental spring D and the side springs C, the spring D having its ends attached underneath the axles, and the springs C having their rear ends attached at or above the upper side of the rear axle, and their forward extremities to the cross-bar *b*, substantially as and for the purpose specified.

73,850.—J. M. Tanner, Albert Lea, Minn.—*Water Wheel.*—January 28, 1868.—The inlet and outflow of the water are on opposite sides of the case, and the buckets are placed across a segmental water course on one side of the wheel, being actuated by the anti-friction rollers at the ends of the pivoted arms to which they are secured.

Claim.—1. The combination of the centrally-pivoted arm D, movable buckets B, and body A, all arranged and operating as herein described for the purpose specified.

2. The thin curved buckets B, attached to the ends of arms D, pivoted in recesses in the heads of the wheel A, and operated and guided by wrist or guide pins G, or by friction wheels or rollars I, pivoted thereto, said pins or rollers working in eccentric grooves in the casing H of the wheel, substantially as herein shown and described and for the purpose set forth.

73,851.—Bradley Treadwell, Reading, Conn.—*Insect Guard for Horses.*—January 28, 1868.—The under part of the jaw is protected from flies by the wire gauze stretched from the throat strap to the bit rings.

Claim.—The insect guard C for horses, in combination with the bridle or halter, substantially as and for the purpose herein shown and described.

73,852.—Clemens Unverzagt, Terre Haute, Ind.—*Hand Loom.*—January 28, 1868.—The heddle

frames are operated by segment-ended arms which are adjustable upon a rectangular shaft, so as to alter the combination. The shaft is intermittingly operated by a ratchet bar which engages the hooked projections at the salient angles of the polygonal plate wheel upon the shaft. The feather is upon a pin turning in a socket at the midlength of a bar at the lower side of the batten. The said bar is reciprocated by the movement of the feather in the guide grooves of the plate as the batten is swung backward and forward, and causes the throw of the shuttles by operating on the picker staffs through the trigger bars.

Claim.—1. The combination of the grooved plate A, batten F, feather *a b c*, and traverse bar F′, when arranged and acting substantially as and for the purpose herein described.

2. The triggers K K′, as set forth, in combination with the traverse bar F′ and its pins *e e′*.

3. The combination of the traverse bar F′, feather *a b e*, and the grooved plate A, constructed and operating as herein fully set forth.

4. The ratchet-bar A′, with its head *m* and lower inclined surface *x*, in combination with the inclined bracket B and notched revolving plate wheel *b*, as and for the purposes set forth.

5. The combination of the shaft D, wheels C C′, pitmen E E′, batten F, traverse bar F′, feather *a b c*, and grooved plate A, all as constructed and arranged as is herein substantially set forth.

6. The combination of the sliding ratchet-bar A′, constructed as described, with the strap C, cord D, or their equivalents, when operated by the batten F, for the purposes set forth.

7. The arrangement and combination of devices herein set forth, by which the picker staffs are set and sprung alternately simultaneously by the backward motion of the batten.

8. The combination of the picker staffs L L, triggers K K′, and traverse-bar F′, when arranged and constructed as is herein set forth.

73,853.—George Webb, Lewiston, Me.—*Bridle Bit.*—January 28, 1868.

Claim.—My improved bit, as made, with each of its head-stall hangers C, and its martingale or curb-rein, hitching arm *g*, in one piece, to revolve on the cross-bar *a*, provided with rein rings or eyes *b b*, as specified.

73,854.—B. Weirich and H. H. Shartle, Middlebury, Ind.—*Tube Well.*—January 28, 1868.—The pipe has perforations which are covered more or less perfectly by the coiled wire.

Claim.—The perforated well tube, provided with a screw thread *a* around it to receive different sized coiled wires, whereby the openings between the coils of said wires are regulated, adapting the tube for use in fine sand or coarse gravel, as herein shown and described.

73,855.—J. H. Wheeler, Addison, Vt.—*Match Box.*—January 28, 1868.—The side of the box is held down to bring the matches to that side, and one match is separated from the rest by a pin which is projected therein. When the match is separated the slide is moved and the end of the match thrust through the aperture against the slide, which is drawn sideways to ignite the match.

Claim.—The combination with the box A of the sliding cap J, slides *a g*, separator *f c c′*, and slide lock *o*, all constructed, arranged, and operating substantially as set forth, and for the purpose specified.

73,856.—Eli White and William Shilvock.—New York, N. Y.—*Bung.*—January 28, 1868.—The bushing is formed of sheet metal, and has a nearly cylindrical portion and a flange, which have points entering the wood.

Claim.—A bushing for the bung holes of barrels, &c., constructed with the body B, flange C, and prongs D, substantially as described.

73,857.—John C. Williams, Newton, N. J.—*Coffin.*—January 28, 1868.

Claim.—As an improved article of manufacture, a coffin, constructed as described, the bottom A provided with a rebate *a*, fitting into the grooves near the lower ridges of the sides B, the bottom and sides secured together by means of the head and foot boards C D, grooved upon their inner sides near their ends *b*, and fitting over the rebates *c* upon the ends of the sides B, and the lower edges of the said head and foot boards rebated to fit over the ends of the bottom A, preventing its longitudinal displacement, as herein shown and described.

73,858.—J. L. Wilson and J. R. Haworth, Iowa Falls, Iowa.—*Ditching Plow.*—January 28, 1868.—The plow is adjusted in depth by side beams which carry adjustable hinged beams with rollers journaled to their ends. The sides of the ditch are cut by adjustable cutters, and a central cutter runs before the colter attached to the moldboard. The plow rests on a sole plate. The earth is raised by the inclines at each side of the moldboard and moved to a distance from the ditch by the side boards.

Claim.—1. The beams R R, the gauge beams N N, and wheels C, when combined and constructed as set forth.

2. The levers M M, constructed and operating in the manner specified.

3. The moldboards *d*, the supplemental moldboards E, in combination with lever P, the whole constructed and operating substantially as set forth.

4. The wheel U, in combination with colter T and shovel *e*, when arranged and operating substantially as described.

73,859.—Henry Wurtz, New York, N. Y.—*Manufacture of Refined Grahamite.*—January 28, 1868.—The "grahamite" is dissolved and, after purifying, the solvent is evaporated.

Claim.—The new chemical preparation or article of manufacture specified and described above, called by me purified or refined grahamite, and obtained by the action of solvents upon the mineral grahamite, substantially as above set forth.

73,860.—Henry Wurtz, New York, N. Y.—*Preparation of Grahamite.*—January 28, 1868.—The "grahamite" is dissolved in chloroform, coal tar benzole, or grahamite benzole. It is then purified and the solvent evaporated.

Claim.—1. The separation from any impurities with which it may naturally occur commingled of the mineral substance called by me grahamite by the use of a liquid medium or menstruum, substantially as above set forth.

2. The separation of grahamite into two distinct substances by the action of solvent media or menstrua, substantially as above set forth.

73,861.—Henry Wurtz, New York, N. Y.—*Preparation from Grahamite called Irisine.*—January 28, 1868.—Composed of the residue after the removal of that portion of "grahamite" dissolved by petroleum or similar solvent.

Claim.—The chemical preparation or article of manufacture specified and described above, called by me beta resinoid of grahamite, or irisine, and consisting of the residue left undissolved in the extraction from grahamite of the viscosine, whether the said irisine be refined by solution in one of its solvents and evaporation or not, all substantially as set forth.

73,862.—Henry Wurtz, New York, N. Y.—*Preparation from Grahamite called Viscosine.*—January 28, 1868.

Claim.—The chemical preparation or article of manufacture specified and described above, called by me alpha resinoid of grahamite, or viscosine, and obtained by the action of solvents upon the mineral grahamite, substantially as set forth.

73,863.—Edwin F. Andrews, Glasgow, Mo.—*Brick Machine.*—January 28, 1868.—The clay is forced downward by rollers at the bottom of the pug mill, and enters an aperture passing vertically through the first plunger. On the forward movement of this plunger the clay drops out of the aperture, and is pressed by the second plunger into the mold. The mold frame is then raised, and the first plunger in its forward movement carries a fresh supply of clay from the hopper, and simultaneously ejects

the brick from the mold, depositing it upon the brick board.

Claim.—1. The vertical mold frame K, constructed and operating substantially as and for the purposes specified.

2. The combination of the plunger H′ with the mold frame K, when constructed and operating substantially as set forth.

3. In combination with the cams C and frames D, the adjustable bars E E′ and flanges *b*, for assisting the operation of the plungers to carry the clay, substantially as set forth.

4. The frame A, with rollers F F, secured upon shafts *m m*, above the throat G, frames D, operating plungers H H′, receptacle V, knife *l*, platform J, with board I, and frame K, all constructed, arranged, and operating with their respective parts, as and for the purposes herein fully described.

73,864.—James Averill, Champlain, and Elisha S. Fitch, Mooers, N.Y.—*Draught Equalizer.*—January 28, 1868.—The double tree has a segmental projection which bears against an anti-friction roller. An elongated guide staple runs backward to and slides on the hammer bolt.

Claim.—1. The combination of a curved segment *b′*, with the central part of the forward side of the equalizer B, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the friction roller or wheel F and pivoting pin G with the tongue A, and with the curved segment *b′*, to sustain the draught, substantially as herein shown and described.

3. The combination of the strap H, or its equivalent, with the pin G, roller F, equalizer B, and tongue A, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the long staple E with the equalizer B and hammer pin C, substantially as herein shown and described, and for the purpose set forth.

5. Attaching the equalizer B to the tongue A, substantially in the manner herein shown and described, so that the said equalizer may be readily detached from the said tongue.

73,865.—James C. Ayer and Edward Haeffely, Lowell, Mass.—*Composition for Coloring Hair.*—January 28, 1868.

Claim.—The combination of the tartro-plumbite of soda or potash, the oxalo-plumbite of soda or potash, and the formio-plumbite of soda or potash, either or all of them, with glycerine, spirits, and water, in the proportions above specified, or in any other proportions, for the purpose specified.

73,866.—John Bachelder, Norwich, Conn.—*Guide for Carding Engines.*—January 28, 1868.—The bars have elliptical perforations for passage of the slivers, and are adjustable by screws at their ends.

Claim.—1. The combination of two or more adjustable guide bars, constructed substantially as described and for the purpose set forth.

2. The arrangement of the screws *h* and *i* with the bolt *g*, for the purpose specified.

73,867.—Allen J. Beach and Alexander H. Beach, Linden, Mich.—*Axle Gauge.*—January 28, 1868.—The concave end of the sliding gauge is placed on one spindle, and the other spindle set by the adjustable bars.

Claim.—The horizontal bar A, in combination with the sliding gauge B, the angle bar C, provided with knuckle joints D D, the adjustable bars E E, provided with other joints F F, the gauge bars G G, working in the slots H H, and the set-screws I I, when constructed and arranged substantially as and for the purpose described.

73,868.—Frank Bean, Boston, Mass., assignor to himself and E. E. Bean and Levi H. Straw.—*Electric Gas-lighting Apparatus.*—January 28, 1868.—An electro-magnet and armature are connected with each burner, and are made to operate a ratchet wheel to turn the gas on or off. Each magnetic coil is surrounded by a secondary coil, in which, by the action of the primary coils, a spark-producing current is induced, so that by connecting one secondary coil with the burner, and the other secondary coil with an insulated point of platinum which is brought close to the tip of the burner, sparks are produced to light the gas.

Claim.—1. In combination with the ratchet and its crank, the spring connecting the crank to the valve-rod, substantially as shown and described.

2. The combination and arrangement of the valve, the valve chamber, and the inlet and outlet for the gas, when the valve is so arranged that it shuts off communication between the valve chamber and the valve rod tube when connection is open between the supply pipe and the burner, and shuts off communication between the supply and burner pipes when the gas is not burning.

73,869.—William M. Blume, New York, N. Y.—*Measuring Receiver for Stills.*—January 28, 1868.—A portion of the receiver is separated by curved vertical plates, and within this portion the bar is placed which supports a vertical series of transparent cups to indicate the highest point reached by the liquor. The cups are observed through glass, which is secured in the side of the receiver. A perforated false top beneath the locking lid prevents the abstraction of any liquor except through the proper pipe, which passes through the false top and whose upper end is covered by the lid, when closed.

Claim.—1. The rod H, provided with the cups I I, whereby the height of the liquid is automatically recorded, as set forth.

2. The arrangement of the perforated plates D G and G¹, whereby the liquor is caused to enter the measuring compartment *b* steadily, as described.

3. The perforated false cover E, when arranged below the real cover of a receiver, substantially as and for the purpose herein shown and described.

4. The arrangement and combination with each other, of the vessel A, plates D G G¹, covers B and E, rod H, and cups I, all made and operating substantially as and for the purpose herein shown and described.

73,870.—A. W. Browne, Brooklyn, N. Y.—*Lamp.*—January 28, 1868.—The wick tube is bent from a central position to accommodate the shaft of the lifting wheel which passes diametrically through the burner, and is rotated by a spur wheel on its end which engages a series of apertures in the perforated, rotating bottom piece of the burner.

Claim.—1. The inclining tube T, in combination with the central shaft F, wheel W, and rotating bottom piece, arranged in the manner and for the purpose substantially as described.

2. In combination with the inclining tube T, the central opening through the tube B, for the purpose of facilitating the filling of the lamp.

73,871.—Francis M. Bugbee, Kingsville, Ohio.—*Button.*—January 28, 1868.—The lower button is placed longitudinally with the flattened shank and passed through the button hole. The outer button is then turned, which brings the lower button parallel with it, and engages the sides of the button hole.

Claim.—A sleeve button, the outer button *a* of which is constructed with a notched recess, and with a shank *c*, to which is attached a disk *g*, carrying a spring *e*, said head being placed within the recess in the button *a*, and the latter is connected with the lower button *b* by a stem *c*, passing through the shank, and rigidly connecting the two buttons, the parts being arranged substantially as described.

73,872.—S. G. Cabell, Quincy, Ill.—*Preventing Incrustation of Steam Boilers.*—January 28, 1868.—The electro-magnet has a number of points within a chamber connected to the steam chamber by a pipe having a stop cock, by which the action is regulated. The helix of the magnet is connected to the poles of the electric battery.

Claim.—1. The multiplied or compound electro-magnet L, constructed substantially as described, and arranged in combination with the chamber C, points G, and battery O, essentially as described.

2. The application of the electro-magnet within a steam boiler or chamber connected therewith, to prevent incrustation, substantially as specified.

73,873.—W. B. Cargill, New Haven, Conn., assignor to himself and I. Strouse & Co., same place.—

Fastening for Corsets.—January 28, 1868.—The hook and eye are each formed in one piece with their clasp, and the front end of the clasps is secured to the spring by the flaps cut in forming the hook and eye.

Claim.—The within described corset fastening, consisting of the hook and eye, formed as shown, and secured to the steels without riveting, as herein set forth.

73,874.—Charles F. Carpenter, Louisville, Ky.—*Reducing Lead Ores.*—January 28, 1868.—The air passes into a duct traversing the furnace bridge, and is carried by the steam jets and the draught through side ducts into the space above the ore.

Claim.—1. The introduction of atmospheric air and steam, together or separately, directly into the space marked B, in a reverberatory furnace, so that they may pass directly between the flame and the ores of lead upon the hearth.

2. Introducing air and steam through the fire bridge, so that they may be intensely heated before acting on said ores, as herein described, or any other method substantially the same.

73,875.—William Clark, Valatie, N. Y.—*Check and Harness Rein.*—January 28, 1868.

Claim.—The check rein, fastened at one end to the main or driving rein, and extending through a runner on the billet for the throat latch; thence downward and through the bit ring, or a pulley connected to said ring; and thence upward to the upper runner, where its other end is fastened, substantially as described.

73,876.—Elisha Crane, Elkhart City, Ill.—*Device for Scarifying the Soil preparatory to Plowing.*—January 28, 1868.—A series of cutting disks are pivoted in standards attached to the inclined bars of a frame which is vertically adjustable upon rollers.

Claim.—1. Arranging in a suitable frame a series or gang of cutting blades or disks, when the same are so adjusted as to cut the soil in parallel channels, substantially as described and for the purpose specified.

2. The lever H and curved arm I, in combination with the windlass frame, when the same are arranged substantially as described and for the purpose specified.

73,877.—James F. Cranston, Springfield, Mass.—*Priming Metallic Cartridges.*—January 28, 1868.—A recess is formed in the back end of the cartridge shell, and a central perforation communicates with the inside. The fulminate is placed in the recess and covered by a disk, which is secured by forcing the rim of the back plate over its edge.

Claim.—The manner of fastening in the fulminate in a metallic cartridge shell, by means of the cover *b*, attached upon the outside of the shell, substantially as described.

73,878.—Joseph Dick, Jr., Canton, Ohio, assignor to himself and Eugene Glen, Rochester, N. Y.—*Harvester Rake.*—January 28, 1868.—The rotation of the crank imparts an oscillatory movement to the rake carrier. When discharging the grain the movement of the sector arm is arrested by the stop before the extent of throw of the crank is reached. The tubular rake carrier travels over the sector plate, thereby causing the segment pinion to traverse the rack and to roll the rake arm until it is thrown up, when its further movement is arrested by a stop at the time the crank reaches the extent of its throw. The latch is brought into position to engage the sector arm and prevent the further relative change of the arms until the movement of the sector is arrested by the appropriate stop, when the lever acts to release the latch, and the continued movement of the rake arm causes the rake to roll forward under the reel, and down upon the platform, in position for the effective stroke.

Claim.—1. The gear plate or casting, made in one piece, with bearings for the crank wheel and vibrating rake shaft or support, and provided with standards *a*, and adjustable stops, substantially as described.

2. The arrangement of the crank wheel which drives the rake relative to the shaft or support of the rake, substantially as described.

3. The arrangement of the crank wheel in the described relation to the uprights or arms in which its driving shaft is mounted, as described.

4. The horizontal shaft, through which motion is imparted to the vibrating rake and rake gearing, mounted in uprights on the gear plate, or its equivalent, and over the crank wheel, substantially as described.

5. The vibrating rake carrier and sector arms, combined and operating substantially as described.

6. The vibrating rake arm, in combination with its tubular carrying arm, substantially as described.

7. The vibrating sector arm, in combination with a toothed segment, or its equivalent, on the rake arm, operating substantially as described.

8. A latch connected to the vibrating rake arm, and operating in connection with the vibrating sector arm to hold the rake in its elevated position, substantially as described.

9. The arrangement of the lever *k* relative to the vibrating arms, and rake latch for releasing the same, as set forth.

10. The latch lever, operated to release the latch by means of a cam or projection on the crank wheel, as set forth.

11. The employment of a yielding or spring stop for limiting the upward throw of the rake.

12. The arrangement of the spring stop or its equivalent upon the vibrating rake arm, substantially as described.

13. The adjustable dove-tail lug, through which the pitman is connected with the vibrating rake carrier, substantially as described.

73,879.—Henry Disston, Philadelphia, Pa.—*Setting Saws.*—January 28, 1868.—The swage block with its adjusting block are clamped within the interdental recess, and the point of the tooth which enters the dovetail die cavity is upset by blows of the hammer upon the block, which causes its outer side to turn toward the tooth.

Claim.—1. The tapering block A, with one or more angular recesses, in combination with the tapering plate B, the block and plate being adjusted longitudinally, and being otherwise constructed substantially in the manner and for the purpose herein set forth.

2. The combination of the said block and plate with the adjustable rods D D, for the purpose specified.

73,880.—Thomas S. Disston, Philadelphia, Pa., assignor to Henry Disston, same place.—*Saw Gumming Machine.*—January 28, 1868.—The sliding cutter frame is moved by a screw rod, and is guided by curved bars so as to leave the back of the tooth of the proper shape to form the cutting edge of the tooth, as the diameter of the saw is reduced by sharpening.

Claim.—1. The frame A, with its curved guides *b* and *b'*, in combination with the adjustable frame B and its cutter F, sliding on the said guides and carrying a cutter F.

2. The adjustable guide bar G, combined with the frame of the machine, substantially as and for the purpose specified.

3. The jam nut or nuts *d*, in combination with the screw C, for adjusting the frame B, substantially as described.

4. The recesses *t t* on the guides *b'* of the frame A, constructed as described, when the said recesses are arranged in respect to the sliding frame B, for the admission of the latter to and its withdrawal from the said frame A, as set forth.

73,881.—Stephen W. Downey, Piedmont, W. Va.—*Address Case for Railroad Cars.*—January 28, 1868.—A slate tablet is secured in a metallic frame attached to the car. The name and address of consignee is placed upon the tablet, and erased after delivery.

Claim.—1. A tablet case for railroad cars, constructed substantially as herein shown and described.

2. The slate C and the hinged top D, having a glass E, when the whole is constructed and arranged substantially as described.

73,882.—E. A. Ellsworth, Washington, D. C., assignor to himself and Lysander Hill, Alexandria, Va.—*Manufacture of Mortar and Cement; and Material therefor.*—January 28, 1868.

Claim.—1. The use of vegetable fiber in combination with plasterers' mortar and cement, substantially as and for the purpose specified.

2. Mortar or cement, when prepared with vegetable fiber, substantially as and for the purpose specified.

3. As an article of manufacture, vegetable fiber, when reduced to fine filaments, and cut into short lengths, as a substitute for plasterers' hair, substantially as described.

73,883.—Eberhard Faber, New York, N. Y.—*Lead Pencil.*—January 28, 1868.—The pencil is dipped in japan varnish and withdrawn endways, so as to leave a drop at one end. The pencil is then baked and redipped at the end a sufficient number of times to leave a rounded end of the japan adhering to it.

Claim.—A pencil, provided with a rounded convex head, formed by dipping said pencil in a suitable compound, substantially as herein set forth.

73,884.—Caleb Foster, Wappinger's Falls, N. Y., assignor to Elias Brown, same place.—*Comb.*—January 28, 1868.—The comb, after finishing in other respects, is enameled to prevent oxidation.

Claim.—An enameled steel comb, the teeth of which are punched out of a single steel plate, and finished, substantially as herein described.

73,885.—David C. Frazeur, Sidonsburg, Pa.—*Sleigh and Sled.*—January 28, 1868.—The wheels and runners are supported on pivoted frames, and by the movement of a hand lever either may be let down to sustain the sleigh.

Claim.—1. The combination and arrangement of the wheels D D and runners C C, substantially as and for the purposes specified.

2. The combination of the lever G, shaft F, pitmen H H, and cross bars E E, with the pivoted runners C C, bearing the wheels D D, substantially in the manner and for the purposes set forth.

73,886.—J. C. Gaston, Cincinnati, Ohio.—*Stove.*—January 28, 1868.—The calorie current is deflected by domed plates, each alternate one having an aperture in the apex, and all having passages around their sides. The side passages of the centrally perforated deflectors are governed by an annular register damper.

Claim.—A stove provided with the domes B and C, and the dampers E, all constructed and arranged substantially as set forth.

73,887.—Nelson W. Green, Cortland Village, N. Y.—*Connecting Stove Pipes.*—January 28, 1868.—The sections of pipe are connected by a short, open-jointed section, which springs outward to make a tight joint. A circumferential ridge is struck outward at the midlength of the connecting section, forming an abutment, and leaving a groove on the inner side which may contain a spring rod.

Claim.—1. The open spring or elastic sleeve B, when the same is constructed substantially as described, and for the purpose specified.

2. The wire spring C, when the same is constructed so as to be applied substantially as described and for the purpose specified.

3. The open spring or elastic sleeve B and the wire spring C, when the same are combined so as to operate substantially as described and for the purpose specified.

73,888.—Henry Hammond, Hartford, Conn.—*Die for Forming Slots in Screws.*—January 28, 1868.—The screw is placed in the countersunk lower die, and the slot is formed by the rib of an upper die which is brought down upon the head. The ends of the rib enter a slot in the face of the lower die.

Claim.—1. The combination of the devices A *e* B *f*, when constructed and arranged to be used in conjunction, substantially as specified.

2. The combination of the devices A *e* B, constructed and operating substantially as herein set forth.

73,889.—David Harger, Des Moines, Iowa.—*Car Coupling.*—January 28, 1868.—One draw head has an arrow-head coupling bar which enters between the two latch bars of the other head; the latch bars are pressed together by springs. The coupling bar is released by a turn of 90°, which is effected by a lever that enters a notch when coupled and prevents the accidental turning of the said bar.

Claim.—The revolving coupling bar G, when constructed and arranged as herein specified, in combination with the lever H, keeper I, and spring jaws A A, as and for the purposes herein described.

73,890.—Jesse Havens, Auburn, N. Y.—*Wood Saw Frame.*—January 28, 1868.—The brace is forked, one portion being turned upward and traversed by the set bolt, which also passes through the upper end of the end bar.

Claim.—1. A saw frame, in which a bifurcated wooden brace, C C′, constructed in one piece, as described, is used, in combination with the end pieces, substantially as described.

2. The piece D, constructed with a neck and head D^3, and used in combination with the frame pieces A, B, and C, with which it is united, substantially in the manner and for the purpose set forth.

73,891.—Christofer Hefft, Tazewell County, Ill.—*Cultivator.*—January 28, 1868.—The rear standards are rigidly attached to the beams, but the inner, forward standards have movement on the beams by means of the handles.

Claim.—1. The combination and arrangement of the diagonal frame A and cross bar C, pivoted to the main frame, and having the standards *h* and *u* attached thereto, as shown, with the levers *c*, all as shown and described.

2. In combination with the above, the detachable handle F and the lever H, arranged to operate as and for the purposes set forth.

73,892.—Lysander and Adelaide R. Hill, Alexandria, Va.—*Cradle.*—January 28, 1868.—The axles have rockers and wheels, and may be turned 180° to reverse the action from that of a wheel carriage to that of a cradle, or *vice versa*. The axles are held to their adjustment by a pivoted bar which enters slots in the said axles.

Claim.—1. A cradle, so constructed and operating that it vibrates longitudinally, the body of the cradle always keeping a horizontal position, substantially as and for the purpose set forth.

2. In connection with a cradle, operating as above described, the axles G G, arranged transversely under the body of the cradle, and having rockers B B B attached to their extremities, and operating in the manner and for the purposes substantially as specified.

3. The combination of the cradle body A with the rockers B B and wheels C C, when the parts are so constructed and connected that the device may be adjusted to serve either as a cradle or a wagon, substantially in the manner described.

73,893.—G. G. Hickman, Coatesville, Pa., assignor to himself and George Windle, same place.—*Shutter Fastening.*—January 28, 1868.—The shutters are held at the desired degree of openness by the flexible latch secured by an adjustable pin.

Claim.—1. The elastic strap or connection C, substantially as and for the purpose explained.

2. The combination of the elastic strap C, stud D, and button or latch E, arranged and operating substantially as described.

3. In combination with the subject of the preceding clause, the rings F F′, applied in the manner and for the purpose set forth.

73,894.—Uriah Hummer, White Oak, Pa.—*Manure Drag.*—January 28, 1868.—The head is adjustable so that the tines shall penetrate deeper or shallower according to circumstances. When the head is inverted it rests on bent runners.

Claim.—The arrangement of my drag arm G with its hook *g*, in combination with the two cross pieces J I, hook and link *j* R, and connecting rod O, with the lever P, notched pawl T, and spring S, substantially in the manner and for the purpose specified.

73,895.—Benjamin Illingworth, Freeport, Ill., assignor to Andrew J. Brubaker and Albert Bliss, Jr.—*Churn.*—January 28, 1868.—The dasher rod is tubular and has a removable downwardly opening valve at top. The dasher top has two concentric annular depressions from which holes pass vertically through the dasher. The periphery of the dasher has an ogee bevel on the under side.

Claim.—The dasher A, as constructed, used with the staff B, made hollow and provided with the plug D and nipple C, substantially as and for the purpose set forth.

73,896.—James D. Irvin, Corydon, and B. I. Seward, Bloomington, Ind.—*Alarm for Grist Mills.*—January 28, 1868.—The arm is so adjusted on the wheel that it will press on the trigger when the flour of the grist has passed through the bolt and the alarm is sounded to give notice when to change the bags.

Claim.—1. The movable standards or frames B, the wheels C, provided with the adjustable arms D and stops *t*, substantially as and for the purposes specified.

2. The triggers E, provided with the stops *r*, the springs *p*, acting upon the wheels C, for the purposes set forth.

3. The combination of the running gear with the wheels C, provided with the adjustable arms D and shanks *x* of hammers *h*, furnished with points *i i i*, the whole forming a double alarm for mills, substantially as herein described.

73,897.—Albert Isensee, Indianapolis, Ind.—*Burglar Alarm Lock.*—January 28, 1868.—The retraction of the bolt has the effect of raising a tumbler which is then thrown backward by a spiral spring, the arm attached to it passes through the case and trips the alarm mechanism.

Claim.—1. The sliding tumbler D and arm I, arranged to operate in combination with the bolt B, substantially in the manner and for the purpose set forth.

2. The set P, in combination with the trigger O, substantially as and for the purpose set forth.

73,898.—Edmund M. Ivens, New Orleans, La.—*Centrifugal Pump.*—January 28, 1868.—The pump and suction pipe, when dry, are charged by a steam injector through the medium of a separate pipe communicating with the supply pipe, both above and below the check valve, which is placed at the top of the vertical portion of the suction pipe and near the level of the rotating pump shaft. The supplementary pipe is supplied with stop cocks to regulate its communications with the suction pipe.

Claim.—1. The arrangement of the valve G, relatively to the pump B, suction pipe F, and branch pipes *d d'*, and their connection *e*, substantially as shown and described for the purpose set forth.

2. The arrangement of the branch pipes *d d'*, and their connection *e*, relatively to the valve G, essentially as and for the purpose set forth.

73,899.—Abiezer Jameson, Trenton, N. J.—*Roofing Material.*—January 28, 1868.

Claim.—A roofing material, consisting of a sheet of felt, in which is embedded a textile fabric or fibrous strands, substantially as described.

73,900.—James D. Jenkins, Charlestown, Mass.—*Carburreted Air Lamp.*—January 28, 1868.—Clock work in the lamp base drives a fan blower to force the air through the saturated material.

Claim.—As a new article of manufacture, a lamp in which the vapor for burning is produced by sending a current of air through a saturated packing, said current being impelled by a fan blower, substantially as and for the purpose set forth.

73,901.—John Johnson, Barrington, N. Y.—*Sharpening Horseshoe Calks.*—January 28, 1868.—The frame is clamped to the horseshoe and the calks sharpened by the rotary cutter carried on an adjustable sliding frame.

Claim.—1. The clamp bar A, or its equivalent, adapted to be secured to the shoe, substantially as and for the purpose set forth.

2. The adjustable swinging arm provided with the rotary file G, in combination with the clamp bar, or its equivalent, substantially as described.

3. The rotating circular file, arranged on a vertical or nearly vertical shaft, and operating substantially as and for the purpose described.

4. The removable sleeved cap or plate J, for holding the shaft and circular file in place, as described.

5. The standard F and set screw *f*, in combination with the dovetail slide C, for holding said slide in place on the clamp bar, as described.

73,902.—John B. Johnson, Laurel, Ind.—*Car Coupling.*—January 28, 1868.—The entering link raises the spring and the counterbalance lever thereby allowing the pin to fall.

Claim.—1. The combination of the spring B, pin D, lever E, and wheel F, and chains E′ and C′, with the pin and link of a railroad car, substantially as set forth.

2. Suspending the coupling pin C from a wheel, on the opposite side of which is a lever suspended, so as to more than counterbalance the weight of the pin, when said lever is so supported that, by the entrance of the link into the draw head, the pin, released from the weight of the lever, will fall by its own gravity, substantially as set forth.

73,903.—Phineas Jones, Newark, N. J.—*Clip and Ferrule for Joints on Felloes.*—January 28, 1868.—The clip has a ferrule for the ends of the felloes, a rib entering longitudinal slots in the same, and a shield supporting the rib and extending along the inner diameter of the rim. The ends of the shield are perforated to receive the tire bolts.

Claim.—The combined clip *a* and ferrule *b*, with the rib *c*, made substantially as specified and shown.

73,904.—A. S. Kendall, Guilford, Me.—*Horse Rake.*—January 28, 1868.—The hay is collected by the teeth and deposited in a receptacle behind. The teeth have sliding points which ride upon and are thrust forward by bowed spring rods beneath them, and when the point strikes an obstacle it slides backward and the spring by its increased curvature raises the point.

Claim.—1. The rake teeth, in combination with the secondary teeth Q and spring R, substantially as described and for the purpose set forth.

2. The rake teeth P and secondary teeth Q, in combination with the hay gatherer M N O, operating as set forth, for hauling the hay into the receptacle, substantially as described.

73,905.—A. H. Knapp, Newton Center, Mass.—*Spring for Bed Bottoms, Chairs, &c.*—January 28, 1868.

Claim.—The wire springs *b b*, constructed by bending the same into a succession of loops, as shown in the accompanying drawings, to be used in constructing the bottoms of beds, chairs, settees, sofas, and lounges.

73,906.—Ernest J. Knowlton, Ann Arbor, Mich.—*Bath Tub.*—January 28, 1868.—The jointed frame supports a tub formed of impervious cloth.

Claim.—The portable frame A, constructed of a series of hinged sections, as specified, and provided with a flexible bath apparatus, in the manner and operating substantially as set forth.

73,907.—Samuel Males, Cincinnati, Ohio.—*Urinal.*—January 28, 1868.—The urinal is intended for erection in alleys of cities. The edges of the doors shut together and allow room inside them for the occupant. When the place is unoccupied the doors shut past each other, taking but little space and indicating unoccupancy.

Claim.—A urinal or necessary, having two or more doors, F F′, so constructed as to stay each other in the partially open position and to close automatically when liberated, substantially as and for the purposes set forth.

73,908.—W. W. Martin, Allegheny City, Pa.—*Spike.*—January 28, 1868.—The spike has a series of inclined projections which act as barbs to hold the spike in the sleeper and enable its extraction by rotation.

Claim.—A new article of manufacture, viz: a spike, constructed and operating substantially as herein described and for the purpose set forth.

73,909.—MILES MAYALL, Roxbury, Mass.—*Machine for Oiling Wool.*—January 28, 1868.—The oil from the reservoirs flows into the perforated pipe and drops into the inner side of the gauze cylinder. The wool is carried beneath the cylinder by the endless apron, and the oil is pressed into the wool by the cylinder.

Claim.—1. The combination of the elevated reservoir, connecting tube, and hollow perforated shaft, substantially as and for the purpose set forth.

2. The combination of the elevated reservoir, the connecting tube, hollow perforated shaft, and revolving perforated cylinder, from which the oil is applied to the wool, substantially as described.

3. In combination with the tube for supplying the oil from the reservoir, an oscillating perforated hollow shaft *i*, from which the oil will be made to flow, on starting the carding machine, and be cut off on stopping the same, by means of connecting mechanism acting upon the arm or wheels *g*, substantially as described.

4. Regulating and indicating the supply of oil to the cylinder *m* by means of the valves *o o* and *h h*, indicator *q q*, and dial plate *r r*, substantially as set forth.

5. In combination with a perforated cylinder *m*, the brushes *y* and *z* for cleansing the apertures, arranged substantially as set forth.

6. The combination of the endless apron and cylinder *m*, when the frame supporting the latter is constructed with the pipes *d d*, resting upon standards *c* to permit the cylinder to rise and fall, substantially as set forth.

7. The combination and arrangement of the perforated cylinder and perforated shaft *i*, as and for the purpose set forth.

73,910.—JOHN MCCUNE, Auburn, Ind.—*Spinning Machine.*—January 28, 1868.—The spindles carry a bobbin on each end. The motive shafts of the spindles and carriage are connected by a cross belt, which is tightened or loosened to cause simultaneous or allow independent action in the shafts. The yarn passes over a wire resting upon a spiral spring surrounding a rod slotted to receive the wire. By the movement of the wire the tension upon the yarn is indicated. The faller wires are operated by a treadle.

Claim.—1. The double horizontal spindles Q, constructed substantially in the manner set forth.

2. The treadle, the yarn guides, the tension regulator, the spindles, and the carriers, constructed and arranged substantially as set forth.

3. The combination of the pulleys C and D, connected by a cross belt, and the pawl T, for regulating the tension of the belt when the shaft of the elevating pulley is attached to the frame by adjustable bearings, substantially as set forth.

73,911.—J. W. MEAKER, Chicago, Ill.—*Apparatus for Counting Money.*—January 28, 1868.

Claim.—1. A series of tubes, of varying diameters, to suit different sized coins, and provided with graduations corresponding with the varying thickness of different coins, and numbers to indicate the amount contained in each tube.

2. A coin assorter, consisting of an inclined way for the coin to pass down, with openings corresponding in size with the various sized coins, said openings being arranged with the smallest at the upper end of the inclined way, and increasing in size in regular order toward the lower end, with partitions or guides to direct the various coins to their respective receptacles, substantially as described.

3. The yielding bed *m*, pivoted at one end, in combination with the stationary support *a*, arranged as and for the purposes set forth.

73,912.—R. S. MERRILL and WILLIAM CARLETON, Boston, Mass.—*Lamp.*—January 28, 1868.

Claim.—In a lamp burner in which the cone and chimney holder are connected with a sleeve fitting the wick tube, the arrangement of the parts, substantially in the manner herein described, so that the removable parts of the burner, when taken from the wick tube, may be deposited in an upright position, and supported upon a broad base, as and for the purposes set forth.

73,913.—MASON M. MILES, Aurora, Ill.—*Vapor Inhaler.*—January 28, 1868.—Air is forced through the tube into the liquid by contraction of the bulb, and is ejected from the nozzle, whose pipe communicates with the space above the liquid.

Claim.—The combination of the tubes C D with the vessel A and bulb B, the various parts being constructed substantially as and for the purposes specified.

73,914.—C. MOUL, Hanover, Pa.—*Harvester.*—January 28, 1868.—The shaft has rectangular tubular sections, which slide together telescopically.

Claim.—A shaft for connecting the driving power of a harvester with a rake or reel or other device applied upon a hinged finger beam or platform, and to be driven, when such shaft is constructed of three or more than two longitudinally-adjustable telescopic sections, and such sections fitted together by tongues and grooves, and shoulders and stops, all substantially as and for the purpose described.

73,915.—JACOB NEAL, Orleans, Iowa.—*Bee-hive.*—January 28, 1868.—The hive has two similar sections, which may be disconnected by a sliding perforated plate. The hive may be closed when desired by perforated plates, which are ordinarily supported by hooks. The moth-trap slides are in both bottom side corners of each section, and have metallic scrapers, which clean the bottoms of their containing cavities when they are drawn out to destroy the moths, eggs, and worms.

Claim.—1. Providing the moth slides G G with metal scrapers *t t*, when used in the boxes B B, in the manner and for the purposes specified.

2. The boxes B B, communicating as described, moth slides G G, having scrapers *t t*, blocks H H, with their small cavities, perforated slides F F, and buttons E, the whole being constructed, arranged, and used in the manner and for the purposes set forth.

73,916.—J. B. NEWBROUGH and E. FAGAN, New York, N. Y.—*Manufacture of Articles of Rubber, Gutta Percha, &c.*—January 28, 1868.—The gum after molding is immersed in bromine or a mixture of chloroform, 1 part, and bromine 9 parts, and then exposed to the air to harden.

Claim.—The manufacture of articles of utility or ornament, by subjecting rubber, gutta-percha, or similar gum, either before or after it is formed of the desired shape, to the action of bromine, substantially as described.

73,917.—J. B. NEWBROUGH and E. FAGAN, New York, N. Y.—*Material Produced by Treating Caoutchouc and other Gums.*—January 28, 1868.—The sulphur is boiled in turpentine or equivalent oil and then allowed to settle and the remaining oil poured off. Iodine is treated in the same manner as the sulphur, with sulphuric acid added to prevent formation of an explosive. Equal quantities of the prepared sulphur and iodine are melted together, and the composition after cooling and hardening is incorporated with caoutchouc. After molding, the objects are placed in an oven and the temperature raised to 350° Fahr. in fifteen minutes; this heat is sustained for five minutes, and then the oven is cooled to 250° and retained at this heat for an hour.

Claim.—The within described new manufacture or substance, consisting of caoutchouc or equivalent gum incorporated with iodine and sulphur, (after treating the said iodine and sulphur substantially as specified,) and subjected to heat.

73,918.—GEORGE E. NEWELL, Pawtucket, R. I.—*Dumping Cart.*—January 28, 1868.—The rack is pivoted to the frame, and the spur wheel shafts journaled in the side pieces attached to the front of the cart. The rack is kept in contact with the wheel by the anti-friction roller journaled in the side pieces. The wheels are actuated by a winch.

Claim.—1. The combination and arrangement of

the hinged rack C, the train of gear-wheels *k l m n o*, and the pressure-roller *f*, with the body of a dumping cart, substantially as described, for the purposes specified.

2. Combining with the hinged rack C a pressure roller, for the purpose of keeping the teeth of the rack in engagement with the teeth of its operating pinion at all positions of the cart-body, substantially as described.

73,919.—JEREMIAH L. NEWTON, Boston, Mass.—*Composition for the Soles of Boots and Shoes.*—January 28, 1868.

Claim.—A mixture composed of caoutchouc or rubber, gutta-percha, or an equivalent gum, mixed with pulverized quartz, sand, felt, or their equivalents, and applied to or for the soles of boots and shoes, for the purpose of preventing slipping, substantially in the manner and for the purpose above set forth.

73,920.—JOHN NOBLIT, Philadelphia, Pa.—*Hair Cloth.*—January 28, 1868.—The moving jaws of the nippers are raised by cams to allow the introduction of the hairs, and are opened by cams at different times to drop the hairs at different positions in the shed.

Claim.—1. Two or more nippers or hair carriers in a loom for weaving hair cloth, which are operated so as to close upon two or more hairs simultaneously, and then to drop the hairs singly and at different points in the shed or warp, substantially as described.

2. A fabric, each lay of the woof of which is composed of two or more hairs laid together, substantially as described.

73,921.—LUMAN P. NORTON, Bennington, Vt.—*Apparatus for Cleaning Clay.*—January 28, 1868.—The ground clay is put into a press box and forced by a plunger through the sieve stretched across the bottom of the box. The plunger rod screws into a sleeve, carrying a bevel wheel engaging a wheel upon the motive shaft, which is clutched to rotate in either direction. A tappet cam upon the plunger shaft reverses the clutch when the plunger is sufficiently depressed.

Claim.—1. The screw shaft E, in combination with the stopping and reversing cams N, and the pins P, on the lever M L, substantially as and for the purpose set forth.

2. The sieve W, the pressing plate D, in combination with the stopping and reversing cams N, and their adjuncts, arranged and operated substantially as and for the purpose set forth.

73,922.—WARREN C. PHILBRICK, Lynn, Mass.—*Composition for Kindling Fires.*—January 28, 1868.—Composed of charcoal, pulverized coal, rosin, coal tar, and sawdust. It is molded while hot into bevel-edged perforated blocks.

Claim.—1. The use of the several ingredients hereinbefore mentioned, in combination, for the purpose of kindling hard-coal fires, substantially as above set forth.

2. In a particular manner the pressing of the material, while hot, into blocks or cakes, as stated, having the bevelled edges C C, and especially the the openings or draught-holes *a a a*, for producing strong and ready combustion.

73,923.—THOMAS J. PHILLIPS, Washington, D. C.—*Tool for Opening Barrels.*—January 28, 1868.—The pivoted hook takes beneath a hoop, and the fulcrum being placed upon the head the hoop is removed by depression of the lever.

Claim.—As a new implement for removing hoops from barrels, &c., the herein-described head A, provided with the hammer C, or its equivalent, a suitable handle, and the hook D, all constructed and operating substantially as described.

73,924.—RUFUS S. PICKETT, New Haven, Conn.—*India-rubber Sole.*—January 28, 1868.—The edge of the sole is rendered sufficiently hard to enable it to be secured to the boot by stitching or pegging.

Claim.—The rubber sole described, the edge of which is formed of a harder compound than the body of the sole, and the whole formed and finished by the process of vulcanization, and so as to be attached to the boot or shoe in the manner set forth.

73,925.—CHARLES C. PLAISTED, Hartford, Conn.—*Window Screen.*—January 28, 1868.—The screen is attached to one sash or frame, and is coiled around a roller in the other. The screen is drawn out by opening the sash, and is taken up by the roller on closing the sash. The sides of the screen are secured to the window frame by pins or by the clamp bar.

Claim.—1. The combination of the screen and pins *b*, in the manner and for the purpose herein set forth.

2. The combination of the screen and clamp or clamp bar E, in the manner and for the purpose herein set forth.

73,926.—GEORGE A. PRIDHAM, Newark, N. J.—*Spool Stand.*—January 28, 1868.—The base has a central post and a series of vertical spindles which traverse the open-sided box. The spools are placed in the box before it is put upon the base, and they then turn upon the spindles.

Claim.—The box A, in combination with the bar B, with its arms C C C′, and used as and for the purpose set forth.

73,927.—DAVID F. RANDALL, Chicopee, Mass.—*Metallic Band for Trimming Car Seats.*—January 28, 1868.—The trimming band is rolled between forming rolls, and the edges turned downward so that they will be imbedded in the cloth.

Claim.—A metallic band having the projections *a a′* formed thereon, substantially as and for the purpose set forth.

73,928.—CARL RECHT, New York, N. Y.—*Machine for Threading Sheet-Metal Pipe.*—January 28, 1868.—Sheet-metal pipe is passed between the two rotating circumferentially ribbed cylinders, the ribs of the cylinders meshing together. As the cylinders rotate they impress the thread upon the pipe.

Claim.—1. The combination of the cam roller *f*, or its equivalent, with the movable or sliding strip *h*, or its equivalent, when arranged as specified, and used for the purpose set forth.

2. The combination of the gauge plate H with the cylinders A and B, substantially as set forth.

3. The combination of the clutch O and set screw with rest I, all constructed as described, when used for the purpose set forth.

73,929.—CARL RECHT, New York, N. Y.—*Sheet Metal Pipe.*—January 28, 1868.

Claim.—1. Cutting sheet metal into rhomboids *a l d m*, for the purpose of making an overlap, *z*, equal to the pitch of a thread, which, after rolling said rhomboidal sheets into pipes, I turn on the ends of said pipe, substantially as herein specified.

2. Making sheet-metal piping, the ends of which are parallel to the thread which is turned thereon, substantially as herein specified.

73,930.—GEORGE REHFUSS, Philadelphia, Pa., assignor to the AMERICAN BUTTON HOLE, OVERSEAMING, AND SEWING-MACHINE CO. OF PA.—*Braid-Making Machine.*—January 28, 1868.—The thread from the bobbin passes twice through the plate projecting upward from the horizontal plate. The thread then passes through the eye in the lever, in the form of a loop; around the shank of the needle, below the latch of the same, and beneath the spring plates. When the motive shaft is rotated the cam acts to give the needle its vertical reciprocation, and the lever its oscillation.

Claim.—1. The combination of the plate B, lever G, rod D, and its needle *d*, the whole being constructed, arranged, and operated substantially as and for the purpose described.

2. The combination of the above and the spring-plate *o*, for the purpose set forth.

73,931.—HENDERSON ROSS, Pittsburg, Pa.—*Puddling Furnace.*—January 28, 1868.—The furnace has a detached metallic clamp having a water cham

ber. It has also a metallic throat and chimney; both are partially inclosed by water chambers.

Claim.—1. A water clamp for furnaces, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

2. Surrounding the neck or throat with water, substantially as herein described and for the purpose set forth.

73,932.—JESSE B. RUMSEY, Port Huron, Mich. —*Churn.*—January 28, 1868.—The cream is allowed to fall slowly through the slot upon the two dashers. The lower dasher has pivoted wings which fold to the shaft when turning in one direction, but stand radially when turning in the other direction.

Claim.—1. The vessel or hopper C, provided with a long slot in its bottom, and with a slide or cover, D, to close this slot for regulating and controlling the supply of milk to the churn below, substantially as set forth.

2. The shaft E, provided with wings, and situated beneath the vessel or hopper C, as and for the purpose specified.

3, The wings or paddles G G, made in a curved form, and arranged upon the shaft F, near the bottom of the churn, with holes made diagonally through them, and with journals on each end, so that they will fold up on the shaft, substantially as set forth.

4. The collars P, for the ends of the shaft F, said collars being provided with arms, in which are holes to receive the journals of the wings G G, as and for the purpose set forth.

73,933.—HIRAM SLOOP, Mount Healthy, Ohio, assignor to himself and JEPTHA GARRARD, Cincinnati, Ohio.—*Hill Side Plow.*—January 28, 1868.—The front and rear ends of the plow are uniform as far as consistent with being right and left hand respectively. The plow is reversed by turning the beam around on the standard to which it is connected by a D-formed guide frame. The plow is locked in either position by the dogs, which are simultaneously operated by a hand lever.

Claim.—A reversible hill-side plow, characterized by two plows proper, secured back to back, and provided with a beam capable of being swung and locked in diametrically opposite directions, dogs I J, abutment bar H, sheths E E′, lever M, and rack N, or their equivalents.

73,934.—ABSALOM G. SMITH, Jersey City, N. J. —*Lantern.*—January 28, 1868.

Claim.—1. An inwardly projecting flange around the base or top of a lantern glass, substantially as and for the purpose set forth.

2. A shoulder or depression in the side of the lantern glass, in combination with a spring or automatic catch, to lock and retain the globe within the guard frame, substantially as set forth.

3. Holding a movable lamp or oil pot down in its proper place upon the base plate *f*, by means of the burner shaft.

4. Securing the bottom B and the guard frame A to each other, by passing the burner shaft F through both of the bands *a* and *h*, and at opposite sides of the lantern, substantially as set forth.

5. In combination with the burner shaft F, extending through both sides of the bands *a* and *h*, and securing the bottom B and guard frame A together, a spring catch H, substantially as and for the purpose set forth.

6. In combination with the burner shaft F and slot *q*, or its equivalent, the notch *r*, substantially as and for the purpose set forth.

7. Holding a burner down in its proper place by means of the burner shaft, secured to both sides of the band *h*, substantially as set forth.

8. Projecting the lower end of the lantern glass C downward within the band *h*, substantially as and for the purpose set forth.

9. The combination of the burner shaft F, secured at each end to the band *h*, with the top of the lamp pot G, in such a manner that the said burner shaft shall, when in position, be slightly bent or sprung so as to produce a pressure upon the burner E and lamp G sufficient to retain them respectively in their places, substantially as herein specified.

10. Fastening a movable lamp pot, which rests on the bottom of the lantern without any part extending through the same, down in its place, by means of a fastening bearing upon its top, as set forth.

11. A seat *p*, formed in the base plate *f*, to retain the movable lamp pot in a central position, substantially as set forth.

73,935.—JAMES W. SMITH and JOHN P. SMITH, Elder's Ridge, Pa.—*Car Coupling.*—January 28, 1868.—The foot rod is connected to the coupling pin by a chain. The chain works in an anti-friction roller. When the foot rod is depressed the pin is elevated to admit the link. After depression the foot rod is raised by a spring. The draw head is attached to the car by beveled plates; a portion of the draw head being beveled so as to work freely in the plates.

Claim.—The spring *c*, in combination with the lever and foot rod *a*, upright a^3, and chain a^1, and coupling pin *b*, when the same are so arranged as to operate substantially as described, and for the purpose set forth.

73,936.—D. E. SOMES, Washington, D. C.—*Apparatus for Making Ice and for Cooling Air and Liquids.*—January 28, 1868.—The vacuum pipe contains metallic cases communicating by doors with the outside, and air is drawn from the vacuum chamber by air pumps, and forced into the compression pipe communicating with a chamber connected by atomizers with the vacuum pipe.

Claim.—1. The bed frame, as and for the purpose set forth.

2. Atomizing liquids, substantially as shown in Fig. 2.

3. Connecting cars or boats, and other vessels, as and for the purpose set forth.

4. Cooling cars, for the transportation of meats and other food, substantially as set forth.

5. Cooling and ventilating passenger cars, substantially as set forth.

6. Cooling ships, boats, and other vessels, as described.

7. Cooling corn, wheat, and other kinds of grain, in canal-boats and other vessels, substantially as set forth.

8. Cooling grain in granaries and other buildings, substantially as set forth.

9. Using ice and other cooling or freezing substances, in combination with a machine or machinery for producing cold, and as an alternative or reinforcement of cold, when such machine or machinery shall from any cause cease to operate, for the purposes herein set forth.

10. Making ice and freezing cream, as herein described.

11. Cooling liquids and condensing steam, gases, or vapor, substantially as set forth.

12. Purifying air and cooling it, substantially as and for the purposes set forth.

13. Cooling or freezing meats, fish, fruits, and other kinds of food, substantially as described.

14. Cooling or freezing meats, vegetables, or other food, by means of machinery, in combination with chemical agents.

15. Cooling cars, by means of a machine or machinery.

16. A car, having in it or connected with it a machine or machinery for cooling or freezing, as an article of manufacture.

17. The apparatus herein described, or its equivalent, as an article of manufacture.

18. Canal-boats and other vessels, with lining and tubes, substantially as described, in combination with the apparatus herein described.

19. Flexible air tubes, for connecting cars or boats and other vessels.

20. Canal-boats, with tubes for conducting cooled air, and means for ventilating, and the apparatus, or an equivalent, for cooling or freezing, substantially as described.

73,937.—O. F. STEDMAN, Ravenna, Ohio.—*Watch.*—January 28, 1868.—A ring is sprung on, reaching from the top to the bottom plate and acts to keep dust from the works.

Claim.—The band or ring C, beveled or made thin near its upper edge, with its lower edge resting

upon the case frame B, said ring being made narrower than the movement, and just wide enough to cover the space between the plates *a* and *b*, substantially as and for the purpose set forth.

73,938.—Lewis Straus, Louisville, Ky.—*Apparatus for Cleaning Privies.*—January 28, 1868.—The excrement is drawn upward by a cylindrical pump having slide valves and piston similarly to a steam engine, and the excrement is forced into a receiver having an air escape tube communicating with a charcoal stove to deodorize the air.

Claim.—1. The combination of the reservoir or receiving tank A and deodorizer B with a forcing engine, substantially as and for the purposes described.

2. The sliding valves *l* of the engine, constructed with cutting edges, substantially in the manner and for the purposes described.

3. An apparatus for emptying privy vaults, constructed and operating substantially as described.

73,939.—John M. Thompson, Saltilloville, Ind.—*Medical Compound.*—January 28, 1868.—For treatment of cholera, composed of blackberry root, ragweed leaves, white oak bark, water to form decoction. To this add gum kino, gum guiacum, capsicum, acetate of lead, opium, prepared chalk, tannin, cloves, cinnamon, and alcohol.

Claim.—The within-described mixture, compounded as and for the purpose set forth.

73,940.—Alban N. Towne, Chicago, Ill.—*Car Replacer.*—January 28,1868.—The upper end of each bar is pivoted to a clamp plate whose down-curved ends embrace the rail and are secured thereto by a wedge biting against the web and the lower side of the flange of the rail. The lower ends of the bars have dogs engaging the sleepers, and the bars are made of unequal length so that the first wheel upon the track will guide the one succeeding it.

Claim.—An apparatus for replacing cars upon the track, formed by a combination of the clamp E and bars D, the former to be attached adjustably to the rail by keys J, and the latter made of unequal lengths, and terminating with dog H, for attaching adjustably to the track, substantially as set forth.

73,941.—Jerome B. Withey, Lexington, Mich.—*Running Gear for Carriages.*—January 28. 1868.—The hubs are attached to short arbors which turn in bearings upon the light frame made of bent stuff.

Claim.—The combination and arrangement of a running gear for carriages, as hereinbefore described, when constructed with the wrought spindle or journal shaft A, the hub B, a collar and nut C, boxes D, bars E, F, G, H, I, and K, reach J, plate L, dog M, and draught rods N, when put together and operating substantially as and for the purposes set forth.

73,942.—F. C. Adams and J. Peckover, Cincinnati, Ohio.—*Cooking Stove.*—February 4, 1868.—The object is to cause more perfect combustion of the gases arising from the fire.

Claim.—1. The horizontal concentrating plate A, stationary or movable, and with or without fuel doors, substantially as and for the purposes described.

2. The flap or guard plate B, whether stationary or movable, substantially as and for the purposes described.

3. The spaces between the fire back and sides and the front oven and side plates, in combination with the plate A, substantially as described.

4. The chamber above the top oven plate and below the top flue formed by plates C and C′, substantially as and for the purpose described.

5. The hollow or double fire back Q, substantially as described.

6. The air chamber under the grate and ash pot formed by the false bottom I, substantially as described.

7. The chamber between the front oven plate and fire back, in combination with the open grate frame and plate A.

8. The hollow side plates S S′, substantially as described.

9. The register R, in combination with the fire back and front oven plate, substantially as described.

10. The register N, in combination with the open grate frame, substantially as described.

11. The sliding lid A *a*, in combination with a cooking stove, substantially as described.

12. The rolling hearth plate D *d*, operating substantially as described.

13. The hearth plates E *e*, sliding laterally under the bottom plate, substantially as described.

73,943.—Edwin Allen, Norwich, Conn., assignor to Allen Manufacturing Company.—*Printing Press.*—February 4, 1868.—The racks are adjustable in direction of their length by set screws. These racks are made straight, or nearly so, and the segmental racks engaging therewith are curved sufficiently to bring the pitch lines in coincidence.

Claim.—The rotary press herein described, having one of its driving wheels F^1 provided with one or more adjustable segments or racks F^2, substantially as and for the purpose set forth.

73,944.—Samuel S. Barnaby, Macon, Ga.—*Vise.*—February 4, 1868; antedated November 23, 1867.—The sliding bar has inclined notches receiving pins by which the bar is raised when moved endways. The bar carries the pawl upward with it and frees the ratchet bar, which is in one piece with the moving jaw; the said jaw can then be freely moved. When the article is inserted between the jaws they are forced together by the eccentric cam, which bears against an anti-friction roller on the fixed jaw, and moves the sleeve to which the pawl is pivoted.

Claim.—1. The combination of the sliding bar H, ratchet jaw shank or bar E, and pawl M, when arranged together substantially in the manner and so as to operate as and for the purpose described.

2. The combination with the eccentric V and sliding sleeve S of the pawl M, arranged together and connected with the jaw shank or bar E, substantially as and for the purpose set forth.

3. An improved vise, constructed and arranged in its several parts substantially as described, and so as to be operated as specified.

73,945.—F. M. Barrier, Stevenson, Ala.—*Cultivator.*—February 4, 1868.

Claim.—The construction, arrangement, and combination of the central beam A with its shovel or plow, the side beams C C′, with their shovels or plows, the U or arch-shaped brackets E E, and braces *a a*, all as and for the purpose described.

73,946.—James Barwick, North Woolwich, England.—*Inkstand.*—February 4, 1868.

Claim.—1. The combination with an ink reservoir and cup of a valve for holding and discharging the ink which the cup may contain, said valve being arranged within the reservoir so as to close against the bottom or under side of the cup, substantially as herein shown and described.

2. The combination with the ink reservoir, dipping cup, and valve, arranged as above described, of a valve rod passing centrally or axially through the said cup, substantially as and for the purposes set forth.

3. The combination with the ink reservoir, cup, and valve, of a hollow, valve-operating stem, extending from within, and near the bottom of the reservoir, up through and above the bottom of the ink cup, substantially as and for the purposes shown and described.

4. The combination with the ink reservoir, dipping cup, and valve, of a rubber sleeve or other device for holding the valve against its seat with a yielding pressure, substantially in the manner herein shown and specified.

5. In an inkstand, organized substantially as herein shown and described, providing the valve stem, when hollow, with discharge openings within the capacity of the ink cup and above the intended level of the ink held in the same, substantially as and for the purposes shown and specified.

6. The combination with the closed ink reservoir, the elastic bulb, or equivalent device for compressing the air within the same, and the ink cup, of a tube or conduit opening from the reservoir into the cup at a point above the bottom of the latter, and a valve for holding and discharging the ink contained within

the cup, substantially as and for the purposes shown and specified.

73,947.—JULES BOUNIOL, Philadelphia, Pa.—*Drawing Clamp.*—February 4, 1868.—The end of the bar is held between two grooved cam rollers, the draught upon the bar increasing the pressure of the cams.

Claim.—The wire and tube-drawing device, consisting of the frame A B, with rollers C D, which have cams or jaws *g h*, cog wheels H I, double joint or hinge E F, and hook G, substantially as and for the purposes described.

73,948.—EDWIN BROWN, Roxbury, and EDWIN W. BROWN, Boston, Mass., assignors to EDWIN W. BROWN, Boston, Mass.—*Photographic Printing Apparatus.*—February 4, 1868; antedated January 24, 1868.—The sketching frame is connected to clock mechanism by which it is moved across the picture.

Claim.—1. So connecting a frame, suitable for sketching photographing prints, to and with any proper operating mechanism, that such frame will be moved over and across the picture as it is being printed, substantially as and for the purpose described.

2. The rod F, carrying the sketching frame and guide M, or their respective equivalents, in combination with each other, and when so arranged together and with reference to the operating mechanism as to impart to the frame the movement requisite for sketching, substantially as described.

73,949.—WILLIAM BROWN, Duncannon, Pa.—*State Room for Railroad Cars.*—February 4, 1868.—The rooms open into a side passage, and the doors of the rooms, when swung open 90°, cross the passage, cutting off access to the room, and giving space for disrobing.

Claim.—The combination of the hinged doors *c* with the passage way or entry C, so that the latter may be inclosed, and made to form a portion of the state rooms, when desired, substantially as described.

73,950.—JOHN A. CAMPBELL, South Boston, Mass., assignor to himself and DAVID SHARP, same place.—*Car Brake.*—February 4, 1868.—The portions of the transom bolt traversing the brake bars have screw threads of different pitch, so that the rotation of the bolt will cause the bars to approach, or become more widely separated.

Claim.—1. The combination as well as the arrangement of the two screws *e f* of the transom bolt C with such bolt, the bars *a c*, and the two series of brakes, applied to such bars and the wheels, or to the same and the platform A, substantially as described.

2. In combination therewith, the hand wheel shaft *m*, its gear *l*, and chain or belt *k*, and the gear *i* on the transom bolt C, the whole being arranged substantially in manner and so as to operate as described.

73,951.—JAMES L. CATHCART, Georgetown, D. C.—*Steering Apparatus.*—February 4, 1868.—The propeller screw is gimbal jointed to its motive shaft, and journaled in a frame which is connected by gearing to, and turns with, the rudder.

Claim.—The jointed propeller, so arranged in connection with the rudder as to be capable of lateral motion for steering purposes, in unison with the rudder, by power transmitted through the latter, and of being disconnected therefrom and secured in its normal position, substantially as herein described.

74,952.—ABNER CHAPMAN, Delta, N. Y.—*Horse Rake.*—February 4, 1868.—The grain head is placed in a vertical position over the tumbling bar of the main rake, and serves to hold the hay or grain collected by the latter.

Claim.—A grain head, applied to the arms of a revolving horse rake, marked B, in the manner and for the purpose herein set forth.

73,953.—G. F. J. COLBURN, Newark, N. J.—*Case for Tooth Paste.*—February 4, 1868.—The tooth paste is contained in a compressible foil case, similarly to some pigments, and is forced out of the mouth by compression of the case. The whole may be inclosed in a leather cover.

Claim.—The case D, to be used in combination with the tube B, and with or without the sack A, and the application of the whole as and for the purpose specified.

73,954.—JOHN COULTER, Sr., Xenia, Ohio.—*Lifting Jack.*—February 4, 1868; antedated January 31, 1868.—The windlass is connected by cords to the horizontal bar, and by raising the latter, forces upward the vertical lifting bars to which the said bar is secured.

Claim.—The combination and arrangement of the standards C C, horizontal sliding bar B, vertical bars *d d*, windlass E, with its toothed wheels F F, and ratchet lever G, toothed wheel I and pawl H, constructed substantially as shown and described.

73,955.—E. CROSS, Southbridge, Mass.—*Shuttle for Looms.*—February 4, 1868.—The "shield" is a ferrule, whose inside diameter decreases toward the point so as to compress the wood upon the shank of the tip, which is forced into position simultaneously with it.

Claim.—The combination, with the tip and wood of the shuttle, of an interposed shield, C, arranged, with relation to the tip and the shuttle wood, substantially as and for the purposes set forth.

73,956.—SAMUEL DARLING, Bangor, Me.—*Pen Wiper.*—February 4, 1868.—The wiper turns on an inclined axis so that one side will be immersed in the water. An extension at one end holds a dipping cup, and at the other side is a wiping band coiled upon rollers.

Claim.—1. A pen-cleaning apparatus so constructed as that the pen may be first dipped in water, and then be cleaned against a brush hung free to revolve, substantially as set forth.

2. The combination, with a water cup or vessel, of a circular brush, free to revolve therein, as and for the purpose described.

3. The combination, with such a cup, of a revolvable brush, set at an angle with the cup, substantially as and for purpose described.

4. The removable cover, having secured thereon one of the bearings or centers for the brush.

5. The combination, with a pen washer, of a wiping reel, as and for the purposes described.

6. A pen cleaner having a brush, circular or otherwise, to be used wet or dry, in combination with a wiper, made of wash leather, cloth, or their equivalents, for the purpose herein set forth.

73,957.—SAMUEL DARLING, Bangor, Me.—*Gas Heater.*—February 4, 1868.—The flame is flattened by side plates attached to the burner, to increase its heat by a concentration which more perfectly consumes the carbon.

Claim.—The combination, with the tube of a "gas heater," of flame-confining guides, substantially as described.

73,958.—J. L. DICKINSON, Dubuque, Iowa.—*Safety Harness Hook.*—February 4, 1868.—The point of the trace hook passes through a slot in the plate, and is secured by a spring latch to which a cord is connected, by which it is drawn back to release the trace.

Claim.—A safety harness hook, for liberating horses from carriages, constructed and operating substantially as herein shown and described.

73,959.—J. HALL DOW and DANIEL J. RIKER, Chicago, Ill.—*Railway Frog.*—February 4, 1868.—The frog is made reversible, so that when the wings and point are worn away on one side the other may be presented.

Claim.—1. The chair C, constructed substantially as and for the purpose specified.

2. The point *g*, having its upper and lower edges beveled, in combination with the chair C, constructed substantially as and for the purposes specified.

3. The wings *e f*, when provided with two beveled edges, in combination with the point *g* and chair C, all constructed and arranged substantially as and for the purposes specified.

73,960.—Christopher A. Erskine, Palermo Center, Me.—*Egg Preserving Frame.*—February 4, 1868.—The horizontal side ties of the frame act as sides to the trays; the trays having ledges at the ends by which they are secured to the frame. The object is to increase the space by doing away with the tray sides.

Claim.—The said egg-supporting frame substantially as described, as made not only with its trays, provided with ledges at their ends, and without any at their sides, but as having the tie bars arranged with respect to such trays in manner and so as to operate as and for the purposes as set forth.

73,961.—William H. Evans and William H. Wainwright, Indianapolis, Ind.—*Straw Cutter.*—February 4, 1868.—The feed rollers are operated by an eccentric rod upon the cutter shaft. The cutter bar is adjusted to or from spiral cutters by turning its attaching bolts, whose shanks are placed eccentrically upon their circular heads.

Claim.—1. The combination of the eccentric shaft I, pawls L and M, ratchet wheels O and O′, rollers D and D′, and the adjustable eccentric R, constructed and arranged substantially as set forth.

2. The combination of the boxes B and B^1, and plates B^2, constructed as described.

3. In combination with the boxes B B^1, and knife E, the cutting bar C, adjustably attached by eccentric bolts, substantially as described.

73,962.—Alfred Fellows, Thomas B. Harrison, and Hugh Dyer, Maquoketa, Iowa.—*Loom Indicator.*—February 4, 1868.—The steps on the registering pawl operate in combination with those of the changing pawl in such manner, that when the latter engages the unit disk, the register pawl releases the same, and when it engages both the "unit" and "ten" disks, the register pawl releases both, and so on throughout the series of disks, the registering pawl entering and holding the disks after each change.

Claim.—1. The cylinder C, pin D, shaft B, and spur E, constructed, arranged, and operating as and for the purpose described.

2. The combination of the bevel wheels G and F, arbor H, the ratchets O and N, with their hollow arbors, dial K, and hands P and L, arranged and operating as described.

3. The combination of the rod Z, lever A″, spring B″, lever W, pawl Y, and ratchet wheel O, arranged and operating as described.

4. The shaft E″, button F″, and pinion D″, arranged and operating as above described.

5. Operating the lever W by means of a flexible cord attached to the lay or batten of the loom, as described.

6. The measuring device, constructed as described, in combination with the clamp and screw H″.

7. The combination of the wheel G, pin R, lever S, spring U, pawl T, and ratchet wheel N, arranged and operating as described.

73,963.—Walter H. Forbush, Buffalo, N. Y.—*Numbering Machine.*—February 4, 1868.—The instrument is attached to the breast beam, and the surface of the cylinder, which is studded with pins, engages the passing cloth and indicates the length woven. The cylinder is connected to the train of register wheels for this purpose.

Claim.—1. A registering pawl G, striking radially, or nearly so, into the external registering notches D of the disks, after each movement thereof, thereby bringing said disks into strict alignment.

2. The system of steps, g^3, on the registering pawl G, working in combination with the steps of the changing pawl E, substantially as set forth.

3. The mechanism, consisting of the cam I, arm H, and fixed plate J^2 or the equivalent thereof, for giving the in, down, out, and up movement to the changing pawl E, as and for the purpose set forth.

73,964.—John Fortier, Fairport, N. Y.—*Car Coupling.*—February 4, 1868.—The coupling pin is supported by a sliding bar, which is held in its forward position by a rubber spring. The entering link thrusts back the bar and allows the pin to drop.

Claim.—The combination of the spring E with the inclosing slide D and case *f*, arranged in such a manner that the spring acts by the tension of its main body and compression of its parts *k k* simultaneously to resist the thrust of the coupling link, substantially as set forth.

73,965.—George A. Frear, Chicago, Ill.—*Manufacture of Artificial Stone, Stucco, Cement, &c.*—February 4, 1868.

Claim.—The use of an aqueous solution of shellac in the production of artificial stones, cements, stucco, &c., for useful and ornamental purposes.

73,966.—Russel Frisbie, Cromwell, Conn., assignor to J. and E. Stevens & Co., same place.—*Toy Gun.*—February 4, 1868.—The socket shaft is surrounded by a spiral spring which throws the socket forward when freed by the trigger. The pebble is ejected by centrifugal force.

Claim.—The spring E, with the clutch hub D, rod F, pebble socket J, trigger B, substantially as and for the purpose described.

73,967.—William T. Fry, New York, N. Y., assignor to George H. Jones and Henry C. Berlin, same place.—*Wetting or Wiping Instrument for Slates, &c.*—February 4, 1868; antedated January 23, 1868.

Claim.—A vessel A, having openings in the end, through which pass fibrous strands *d*, in combination with a sponge E, with which the said strands are in contact, the whole being arranged substantially as specified.

73,968.—William T. Fry, New York, N. Y., assignor to George H. Jones and Henry C. Berlin, same place.—*Wetting or Wiping Instrument for Slates, &c.*—February 4, 1868; antedated January 24, 1868.

Claim.—1. An instrument consisting of a casing for containing water, one end of the casing being provided with a sponge or its equivalent communicating with the water, and the other end with a sponge to which the water cannot gain access, the whole being constructed substantially as and for the purpose herein set forth.

2. The enlargements *c c* at opposite ends of the case, for the purpose specified.

73,969.—S. P. Gilbert, Racine, Wis.—*Pump Piston.*—February 4, 1868.—The two rings are brought together in the upward stroke, the one forming a valve for the ports through the other. In the downward stroke the rings are separated.

Claim.—The ring I, holding the packing E and forming a valve for the ports D, all substantially as and for the purpose set forth.

73,970.—Thomas Goodrum, Providence, R. I., assignor to William E. Green and Charles W. H. Day, same place.—*Apparatus for Turning the Leaves of Music.*—February 4, 1868.—The fingers are placed beneath the leaves and are swung around, one at a time, by the ratchet plate. The arm bearing the ratchet plate is attached to a spindle, which is actuated in its effective stroke by a treadle, and turned back by a spring.

Claim.—The ratchet plate F, hinged to and operated by the spindle C and lever I, in combination with the fingers, for turning over the leaves of music books, substantially as shown and described.

73,971.—W. T. Harmar, New York, N. Y.—*Horseshoe.*—February 4, 1868.—The hook of the calk plate engages the inner edge of the shoe, and the flexible metallic straps attached to the plate engage a leather strap passing around the hoof, and kept down at the heel by a loop which may be attached to the snow plate.

Claim.—The steel toe calk or sharp, attachable to any smooth horseshoe by means of a clip, flexible metal straps; also an iron or other metal snow plate, attachable to the shoe by means of the clip and hole and leather loop and strap, as represented in the plan hereunto annexed.

73,972.—Martin Hayden, Detroit, Mich.—*Seeding Cultivator.*—February 4, 1868.—The draw

bars of the plows are hinged at their fore ends to the cross bars, and are adjusted vertically by a hand lever operating through springs. The plows are adjusted laterally by nuts upon a screw rod, which is moved endways by the treadle lever to cause the lateral movement of the plows.

Claim.—1. The springs L, when arranged and operating substantially as and for the purposes set forth.

2. The arrangement of the treadle or vibrating lever W, the arm V, and rod X, provided with the adjustable screws and nuts, the pins Y, and the ears Z, for the purpose described.

3. The covering shovels G, provided with a proper spring, when operating substantially as and for the purposes specified.

4. The combination and arrangement of a seeding cultivator, combining the above recited parts, with the frame A, the wheels B, the bars of the frame C, the bar behind the rear bar C, the hollow standards E, hung upon the bars D, the shovels F and covering shovels G, the hinged joints H, the braces I, clasps J, the adjusting slotted plates and bolts K, the slotted projections M, the bolts P, the lever Q, the arm R, the quadrant S, the pitman arm T, the rocking bar U, the vibrating lever or treadle W, with its attachments, the gear wheel 2, the pinions 3 and 4, the lever 5, and the shaft 6, when constructed and operating substantially as herein set forth.

73,973.—MARTIN HEYDEN, Detroit, Mich.—*Seeding Machine.*—February 4, 1868.—The size of the seed cavities is determined by the gauge prongs which slide in them. The prongs are adjusted by connection to a plate, whose rack engages the segment rack on a lever which is fixed to desired adjustment by a pin entering one of a series of holes in a segmental bar attached to the hopper.

Claim.—1. The construction of a seeding machine, provided with the shaft B, the grooved cylinder E, the collar P, provided with the gauge prongs F and the sleeve D, when constructed and operating substantially as hereinbefore described.

2. The quadrant H, the lever I, the segment rack J, and the plate L, when attached and operating substantially as and for the purposes set forth.

3. The combination of all the foregoing described parts, in conjunction with the hopper or seed box A, when constructed and operating substantially as and for the purposes specified.

73,974.—GEORGE E. HAYES, Buffalo, N. Y., assignor to BUFFALO DENTAL MANUFACTURING COMPANY, same place.—*Dentist's Flask.*—February 4, 1868.—The interior of the flask has a cavity in communication with the mold, from which rubber is forced by the piston to insure the thorough filling of the mold.

Claim.—1. The process, substantially as herein described, of filling vulcanizing flasks, or the molds contained therein, by constructing the flask with a side opening *a*, and forming a cavity *b* in the mold by a plunger E, combined or connected in a direct manner with said flask, and after having first packed the mold proper, also the cavity *b* communicating therewith, with rubber, and closing the flask, projecting the plunger through the cavity in the flask to press upon the rubber, substantially as specified.

2. The molds C and D, provided with an enlarged cavity *b*, in communication with a side opening *a*, made in the flask for reception of a portion of the requisite amount of rubber necessary to fill the mold essentially as herein set forth.

3. The combination with a vulcanizing flask, having a side opening *a* in it, of a plunger E, for operation therein, substantially as specified.

73,975.—HENRY HEATH, New York, N. Y., assignor to HENRY G. FISH, THOMAS R. CLARK, and THOMAS J. FLAGG, same place.—*Drawers.*—February 4, 1868.

Claim.—1. The combination of the pointed waistband of the drawers with a full leg, having triangular portions removed from its upper end, so as to obtain the requisite fullness at the hips and waist without the necessity of gathers.

2. The combination of the ankle-band of the drawers with a full leg, having a triangular portion removed from its lower end, so that the requisite fullness of the leg is secured without a surplus of material in the vicinity of the ankle.

3. The combination of the pointed waistband of the drawers, ankle band, and full leg, having triangular portions removed at both ends, substantially as set forth.

73,976.—M. L. M. HUSSEY, New York, N. Y.—*Postal Scale.*—February 4, 1868.—The rate of postage for different countries is indicated upon the dial in concentric rings.

Claim.—1. The revolving dial *i*, upon which are inscribed mail routes and postal rates, substantially as described and for the purposes specified.

2. The combination of the revolving dial *i*, upon which are inscribed postal rates and mail routes, with the spring or other equivalent weighing balance, substantially as and for the purpose described.

3. The combination of the dial *i*, or a segment thereof, with the adjustable indicator *o*, when constructed substantially as described.

4. The vertical indicator, when used in connection with a revolving dial, or a segment thereof, for the purposes specified.

5. The vertical indicator, in connection with a spiral spring balance, for the purposes specified.

73,977.—JOHN JACOBS, Oneida, Ill.—*Collar Block.*—February 4, 1868; antedated January 24, 1868.—The block is simultaneously expanded laterally and longitudinally by means of a screw which engages the frame to which its upper end is attached, and which has a spur-wheel engaging a pinion on the right and left screw rod, connected by inclined links to the side blocks of the former. The cord passing around the collar bottom is drawn up by a windlass. The pair of pincers for engaging the collar top is tightened by toggle levers connecting its long arms, and is held by a pawl.

Claim.—1. The use of the right and left screw-shaft K, provided with the nuts *o o* and arms or rods J J, for expanding or contracting the parts B B, substantially as herein set forth.

2. The arrangement of the shaft H, pinions or gear wheels I and T, and shaft K, for expanding and contracting the former, and at the same time moving the platform C, substantially as specified.

3. The arrangement of the pincers E upon the platform C, and with the arms *e e*, links *m' m*, and the lever *d*, as and for the purpose set forth.

73,978.—MARTIN V. JENNINGS, Centralia, Mo.—*Washing Machine.*—February 4, 1868.—Around the inside of the suds box is a series of vertically-ribbed wash boards. The dasher has outwardly and downwardly projecting pins, and has oscillation from a segmental-racked lever engaging a crown wheel on the shaft.

Claim.—The combination, in a washing machine, of the corrugated wash-boards *e e' e''*, &c., with an adjustable dasher *w*, when the same are arranged, constructed, and operated substantially as shown and specified.

73,979.—NATHAN S. JOHNSON, Maquoketa, Iowa.—*Corn Cultivator.*—February 4, 1868; antedated February 1, 1868.—The axle bars are attached by standard to an elevated cross bar, the construction admitting the cultivation of corn taller than the axle. The plow beams are pivoted to standards depending from the tongue frame, and are vertically adjustable by bars connecting their rear ends to the upper cross bar.

Claim.—1. The combination of the two axle bars B B and the four upright standards A A A A, and cross beam S and bolts E.

2. The combination of the seat board and seat lever I with the levers L L, shovel beams D D, and the movable pivot or standard C, substantially as and for the purpose herein specified.

73,980.—WILLIAM H. JUBB, Norwalk, Conn.—*Compound for Destroying Burrs in Wool.*—February 4, 1868.—The first composition has sulphuric acid, 100 lbs.; and saltpeter, 2 lbs., dissolved in sufficient water. After immersion in the above the wool is immersed in the following: sal ammoniac, 4 lbs.;

soda ash, 30 lbs.; whale-oil soap, 10 lbs., and lime, 5 lbs., dissolved in sufficient water.

Claim.—The use and combination of the ingredients, as herein described, for destroying the burrs in wool and bleaching the wool, substantially as and for the purpose set forth.

73,981.—E. H. KELLOGG, Mukwonago, Wis.—*Flour Bolt.*—February 4, 1868.—The forward edge of each strip of cloth is attached to the outer side of the rib and its rear edge to the inner side of the rib following. The inclined plates are to prevent the adherence of the flour to the arms.

Claim.—1. Attaching the bolting cloth, one edge to the outside and the other to the inside of the ribs of each square of a bolting reel, as described.

2. Inclines H, in combination with arms E and ribs F of a bolting reel, substantially as and for the purposes described.

73,982.—DANIEL LAMPSON, Lyons, Iowa.—*Washing Machine.*—February 4, 1868.—The cylinder contains hot water and has open ribs; it is rolled over the ribbed bottom.

Claim.—1. The hollow cylinder B, encased with ends and slats, as above set forth.

2. The combination and arrangement of the hollow cylinder B, the slats *d*, the corrugated trough bottom, when constructed, arranged, and operating substantially as and for the purposes set forth.

73,983.—JOHN LANE, Chicago, Ill.—*Forming Plow Lays.*—The blank is rolled with a longitudinal central depression.

Claim.—The method herein described of making plow lays—that is to say, by first reducing by means of rolls, a slab of steel along its center from end to end to the shape described, then slitting said slab along the line of its greatest depression, and afterward cutting the same crosswise in suitable lengths for plow lays, as set forth.

73,984.—SAMUEL D. LECOMPTE, Leavenworth County, Kansas.—*Car Coupling.*—February 4, 1868.—The entering link forces backward the spring lever which supports the coupling pin.

Claim.—The combination of the pivoted swinging bar *d* and the spring *e*, hinged at *f*, in connection with the double-slotted boltholder B and shank-headed bolt O, when constructed and arranged substantially as and for the purpose described.

73,985.—GEORGE LEWIS, Westfield, Ohio.—*Wood Turning Lathe.*—February 4, 1868.—The rotary cutter head is upon a cross piece which is vibrated by connection with a pattern to form the spoke. The cutter is forced from the blank by positive action, and is drawn thereto by weighted levers.

Claim.—The combination of the reciprocating vibrating carriage R, cutter head W′, cross piece U, standards X C, spring A′, adjustable arms Y D′, lever F, and weights Z E, all constructed, combined, and arranged in relation to the pattern Q and spoke P, and operating in the manner and for the purpose substantially as set forth.

73,986.—CHARLES S. MCROBERT, Plymouth, Mich.—*Carpet Stretcher.*—February 4, 1868.

Claim.—1. The rack I and hooked sliding pawl J, in connection with levers C and A, when constructed and operating substantially as and for the purposes set forth.

2. The combination of the above-named parts with the crotchet lever A, provided with the transverse bar B, the levers C and D, provided with transverse bars E and F and teeth, as hereinbefore described, and the adjusting pins G and H, when arranged substantially as and for the purposes herein described.

73,987.—GEORGE B. MELCHER, Salem, Mass., assignor through mesne assignments to JOHN KINSMAN, same place.—*Window Blind Fastening.*—February 4, 1868.—The button has a double inclined face and a transverse notch which engages a stud or staple on the window sill or wall, according as to its position, open or shut. The button is attached by a single screw traversing a slot and allowing the sliding movement.

Claim.—The aforesaid rotary slide button as made with a slot B, projection *g*, notch *d*, and convex face *e e*, substantially as described.

73,988.—JAMES W. MILROY, Galveston, Ind.—*Corn and Cotton Cultivator.*—February 4, 1868.—The outer shares are attached to bars which are pivoted to the fore end of the beam and connected by toggle levers to a notched hand lever by which they are transversely adjusted.

Claim.—The movable arms D D, toggle-jointed lever E, beam C, notched lever F, rod G, key *g*, circular frame A, and self-adjusting hoe shovels B B B B B, the whole as constructed and arranged, substantially in the manner and for the purpose as herein set forth.

73,989.—OEL B. MOORE, Walled Lake, Mich.—*Fruit Picker.*—February 4, 1868.

Claim.—1. The form of the instrument.

2. The application of the loops A and B.

73,990.—M. S. MORGAN, Clintonville, Ill., assignor to himself and GEORGE C. COFFEE, same place.—*Stove Drum.*—February 4, 1868.—The outer side of the annular, air-heating chamber is cleansed from soot by scrapers projecting radially inward from the rotatable cylindrical portion of the drum.

Claim.—Rotating case A, in combination with soot box L, scrapers H and H″, substantially as and for the purpose described.

73,991.—L. MONTIER, New York, N. Y.—*Artificial Leather.*—February 4, 1868.—Shavings of leather from tanning and currying are steeped in a mixture containing glue, 1; rice flour, 20, and rye flour, 40 parts. In half an hour it is removed and pressed between layers of flannel. The flannel is then removed and the leather dried at a temperature of 320° Fahr. It is then rolled. For waterproofing it is immersed in tar and essence of turpentine, equal parts, with caoutchouc 5 per cent. dissolved therein. When completely dried it is coated on both sides with copal varnish and dusted with plumbago. After this it is rolled.

Claim.—1. The process, herein shown and described, of combining the refuse shavings of leather to make artificial leather.

2. Water-proof artificial leather when made and coated, substantially in the manner and with the ingredients herein described and set forth.

73,992.—CALVIN H. PAINE, Providence, R. I., assignor to himself and GEORGE S. THOMPSON, same place.—*Carriage Jack.*—February 4, 1868.—The hand lever is pivoted to the lifting bar and fulcrumed at the top of a vertical lever pivoted to the base. The levers form a toggle, and when the bar is raised their connecting joint rests against the standard and is sustained thereby.

Claim.—The arrangement and combination of the lever D and toggle E, with slide bar C and the base board B, applied to the standard A, substantially as specified.

2. The pin *g* as made with the brace or arm *m* extended from it as set forth.

73,993.—JOHN PENDER, Worcester, Mass.—*Let-Off and Take-Up for Looms.*—February 4, 1868.—The movement of the levers operating the let-off and take-up mechanism is regulated by the distance of their motive pawls from their fulcra. This position of the pawls is adjusted by the arms of a rock shaft, one of the said arms resting against the yarn or cloth upon the roller, and the other beneath the said pawl.

Claim.—In combination with the yarn and cloth beams, or either of them, and with the mechanism by which the intermittent rotative movement of the yarn or cloth beam is directly produced, the lever or levers *i*, pawl or pawls *u*, and arm or arms *v x*, arranged to operate substantially as set forth.

73,994.—HARVEY PHELPS and ALVAH PHELPS, Albany, N. Y.—*Apparatus for Separating Soap Bars.*—February 4, 1868.—Improvement on their patent of October 2, 1866. The carriage supporting the drying rack is actuated by a pawl, whose move-

ment is greater than that of the pawl operating the feed mechanism of the soap, so that a space is left between the bars of soap.

Claim.—The application to soap-cutting apparatus of a carriage E, having an accelerated motion with relation to the slab feed D, for the purpose set forth.

73,995.—ALBERT C. PIERSON, Rahway, N. J.—*Calculating Machine.*—February 4, 1868.—The days of the month are upon endless belts or metallic straps, which are stretched upon pulleys at top and bottom of the frame, and may be turned to compute from. The principal amount is indicated in a horizontal row at top of the table, and also on the horizontal slide. The latter is moved vertically to assist in carrying the eye across the rows of figures denoting the interest, when the upper edge of the slide is used. When using the lower side the same is brought to the day of the month, or the number indicating the time, and the vertical slides which work in the main slide are raised to reveal the amount of interest.

Claim.—1. In combination with the table N, or its equivalent, having the interest or other calculations for given amounts entered as represented, the parallel bar B, with or without the adjustable movable pieces *c*, or their equivaleuts, adapted to operate in connection with the numbers in the table N, or its equivalent, substantially in the manner and for the purpose herein set forth.

2. In combiuation with the above, carrying, on the parallel bar B, the line of figures or other marks P, indicating the amounts for which the interest or other calculations is to be computed at the several points, substantially in the manner aud so as to realize the advantages herein set forth.

3. In combiuation with the column of days, the belts or moving columns G and H, carrying the dates in a reverse order, so as to allow the length of time to be aseertained from a given day, reckoning either forward or backward, substantially as and for the purpose herciu set forth.

4. The belts or sliding columns G and H, having the dates in reverse order, as shown, in combination with the interest table *n*, as and for the purpose herein specified.

73,996.—JOSEPH F. POND, Cleveland, Ohio.—*Washing Machine.*—February 4, 1868.—The endless apron has metallic plates attached to its edges, to prevent the same from turning over. The apron is stretched upon adjustable rollers, and revolves beneath a fluted motive roller, which is depressed by springs and turned by a winch.

Claim.—1. The application of friction guide-pieces *i*, attached to the edge of the endless apron or belt, to prevent the apron from turning under or over and getting out of place, as and for the purpose specified.

2. The adjustable slides *b b*, attached to the upright pieces B B by means of bolts or screws, as and for the purpose specified.

73,997.—JAMES POTTER, Portland, Me.—*Bed Bottom.*—February 4, 1868.—The slats have joints formed by spiral springs. The end springs are double, having a central part entering a groove in the rail, and the arms are turned into two spiral springs and bent at the ends to engage the slats. The side rails are jointed at mid-length, the hinges being beneath, so that the rectangular ends abutting together form mutual support.

Claim.—1. The spring, as shown at *b*, in connection with the recesses *m' m'* in the slat *b'*, as and for the purposes set forth.

2. The spriug joints *a* in the slat B, as aud for the described purposes.

3. In combination with a bed slat, removable by means of the spring *b*, the arrangement of pivots *t* and hinges *s*, as and for the purposes described.

73,998.—WILLIAM W. POTTS, Bridgeport, Pa.—*Lime Kiln.*—February 4, 1868.—Blasts of air are forced through the burnt and cooling lime, and mingle with the caloric currents from the furnaces. The furnaces are placed around the kiln, and blasts of air forced through the fuel and through the top of the fire spaee.

Claim.—1. Arching over the upper end of the kiln A B, substantially as described, and covering the feed-hole *a'*, left thereby, by means of a removable cover, *a''* provided with the small vent-hole *a'''*, substantially as and for the purpose described and set forth.

2. The combination of the furnaces C and the channels D aud E, when the same are constructed and arrauged in the relation to each other and to the kiln A B, as described and set forth, for the purposes specified.

3. Forcing the currents of air up through the lower part of the kiln, and onward therein, by means of the channel F, substantially as and for the purposes described.

73,999.—L. C. PRINDLE, Chicago, Ill.—*Door Spring.*—February 4, 1868.—A steel strip is cut in such form that when its central part is made into a coiled spring its ends will stand side by side. The ends are attached respectively to the edge of the door and to the frame.

Claim.—A door aud gate spring cut in the form shown, and coiled so as to have projectious F and G, in combination with plates E H, substantially as and for the purposes hereiu specified.

74,000.—LOOMIS E. RANSOM, Trenton, Mich.—*Brick Machine.*—February 4, 1868.—Improvement on his patent of March 21, 1855. The tempered clay is spread upon the ground in even, longitudinally-extended cakes preparatory to being cut into bricks.

Claim.—The construction of the apparatus, as hereinbefore described, combining the frame A, the rollers B and C, the crank D, the gears E and F, the sides or shields G, the sloping shelf H, the scraper I, the wheels J, and the knife K, with the stand L, all arranged and operating substantially as and for the purposes herein described.

74,001.—JOHN T. RICH, Philadelphia, Pa.—*Generating Gases, and in the Application of the same.*—February 4, 1868; antedated January 23, 1868.—The hydrocarbon liquid follows a spiral course over the conical bottom of the retort, and the gas is carried to the annular, frusto-conical nozzle, where it mingles with a jet of steam and air drawn in thereby. The vapors are passed through water to take up the moisture and nitric acid, and form a permanent gas not subject to condensation.

Claim.—1. The process of generating and procuring the partial decomposition of atmospheric air by the action of wet steam in contact with metallic or other hard substances, for the purpose set forth.

2. The process, substantially as described, of saturating atmospherie air, and the subsequent application of the same to the purposes of chemical distillation, or, mixed with carbon or hydrocarbon vapors, to heating or illuminating purposes.

3. The process of generating and preserving oxygen gas by the action upon a current of atmospheric air or electricity evolved by a jet of wet steam, and the subsequent separation of the steam and nitric acid from the oxygen thus set free, substantially as set forth.

4. The mode of manufacturing illuminating and heating gases by mingling hydrocarbon gases or vapor with oxygen gases, generated substantially in the manner set forth.

5. The mode of manufacturing mingled oxygen gases for use in the desulphurization of ores, &c., substantially as set forth.

74,002.—L. L. RINEHART and P. PHILLIPS, Evansburg, Ohio.—*Device to Prevent Hogs from Rooting.*—February 4, 1868.—The arms embrace the snout and the strap encircles it. The roller prevents rooting. The spring pin impinges against the snout, when a pressure is exerted upon the spring.

Claim.—The strip A, with arms $a\,a^1$, belt B, spring C, pin *c'*, arms *d*, and roller D, when combined and arranged substantially as described.

74,003.—DUNCAN ROBERTSON, Detroit, Mich.—*Center Board for Vessels.*—February 4, 1868; antedated December 12, 1867.—The center board is journaled in eye-bolts, which are attached to chains traversing the tubular stanchions. The brace chains traverse similar tubes. The board may be unshipped by letting all the chains run out.

Claim.—The combination and arrangement of the iron center board A, the journals C C, the eye-bolts *a a*, the ropes or chains D D H H, the hollow stanchions E E I I, and the stops G G, arranged substantially as described for the purpose designed.

74,004.—LUMAN ROGERS, Pittsburg, Pa.—*Cultivator Teeth.*—February 4, 1868; antedated January 23, 1868.—The bolt has a dovetail head fitting a suitable transverse notch in the rib.

Claim.—1. The rib *b* on the back of cultivator teeth or of blades for shovel plows, for the purpose of adding strength to the blade, or for forming a means of attaching it to its standard or frame.

2. Attaching cultivator teeth or blades of shovel plows by means of a bolt inserted into a rib or projection on the back of the tooth, which fits into a recess or groove in the standard or frame, substantially as and for the purposes described.

74,005.—ANDREW RUNSTETLER and ALBERT WINDECK, Peoria, Ill.—*Cotton Plow and Cultivator.*—February 4, 1868.—The fore ends of the side plow beams are connected by universal joints to the frame to which the tongue is attached. The side beams are connected together and to a central removable beam by transverse bars which allow lateral adjustment.

Claim.—The construction, combination, and arrangement of the frame pieces A B C, the iron gauge pieces D E F, hook and ring, and removable shovel M, as attached to the beam or piece B, all as shown and for the purposes described.

74,006.—ANDREW RUNSTETLER and ALBERT WINDECK, Peoria, Ill.—*Cotton Scraper and Cutter.*—February 4, 1868.—The plows are upon pivoted standards, whose tops are connected to a hand lever and are oscillated thereby. The plows are followed by two adjustable revolving choppers.

Claim.—1. The mode, substantially as set forth, of adjusting the scrapers *c c*, by means of curved irons *h h* connected with the regulator I.

2. The combination of a driver's seat, the levers M and L for controlling the action of the revolving hoes H H, and the regulator I for controlling the scrapers, substantially as set forth.

74,007.—BENJAMIN RUTTER and HIXSON HUNT, New Lexington, Ohio.—*Treadle for Propelling Sewing Machines.*—February 4, 1868.—One treadle oscillates freely on the rock shaft, and the treadles are extended backward and connected by rods to the ends of a lever fulcrumed at its mid-length to a bar depending from the table.

Claim.—The construction of the top of a sewing machine stand, with a fulcrum G and balance lever F, in combination with the treadles A and C, bar B, crank D, and rods E E, substantially in the manner and for the purpose as herein set forth.

74,008.—CYRUS SANBORN, Chichester, N. H.—*Safety Pocket.*—February 4, 1868.—The inner catch is secured within the outer one by a turning catch.

Claim.—Improved safety pocket, consisting of the case A secured to the apparel, into which the case C is arranged to slide and fasten, substantially as herein set forth.

74,009.—JAMES D. SARVEN, Columbia, Tenn,—*Carriage Spring.*—February 4, 1868.—The body rests on rubber blocks, contained between curved disks secured to the ends of the wooden springs.

Claim.—The combination of the steel springs D, rubber springs E, and curved plates C, (having flanges or ears formed upon their side edges,) with each other, and with the springs and body of the vehicle, substantially as herein shown and described, and for the purpose set forth.

74,010.—JAMES D. SARVEN, Columbia, Tenn.—*Carriage Spring.*—February 4, 1868.—A block of rubber partially inclosed by a metallic case is interposed between the end of the X-shaped wooden spring and the carriage body.

Claim.—The combination of the metallic plate or cap B, having flanges *b'* upon its sides and outer end, and the rubber spring or annular block C, with the end of the wooden spring A, substantially as herein shown and described and for the purpose set forth.

74,011.—JAMES D. SARVEN, Columbia, Tenn.—*Elastic Bearing for Body-Supporting Irons for Carriages.*—February 4, 1868.—The box is secured to the bar. The iron is interposed between two blocks of rubber and has side cavities which receive projections on the box and prevent the withdrawal of the iron.

Claim.—The method of fastening the iron head D in the box B, as above described, by means of vertical grooves *e e* in the side of the head, in connection with vertical projections in the box, or by means of a vertical bolt G passing through the center of the box, substantially as and for the purpose specified.

74,012.—JAMES D. SARVEN, Columbia, Tenn.—*Elastic Bearing for the Body Supporting Irons for Carriages.*—February 4, 1868.—The body loop has a grooved laterally-extended head, which is received within a box attached to the spring bar, and has bearing on an upper and lower block of rubber.

Claim.—1. The supporting iron D, having the neck *d* and the head D', as and for the purpose specified.

2. The combination of the springs A A, one or both, cushions I F, and cross bars B, substantially as and for the purpose described.

3. The combination and arrangement of the box E with the inclosed cushions I F, substantially as and for the purpose specified.

74,013.—LEVI SCOFIELD, Farmington, Wis.—*Shuttle for Looms.*—February 4, 1868.—An orifice is made through the shuttle in line with the yarn eye, and another through the bottom at the same distance from the end. The yarn may be forced through the eye by a pin having a notch or eye at the end.

Claim.—Constructing a shuttle for weaving cloth, with the orifices *d* and *e*, substantially as and for the purpose described.

74,014.—HENRY M. SHUTE, Waukegan, Ill., assignor to GEORGE W. EMERSON.—*Book Binding.*—February 4, 1868.—The wires are laid in the grooves between the lids and back, and are held by flat wires traversing the book.

Claim.—The wire C, figs. 1, 2, and 3, in combination with the flattened wires *e*, figs. 1 and 2, one or more, or their equivalent, substantially and for the purpose set forth.

74,015.—JOHN W. SMITH and JAMES D. SMITH, Washington, D. C.—*Letter Box.*—February 4, 1868.—The raising of the semi-cylindrical cover turns the cylindrical trough so as to expose its opening for reception of the letter. When the lid is closed down the spring rotates the cylinder sufficiently to discharge the letter into the receptacle.

Claim.—The arrangement of the cylinder C, coiled spring D, pulley E, chain F, and cover G, with the trough B, when constructed on the top of the lid or cover A, substantially in the manner and for the purpose as herein set forth.

74,016.—JOHN W. THOMPSON, Greenfield, Mass., assignor to ELVIRA A. THOMPSON, same place.—*Harvester.*—February 4, 1868.—The frame is metallic and secured to a tubular sleeve on the axle. On one end of the sleeve are threads cut on the outside; these mesh with threads cut on the inside of the shipper sleeve, which is turned by a hand wheel. This sleeve also turns on the axle, but is confined by a shoulder attached to the axle by a set nut and preventing lateral play. The frame is moved laterally by this device to connect or disconnect the cutter bar from its motive wheels.

Claim.—1. The combination of the shipper, consisting of the sleeve G, having the hand wheel *d*, and threads upon it, with the frame A A, arranged so as to slide upon the carriage axle, substantially in the manner and for the purpose shown.

2. The pawl having the cup *q*, with spring *u* and nut *t*, arranged and constructed substantially as shown.

3. The cutter bar frame E, consisting of the pieces *f* and *g*, with cross strips 1, 2, 3, &c., formed as shown.

4. The arrangement of the gear wheels *a* and J upon the bar C, so that the pressure upon the latter is equalized, substantially as shown.

5. The peculiarly shaped cutters, having the projections *k k k*, &c., in combination with the cutter bar, consisting of the two plates P and R, and adjusted by the nuts *m m*, &c., substantially as and for the purpose described.

74,017.—ASAHEL TODD, Jr., Pultneyville, N.Y., assignor to himself, A. F. SHELDON, JOHN S. TODD, T. S. LEDYARD, and L. S. CUYLER.—*Construction of Fences.*—February 4, 1868.—The wires are attached to the posts by brackets having an under recessed piece and an attaching piece which enters the recess, bending the wires into the same. Brace wires are carried downward from the posts and attached to the palings. The wires are clasped by open links between the palings.

Claim.—1. The herein described method of attaching and detaching the pickets from the wires by means of the clasp K, fig. 7, or their substantial equivalents, in the manner specified.

2. The clasp K or L, or equivalent, in combination with the wires C C′, posts A, pickets N, and brace wire M.

3. The metallic bracket D, cap E, in combination with the posts A, wires C C′, brace wire M, and pickets N.

4. The brace wire M, in combination with the posts A, wires C C′, bracket D, cap E, and clasp K.

5. The temporary post A′, in combination with the wires C C′, brace wire M, bracket D, cap E, clasp K, substantially as and for the purposes set forth.

74,018.—ASAHEL TODD, Jr., Pultneyville, N.Y., assignor to himself, A. F. SHELDON, J. S. TODD, T. S. LEDYARD, and L. S. CUYLER.—*Construction of Fences.*—February 4, 1868.—The lever has a hinged block at each end, which is interposed between the wires to make the half twist in the same and allow the introduction of a paling.

Claim.—1. The jointed double-acting lever D.

2. The detachable indexes K and H H′, in combination with the double-acting lever D and guide I.

3. The detachable guide I, in combination with the lever D and indexes K and H H′, substantially and for the purposes set forth.

74,019.—ALEXANDER C. TWINING, New Haven, Conn —*Caster.*—February 4, 1868; antedated January 8, 1868.—The catch engages the annular groove at the lower end of the socket and prevents accidental dismemberment.

Claim.—The spring catch attached to the carriage, as described, in combination with the groove or slot around the interior of the socket, all substantially as described and for the purposes set forth.

74,020.—WILLIAM WESTLAKE, Brooklyn, N. Y. —*Lantern Globe.*—February 4, 1868.—A portion of the globe is stained.

Claim.—A lantern globe, made of or finished into a single piece, having one portion colored and a part clear, substantially as specified.

74,021.—DAVID M. WESTON, Boston, Mass.—*Machine for Separating Liquids from Paints and other Solid Substances.*—February 4, 1868.—The upper edge has an inturned flange, and a radial plate extends from the flange to the bottom, leaving a space between the plate and the side. The escape for the liquid is through small apertures in the hub.

Claim.—1. The revolving cylinder F, without openings or perforations in the circumference, substantially as described.

2. The cylinder F, in combination with the passages or outlets, or their equivalents, at A, in the hub and bottom, substantially as described.

3. The breakwater E, or its equivalent, in combination with the cylinder F, substantially as described.

74,022.—JAMES E. WHEAT, Rochester, N. Y.—*Letter Game.*—February 4, 1868.—The pins are lettered and set in two concentric circles around a central pin. The game is played with ball and mallet.

Claim.—The application of letters or figures to a series of stakes or pins, to be arranged substantially as herein shown and described, for the purpose of constituting a parlor or yard play or game, as set forth.

74,023.—JOHN R. WHITTEMORE, Chicopee Falls, Mass.—*Horse Rake.*—February 4, 1868.—The rake is raised by connection to a two-armed lever, one arm forming a hand lever and the other giving adjustable attachment for a treadle.

Claim.—The device for operating the teeth of the rake, consisting of the double armed lever E, fulcrumed at L, and connected to the arm K by means of the link I, hinged at its elbow at H, the parts being arranged substantially as herein shown, and for the purposes set forth.

74,024.—PHILANDER WONSEY, Ogden, N. Y.—*Combined Plow and Harrow.*—February 4, 1868.—The scraper and rotary harrow are connected to a bar pivoted to the land-side handle and sliding in guides upon the other handle.

Claim.—The combination of the harrow, scraper, and plow, and the manner in which they are attached and detached.

74,025.—LINUS YALE, Jr., Shelburne Falls, Mass.—*Vise.*—February 4, 1868.—A spring is interposed between the screw head and the jaw so that the object may be held by the pressure of the spring or by the positive force of the screw.

Claim.—The combination of a spring with the jaws, nut, and screw of a vise, substantially in the manner and operating as specified.

74,026.—ALBERT A. YOUNG, Boston, Mass., assignor to himself and GEORGE T. DALTON, same place.—*Brush Stock and Handle.*—February 4, 1868; antedated January 16, 1868.—The handle is attached to a hinged plate which is pivoted to a frame secured to the brush back. The handle may be turned around in a plane parallel to the brush back, or may be raised into a rectangular position thereto.

Claim.—1. The combination and arrangement of the circular plate D with the plate of the handle E, whereby the handle is placed at right angles, and also diagonally to the body of the brush, substantially in the manner and for the purpose above set forth.

2. The combination and arrangement of the hinge F with its swivelling abutment *b*, the turning screw *c*, and the spring bolt G, whereby the handle is raised and secured perpendicular to the body of the brush, substantially in the manner and for the purpose above set forth.

3. The combination and arrangement of the brush handle B with the other parts of the brush, whereby the handle may be used in a diagonal, reversible, and perpendicular position, and also at right angles with respect to the body of the brush, substantially in the manner and for the purpose above set forth.

74,027.—ALBERT A. YOUNG, Boston, Mass., assignor to himself and GEORGE T. DALTON, same place.—*Brush Stock and Handle.*—February 4, 1868; antedated January 16, 1868.—The handle traverses a socket at each end of the head, and may be extended in either direction.

Claim.—The combination and arrangement of the body of the brush with respect to the cap B, the handle C, the screw D, the groove *a*, and the pin *b*, whereby the handle C may be extended at either end of the brush, the several parts being constructed and arranged with respect to each other, substantially in the manner and for the purpose set forth.

74,028.—JAMES U. ADAMS, Richfield, Mich.—*Boiler Tube Ferrule.*—February 4, 1868.—The ferrule has an inside and outside screw thread, the former of which engages a thread upon the tube end, and the latter a thread on the side of the hole in the tube plate.

Claim.—The combination of the ferrule *c* with the tube A and plate *a*, substantially as herein described.

74,029.—AUGUSTUS H. AHLBORN, Lawrenceville, Pa.—*Securing Box Metal in Carriage Hubs.*—February 4, 1868.—A box whose bore is considerably

larger than the axle is immersed in dilute sulphuric acid, and then tinned; after which "Babbitt metal" is cast over a mandrel within the box.

Claim.—Tinning the interior of carriage boxes prior to lining them with a metallic alloy, so that said metallic alloy will adhere to the box and become part of the same, substantially as herein described and for the purpose set forth.

74,030.—JOHN ARMSTRONG, St. Louis, Mo.—*Brick Machine.*—February 4, 1868.—Steam is introduced into the hollow spaces of the mold, and into the hollow heads of the plungers. The clay is also heated by a discharge of steam into the hopper. The clay is fed by the plunger in the hopper down into the space between the two horizontally reciprocating plungers. The brick, after pressure between the plungers, is carried by simultaneous movement of the latter to the table, which is elevated to receive it, and from the table the brick is thrust on to the off-bearing belt.

Claim.—1. The hopper R″, in combination with the plunger S, for feeding the machine, when constructed and arranged to operate substantially as herein described and set forth.

2. Providing the plungers H I and die box J with hollow chambers, so that the brick or other materials that are being molded may be surrounded on all sides with heated surfaces, substantially as shown and described.

3. The follower N′, in combination with the vertically-moving table N, for delivering the brick on to the discharging carrier belt Q, when constructed and arranged to operate substantially as herein described and set forth.

4. Imparting to the discharging carrier belt Q an intermittent motion, by the means substantially as herein described.

5. The plungers H and I, provided with the projections G G′ and F F′, in combination with the cams *d e* and the cams *a b c*, for imparting to them a reciprocating longitudinal motion, when constructed and arranged to operate substantially as herein described.

6. The shaft O, provided with the spiral spring *o*′, in combination with the lever *p* and hook *q*, when constructed and arranged to operate substantially as described.

74,031.—H. B. ARNOLDT and JOHN GRIMM, St. Louis, Mo.—*Cultivator.*—February 4, 1868.—The handles are pivoted to the beam, and slide on a segmental bar upon the rear end of the beam. An adjustable additional draw bar is provided for deep plowing.

Claim.—1. The weed cutter C, when combined with a cultivator A B, as and for the purpose herein shown and described.

2. The movable arm A^1, when combined with the plow beam A, as described, and for the purpose set forth.

3. The plow handles A^3, and the curved rack A^4, for the purposes herein set forth and described.

74,032.—ISAIAH B. ARTHUR, Sidonsburg, Pa.—*Corn Plow and Cultivator.*—February 4, 1868.—The central handle is fixed, but the other handle is hinged at the fore end and attached to one of two side posts, to allow the operator to walk upon either side. The cross-bars have slots traversed by bolts passing through the beams, by which the beams may be adjusted and secured firmly by engaging corrugations on the bars and beams.

Claim.—1. The combination of the fixed central handle E with the shifting adjustable handle E′, when used in a corn plow and cultivator, substantially as and for the purpose specified.

2. The wire guard C, when constructed in the form shown, hinged at its rear end, and allowed to rise and fall at its forward end, and, when held in position by rods *c*′ *c*′ at its forward end, preventing the two guards from changing their parallel position to each other, substantially in the manner and for the purposes set forth.

3. The corrugated plates *e e*, when used in combination with the side beams A^2 A^3, having corrugated ends, substantially as and for the purposes indicated.

74,033.—ALBERT ASSMAN, Rahway, N.J.—*Lamp Lighter.*—February 4, 1868.—The case has bayonet connection with the staff to which the lamp is attached, and may have a glass top.

Claim.—The pole A, light B, and tube C, when arranged as described, in combination with the wrenches or brackets *f*, all made and operating substantially as and for the purpose herein shown and described.

74,034.—JEARUM ATKINS, Mokena, Ill.—*Gate.*—February 4, 1868.—The gate slides between the sides of the post, and is guided by its top bar, which projects through a mortise in an additional post, running upon a roller therein. The gate is guided also by the brace bars whose position is shown in the illustration.

Claim.—A gate, constructed as described, having the pivoted braces R S, post A, and guide bars D G, and post E, all arranged and operating as specified.

74,035.—EZRA BABCOCK, Scott, N. Y.—*Combined Harrow and Stone Remover.*—February 4, 1868.—The stones are picked up by the bent teeth on the adjustable rotating cylinder, and are dropped into the receptacle carried at the rear end of the machine.

Claim.—1. The cylinder E, provided with rows of hooked teeth, and arranged with the bed-pieces C, as and for the purpose set forth.

2. The combination of the cylinder E with t body A, said body being provided with a mov bottom, and the rack L, as and for the purpose fied.

3. The windlass D, when arranged with th A and cylinder E, as and for the purpose set

74,036.—S. O. BARTOW, Bethel, Con *vester.*—February 4, 1868.—The cutter bar is cated by a lever oscillated by a stud or ant roller at its upper end, which traverses a can in the periphery of a rotating wheel.

Claim.—1. The construction and arrange the pendent bar *k*, pivoted arm *i*, finger-bar L, A′, right-angular lever M, and chain *l*, all o as described, for the purpose specified.

2. The arrangement of the gear wheel F u shaft of the wheels B, sliding pinion G, upo H, bearing the cam wheel I, lever J having crum in the pendant *f*, upon the side of the sh pitman A′, finger bar L, pivoted arm *i*, pende *k*, right-angular lever M, and chain *l*, all ope as herein shown and described.

74,037.—LEWIS BEHYMER, Indianapolis, *Railway Joint.*—February 4, 1868.—The end rail is formed into a vertically-edged wedge, enters the cavity in the end of the coupling The parts are secured together by a horizontal verse bolt which passes through a longitudi elongated hole in the rail.

Claim.—The coupling A, with re-entrant angu excavations D and swells F, which fit and embrac the wedge-formed ends and the hollow of the rail, the same being secured by bolts I, which traverse said coupling and the slots H in the rails, substantially as set forth.

74,038.—G. W. BELL, Rising Sun, Ind.—*Sawing Machine.*—February 4, 1868.—The saw is attached to the pendulum frame, which is reciprocated by an eccentric. The pendulous frame is suspended on a frame supported on wheels.

Claim.—1. The construction and arrangement of the eccentric wheel F, balance wheel G, pendulum frame N, supporting frame I, jointed dog L, shaft D, and brace or connecting bars K and M, as herein described for the purpose specified.

2. The sliding bearings S, constructed as described, fitting upon the square shaft D, and turning freely in the box upon the upright T, said box adjusted upon the upright by means of the sliding sleeve and set screw, as herein shown and described.

3. The combination of one or more adjustable supports T with the sliding bearings S and shaft D, constructed and operating substantially as herein shown and described and for the purpose specified.

74,039.—E. H. Bellows, Worcester, Mass.—*Steam Engine.*—February 4, 1868.—The valve rods are operated by eccentric cams on a rotating tubular shaft. The cam operating the steam valves is connected to a rod sliding in the tubular shaft by the action of the governor. The face of this cam and its eccentricity are increased downward, so that by the downward movement of the cam the cut-off will take place earlier, and the valve be opened to a less extent.

Claim.—1. The arrangement of the valve rods D D and E E, in the chamber M, and in relation to each other, substantially as and for the purposes set forth.

2. The combination, with the valve rods D D and E E of the shaft H, spindle I, and cams G and L, substantially as and for the purposes set forth.

74,040.—James W. Bemis, Fall River, Mass.—*Lifting Jack.*—February 4, 1868.

Claim.—1. The arrangement, as described, of the levers L, and L L, L L, together with the standard A B, A B.

2. The combination of the levers L, and L L, L L, together with their supporting frame. by which the power to raise the axle is obtained, substantially as described and set forth as above.

74,041.—B. D. Bingham, Boston, Mass.—*Watch.*—February 4, 1868.—The ring is introduced between the plates and secured by spurs made upon its inner One spur may have a flat surface to project the back plate on one side, while the other has tly inclined upper surface, which slips under k plate and holds the ring down, but yields as is pressed upward and allows its removal.

.—1. In combination with peripheral rings ies, spurs or projections for holding them in bstantially as described.

ing such rings of a width equal to or but exceeding the space between the inner sur- the two main plates of a watch, and so as over the larger portion of the thickness of the ate, for the reason set forth.

42.—C. D. Blakeslee, Grand Rapids, assignor to himself and Elias Skinner, same —*Circular Sawing Machine.*—February 4,

m.—The saw hood constructed as described, ing of the adjustable curved guards C, the hood D, secured to the guard C by the bolt *d* otch *c*, and the notched vertical guard F, ad- upon the hood by the set screw *f* and slotted as herein described, for the purpose specified.

43.—E. F. Brundage, Virginia City, Nev., r to himself, William T. Eaves, and Wil- Eaves.—*Safety Hook.*—February 4, 1868.—The d portion of the hook is held by the sliding col- when closed.

Claim.—The collar C, fitted on the swivel stem B, ad provided with notches or recesses *i k* in its under side, in combination with the hinged part *c* of the hook, and the projection *j* on the upper part *b* thereof, all arranged substantially as and for the purpose set forth.

74,044.—John Burnham, La Salle, Ill., assignor to himself and David L. Hough, same place.—*Cultivator.*—February 4, 1868.

Claim.—1. In combination with the elevated axle-tree A^2, hounds B, pivoted draught pole C, and lever C′, having a movable fulcrum, the pivoted beam D having the plow beams secured to its extremities, or to pendants applied thereto, said beam being connected by means of a chain to the draught pole, substantially as described.

2. In combination with a pivoted beam D, arranged and operated as described, and provided with pendants upon its ends, the plates *d′ d′* having the plow beams attached to them, substantially as described.

3. The flexible draught connection *h*, secured to swinging pendants G G at its ends, and passed around the axle-tree A^2 longitudinally, substantially as described.

4. The removable driver's seat H, applied to the carriage, and supported thereon, substantially as described, in combination with levers P, suspension chains *j*, beams E, and pivoted cross beam D, substantially as described.

5. The attachment of the plow blades or shovels J to their standards, by means of loops *m* and clamping eye or hooked bolts *n*, substantially as described.

74,045.—James Chambers, Boston, Mass.—*Steam Heating Apparatus.*—February 4, 1868; antedated January 31, 1868.—The caloric current from the lamp burner ascends a coiled pipe within the boiler. The boiler has a safety-valve, whose lever is connected to a damper at the top of the coiled flue, and to a weighted lever operating the stop-cock of the gas pipe. When the valve is raised the flue is closed and the gas shut off.

Claim.—1. The combination of the boiler A, the gas burner D, its conduit *f*, and cock *g*, the safety-valve B, the lever *a* thereof, the chain *i*, and the arm *h*, and its weight *o*, or their equivalents.

2. The combination of the same and the coil C, and the damper *d*, and its bent arm *e*, and the chain *p*, connecting such arm with the safety-valve lever.

3. The combination of the circulation or induction and eduction pipes *b c*, with the boiler, the gas conduit and burner, the safety-valve, the lever chain, and weighted arm, connecting the safety-valve and gas-cock key, as set forth.

4. The combination of the gas burner and its conduit with an extension *q* of the conduit beyond the burner, and with a screw cap or thimble *m′* screwed upon such extension, as set forth, such being to enable atmospheric air to be supplied to the gas conduit, as circumstances may require, when such gas conduit and its burner are combined with a boiler, as set forth.

74,046.—William T. Chamberlain, Norwich, Conn., assignor to himself and Charles W. Chamberlain, Boston, Mass.—*Steam Engine.*—February 4, 1868.—The ends of the cylinder are open, and it has a central partition, having a packing box traversed by the piston rod. A piston on each side of the partition acts alternately by pressure of steam and the air; the steam exhausting into a condenser.

Claim.—1. The improved engine, as described, viz, as made with the cylinder A, the partition B, the two pistons D E, the rod C, the induction ports *e f*, and eduction ports *g h*, arranged in manner substantially as specified.

2. The combination of the movable partition B, its packing and clamp screws, or the equivalents of the latter, with the cylinder A, provided with induction and eduction ports, and two pistons D E, arranged so as to operate as described.

74,047.—S. W. Clark, Prairie du Chien, Wis., assignor to himself, N. A. Wright, and W. A. Terry, same place.—*Hand Spinning Wheel.*—February 4, 1868.—The head post is hinged at its lower end so as to admit of longitudinal oscillation. The head is drawn backward by a cord attached to a treadle, and is drawn forward by a weighted arm.

Claim.—The curved rod *r*, with the adjustable weight *r′*, attached to the radial arm D, the segmental groove *m*, cord *m′*, pulley *i*, and treadle *q*, in combination with the spinning wheel C, and the spindle *d*, placed on the upper end of the arm D, the whole being arranged and operated substantially as and for the purpose herein described.

74,048.—William W. Clark, New York, N. Y.—*Brush.*—February 4, 1868.—The interliner is a band of metal inserted concentrically within the handle and wrapping. The object is to increase the pliability of the brush.

Claim.—A brush, as a new article of manufacture, when constructed as described, with an interliner *a*, as and for the purpose specified.

74,049.—Michael Henry Collins, Chelsea, Mass.—*Lamp.*—February 4, 1868.

Claim.—The combination of the auxiliary supporter S or its equivalent with the chimney rest and the chimney-holding friction cone or air deflector, arranged as described, and so connected as to be capable of being slipped together, and with the chimney, on and off the wick tube, and away from the

supporter, for the purpose of enabling access to be had to the wick for trimming it, as occasion may require.

74,050.—James Cook, West Groton, Mass.—*Tobacco Pipe.*—February 4, 1868.—The inner cylindrical bowl is screwed into the outer bowl, and the smoke is drawn into a chamber surrounding the former, passing through holes in the lower part of the side of the inner bowl.

Claim.—The chamber D, formed around the sides of the bowl C by suspending the latter in the screw cap of the bowl A, as and for the purpose specified.

74,051.—N. E. Cornwall, New York, N. Y.—*Heating Furnace.*—February 4, 1868.—The caloric current passes up lunate flues to an upper drum, from which it passes to the chimney. The air circulates in contact with the heated surfaces, and passes from the inclosing case into pipes leading to different apartments in the building. Dampers are placed at the bases of the lunate flues, by which they may be partially or wholly obstructed.

Claim.—1. The radiator, consisting of the base *a*, with pipes *c c c c*, and the chamber *b*, or chambers *b* and *d*, substantially as described and for the purposes set forth.

2. The crescent check damper and the crescent close damper, constructed substantially as described, and arranged so as to operate in the manner and for the purposes shown.

3. The fire pot, constructed in two parts, with a self-adjusting grate in each part, and a movable partition, substantially as described, and so arranged with separate radiators in separate compartments of the hot-air chamber of a furnace, and separate systems of hot-air pipes and distributing registers, as to convey all the heat from both parts of the fire pot to one system of registers, or to distribute the heat from one part of the fire pot to every system of registers at pleasure.

74,052.—E. Hall Covel, New York, N. Y., assignor to Home Manufacturing Co., same place.—*Washing Machine.*—February 4, 1868.—A miter-pinion at the head of the turning, ribbed sleeve is engaged by a similar wheel rotated by a winch, and whose shaft is journaled on the hinged lid. The sleeve turns on a central stud, and is removable therefrom.

Claim.—1. The annular bands *b* and *c*, with or without the ears a^1 and *b'*, so constructed and arranged as not only to hold together the upper and lower ends of the staves, but also to cover a greater or less portion of the upper and lower surfaces of such ends, substantially as herein set forth.

2. The detachable pin or stud a^2, in combination with the tubular sleeve *g*, carrying the radial fins or ribs, and the circumferential groove *f'* of the standard *e*, substantially as and for the purpose specified.

3. The ogee-shaped fins *i*, on the disk *h*, arranged to rotate within the tub A, substantially as and for the purpose specified.

4. The combination of the spring catch *k** and spurs *k'*, with the pivoted bar *k*, carrying the crank-shaft *n'* and beveled pinions *m n*, substantially as and for the purpose specified.

5. The clutch *m''* *a**, arranged to connect the sleeve *g* with the gearing upon the bar *k*, substantially as herein set forth.

6. The washing machine, constructed and operating substantially as herein shown and described.

74,053.—Giles Cramton, Marshall, Mich.—*Three Horse Equalizer.*—February 4, 1868.—The single-tree of the middle horse is attached to one end of a chain passing around a pulley, and the double-tree is attached to the other end of the said chain. The chain is coiled around portions of the pulley of different diameters, so that the power exerted through the double-tree may be balanced by half the amount exerted through the single-tree.

Claim.—The arrangement and combination of the pulley D, coupling tongue B, pin P, hollow disk casing A, and hitching chain or chains G, with the whiffle-tree E and double-tree F, of a three-horse team, substantially as and for the purpose herein described.

74,054.—George W. D. Culp, East Enterprise, Ind.—*Hay Press.*—February 4, 1868.—The press stands vertically. The beater is so arranged that its motion can be reversed or stopped while the motion of the horses continues. The feed door is automatically closed while the beater is ascending, and is opened as soon as it is down. The motive shaft connects by a clutch with the capstan operating the toggle levers which raise the lower follower.

Claim.—1. The shaft C, when provided with a loose gear wheel *g*, and with a sliding clutch *k*, in combination with the capstan G, all made and operating so that the shaft can be revolved with or without the capstan, as may be desired.

2. The disk *d* on the shaft C, for operating the beater, in combination with the capstan G and cogs *g*, *h*, and *i*, for operating the follower, all made as set forth.

3. The catch *m* on the sweep *k*, in combination with the arm L on the capstan G, all made and operating substantially as herein shown and described.

4. The device for automatically opening the feed door M by the downward motion of the beater, consisting of the elbow P, catches O, and weight *r*, all made and operating substantially as herein shown and described.

5. The device for automatically closing the feed door by the upward motion of the beater, consisting of the lever N, weighted cord *g*, and catches O, all made and operating substantially as herein shown and described.

74,055.—Ezra N. Curtice, Spring Water, N. Y.—*Hay Loader.*—February 4, 1868.—The hay is raised by a rope passing over a crane, and is coiled upon drums, which are turned by the action of the hind wheels upon the friction pulleys.

Claim.—The construction and arrangement of the shafts *b b*, having drums *h*, and hung to the pivoted pendant *a*, and provided with the flanged elastic friction rollers *c c*, operating against the hind wagon wheels B, by means of the curved rods *d* and lever *e*, as herein described for the purpose specified.

74,056.—Abbot R. Davis, Cambridge, Mass.—*Treating Wood for Covering Walls, &c.*—February 4, 1868.—Improvement upon his patent of November 26, 1867.

Claim.—The employment of glycerine for saturating thin sheets or laminæ of wood, to be used as a wall covering or for other purposes, substantially as described.

74,057.—Isaac De Haven, Allegheny City, Pa.—*Lid for Tea Kettles.*—February 4, 1868.—The lid is hinged to a plate turning on the rear handle lug.

Claim.—A lid provided with a hinged joint and pivoted to the body of a tea kettle or other vessel, substantially as herein described and for the purpose set forth.

74,058.—Louis Perozier, New York, N. Y., assignor to himself and George Schaffer, same place.—*Velocipede.*—February 4, 1868.—The driving wheels are supported on sectional axles formed into compound cranks, acted on by treadles. One wheel may be turned more than the other, to assist in turning the carriage. One shaft may be rotated to take the other over its dead centers.

Claim.—1. Providing a velocipede with a rear axle, which consists of two sections C C', each turning independent of the other, substantially as and for the purpose herein shown and described.

2. Providing the bearings for the axles C C' and F, or either, directly in the springs B and K, substantially as and for the purpose herein shown and described.

3. The crank axles C C' and wheels D, when arranged as described, in combination with the springs B, in which the bearings for the said axles are provided.

4. The above, in combination with the front axle F, wheels I, and king bolt H, having a crank, all made and operating substantially as and for the purpose herein shown and described.

74,059.—Joseph Bragg Dunn, Petersburg, Va.—*Cotton Bale Tie.*—February 4, 1868.

Claim.—The improved bale tie A, formed with a slot B at one end, and a lateral slit or open slot at the other end, said open slit or slot having a shoulder a^1, at its outer end, and having its inner side struck or bent downward, forming a curved lip a^2, substantially as herein shown and described, and for the purpose set forth.

74,060.—D. Elliot and E. Seely, New York, N. Y.—*Washer for Lock Nuts.*—February 4, 1868.—The washer has a rectangularly projecting flange which engages a ratchet tooth in the nut to prevent the latter becoming loose.

Claim.—The washer C, constructed as described, provided with the concentric pawl D, cut from it, and adapted to fit into the ratchet teeth *f*, formed in the chamber of the nut E, to prevent the said nut from turning off the bolt B, as herein shown and described.

74,061.—John Ellis, White Plains, N. Y.—*Boiler for Heating Water.*—February 4, 1868.—The heads have a central aperture. Through the front aperture the fuel is fed, and the caloric current has escape through the other. The front head has a horizontal diaphragm, forcing the water from its lower part to take the whole circuit of the pipes in reaching its upper part, with which the steam pipe communicates.

Claim.—The boiler for heating water, consisting of the two hollow heads connected by the tubes, and having no metallic sides or walls, the grate bars being also tubular, said heads subdivided into compartments, so that the water shall circulate freely through the boiler, as herein described, for the purpose specified.

74,062.—J. W. Emerson, Rochester, Minn.—*Machine for Boring Wagon Hubs.*—February 4, 1868.—The cutter is adjusted upon the large shaft by means of the small shaft, which is either turned by a winch or automatically, in the latter case to cut the socket of a gradually decreasing diameter toward the point of the hub.

Claim.—The small shaft L, in combination with the shaft J, handle *j*, gear wheel S, circular plate K, stop T, gear wheels N O, and cutter R, substantially as described, for the purpose specified.

74,063.—J. J. Ensley, New York, N. Y., assignor to Thomas D. Ledyard, Toronto, Canada.—*Manufacture of Illuminating Gas.*—February 4, 1868; antedated January 27, 1868.

Claim.—Making a compound gas by the mixture, with common coal gas, of gas made from bones or other animal matter, and from wood or equivalent vegetable matter, either separately or combined, for the purposes herein specified.

74,064.—Henry A. Estes, Jersey City, N. J., assignor to himself and George Smith, same place.—*Horse Hay Fork.*—February 4, 1868; antedated January 31, 1868.—The stock ends in a bisected cone, which is opened out by the toggle levers to engage the hay.

Claim.—1. The toggle bars and central operating rod, in combination with the tubular stock and the two laterally moving lifting spurs, substantially as and for the purpose herein set forth.

2. The arrangement of the guards *e* with reference to the lever B, and the upper end of the tubular stock A, substantially as and for the purpose herein set forth.

3. The laterally moving spurs E, toggle bars D, and central rod *c*, arranged in relation with the tubular stock A, lever B, and guard *e*, substantially as and for the purpose herein set forth.

74,065.—William Faulkner, Vevay, Ind.—*Apiary.*—February 4, 1868.—The pit is formed to allow space for the sunk hatchway through which air passes to the register in the hive floor. The cups in which the legs stand contain viscid matter to arrest the passage of insects. The walls are double and the intermural space filled in with some substance, as sawdust, containing fixed air, which serves as a heat insulator.

Claim.—1. The provision in an apiary, of the sunk hatchway G, pit A, and flue N, together with suitable registers, or their equivalents, substantially as and for the purpose set forth.

2. In combination with the elements of claim first, the insulating walls K and ceilings L, as and for the purpose explained.

3. An apiary supported on posts, which rest in cups D, in connection with a pit or depression in the ground, and a hatchway, as represented.

74,066.—Louis Auguste Favre, Geneva, Switzerland.—*Soling Shoes.*—February 4, 1868.—The outer sole, or "half sole," has projecting screw heads which enter circular apertures in the plate, and by drawing the said sole in the direction of its plane the shanks of the screws enter slots extending from the said apertures; after attachment the sole may be prevented from side movement by a single screw.

Claim.—The metallic plate *d*, rigidly secured to the inner sole *b*, and provided with slots *f*, adapted to receive and retain projections *g*, on the outer sole *c*, s and for the purpose set forth.

74,067.—E. Ferguson, Newbern, N. C., assignor to Isaac H. Ferguson and Mitchell, Allen & Co., same place.—*Injector for Steam Generators.*—February 4, 1868.—The fire is raked out, and when the steam pressure is reduced to twenty-five pounds the contents of the steam generator is blown out. The supply pipe is then opened and the boiler filled, owing to the partial vacuum therein.

Claim.—The arrangement of the supply-pipe B cock D, and pipe C, with the boiler A, whereby, with a vacuum in the boiler, and consequent atmospheric pressure, the water is injected to the boiler, substantially as herein shown and described.

74,068.—Valentine Fischer, New York, N. Y.—*Machine for Forming Sheet Metal Molding.*—February 4, 1868.—The dies are removable. The head bar of the moving die is connected by a series of toggle levers and a longitudinally sliding bar to the frame. The pressure is brought upon the head by the rotation of a nut upon the sliding bar, which movement tends to draw the toggle levers into a vertical position.

Claim.—1. The machine having the rounded and square dies, arranged as described, whereby all kinds of smooth moldings can be formed, as herein shown and set forth.

2. The standard D, when provided with one concave side, as shown.

3. So arranging the dies E and F that the latter can be placed upon the former without any other fastening, as described.

4. Arranging the female die G above the male die E or F, for the purpose of keeping the female die clear, as set forth.

5. The device for operating the movable die, said device consisting of the toggle-levers J L, in combination with the pendent bar H and central bar K, so that by moving the latter horizontally the die will be moved up and down, as set forth.

6. The manner herein shown and described of operating the bar K by means of the screw N and the nut-pinion O, all made as set forth.

7. A machine for forming sheet-metal moldings when the same are made and operating substantially as herein shown and described.

74,069.—Theodore A. Fisher and Anderson F. Fisher, Beardstone, Ill.—*Tunnel Excavator.*—February 4, 1868.—The tunnel is constructed in annular sections which are added within the "coffer." The sections have an inturned flange at each edge by which they are secured together, having an interposed gasket. The coffer is attached to a carriage within the tunnel, and gives support to the ribbed excavator disk, which is rotated to make way for it as it slides upon the completed part of the tunnel.

Claim.—The sliding coffer A, the excavating disk D, and the supporting car E, combined with the cast-iron tubing C, united in sections within the coffer, constructed and operating substantially as and for the purpose herein described.

74,070.—Addison C. Fletcher, New York, N. Y.– *Cotton Bale Tie.*—February 4, 1868; antedated January 23, 1868.

Claim.—The plate A, having an aperture *c e d*, lateral side openings *f f'*, opening *g*, and lip *h*, for operation in connection with a rope or equivalent material, substantially as set forth.

74,071.—Marvil M. Follett, Upton, Westboro, Mass.—*Boot Attachment to Carriages.*—February 4, 1868.—The boot, when out of use, is coiled on spring rollers in a case beneath the floor.

Claim.—1. A boot attachment to carriages, composed of the rollers C, F, and D, and the spring S and strap *a*, whereby a boot for carriages is wound up by the force of a spring S, substantially as shown and described, and for the purposes set forth.

2. The cheek a^2, or its equivalent, in combination with the boot B and spring a^1 and pin a^3, substantially as shown and described, and for the purposes set forth.

74,072.—James D. Franklin, Attleboro, Mass., assignor to Ira Richards & Co., same place.—*Securing Hooks and Eyes to Cards.*—February 4,1868.—The eyes traverse the card perpendicularly and serve to secure the hooks thereto.

Claim.—Hooks and eyes secured to cards by passing the eyes through the card so as to project on both sides thereof, and fastening the hooks to their ends and bodies, on one or both sides of the card, substantially as set forth.

74,073.—Olney Fry, Jr., Albany, Oregon.—*Seeding Machine.*—February 4, 1868.

Claim.—1. The combination of the gear wheel N, attached to the drive wheel A, pinion wheel M, shaft L, crank or crank wheel K, connecting rod J, and lever I, with each other and with the seed box E and adjustable sliding bar F, said seed box and sliding bar being constructed and arranged substantially in the manner herein shown and described.

2. The combination and arrangement of the sliding bar P, connecting rod R, and lever S, with each other and with the shaft L, substantially as herein shown and described, for the purpose of throwing the pinion wheel M into and out of gear with the gear wheel N.

3. The combination of the posts T, cross bars U, longitudinal bar V, beam W, plough standards X, bar Y, and draught bars or rods Z, with each other and with the frame D and tongue C, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

4. The combination of the keeper C', lever A', spring E', and notched standard F', with each other and with the longitudinal bar V, substantially as herein shown and described, and for the purpose set forth.

74,074.—Alfred A. Fuselier, Algiers, La.—*Ditching Machine.*—February 4, 1868.—The rectangular ditch is excavated by buckets upon endless chains. The sides are sloped by rotary cutters following, and the loose dirt may be removed by an additional series of elevating buckets.

Claim.—The excavators D, formed as described, in combination with the drums C C', the chute E, and the rotary cutter F, and the board *c*, all constructed, arranged, and operating as and for the purpose set forth.

74,075.—J. B. Gardiner, Springfield, Mass.—*team Pump.*—February 4, 1868.—Simultaneously with the ordinary letting on of steam to the end of the motive piston, to move it and the slide valve, the latter is placed in such position that the steam upon the opposite end of the motive piston shall exhaust and leave the valve free to move.

Claim.—1. The arrangement of ports *g g'* on each end of the valve, and communicating with the exhaust, for the purpose of assisting in the movement of the valve, substantially as set forth.

2. The arrangement of the steam chamber H and exhaust chamber J upon the two sides of the steam chest, substantially as set forth.

3. The arrangement of the screws *o o'*, wherewith to adjust the amount of steam let on and off the valve as described.

4. The stuffing-box, constructed of the followers P P', and nut S, in combination with the piston A and plunger B, substantially as described.

5. In combination with the central acting valve, valve rod C, and steam piston, arranged and operating as described, the plunger B of a single acting pump.

74,076.—Henry Garrett, Richmond, Mo.—*Butter Worker.*—February 4, 1868.

Claim.—1. The curved or semicircular butter pan B, in combination with the pressure roller frame D, provided with rollers having fluted or smooth peripheries, all arranged substantially as and for the purpose set forth.

2. The cap or hood C, provided with the strainer *d*, and placed or formed at one end of the butter pan B, substantially as and for the purpose specified.

74,077.—Washington L. Gilroy, Philadelphia, Pa.—*Weather Strip.*—February 4, 1868.

Claim.—1. The insertion of a flat elastic strip into a molding, such as above described, in an inclined position to its surface, as herein set forth.

2. Affixing said elastic medium into the groove in the rigid molding by means of water-proof cement, as and for the purposes specified.

74,078.—H. A. Goodrich and Joseph Amos, Joliet, Ill.—*Manufacture of Clay Pipes.*—February 4, 1868.—The pipe is received and removed in a trough having an inner metallic surface and supported on the carriage.

Claim.—The combination of the stationary mouth piece L, the trough B, and carriage G, all arranged to operate as shown and described.

74,079.—Ephraim R. Green and Henry D. Phillips, Jr., Trenton, N. J.—*Brick Machine.*—February 4, 1868.

Claim.—1. Operating the molds R, that is to say, feeding the empty ones underneath the press boxes C, and shoving the filled ones out from underneath the same by means of the slides P, having weights V attached, and connected to the cranks N of the shafts M by means of the crank pins *j* and slotted arms O, all arranged substantially as shown and described.

2. The bars U, for discharging the bricks from the molds, operated by the levers T and wipers S, from the shafts M, all arranged substantially as and for the purpose set forth.

3. The application of a press box C to each side of the box A of the mud mill, in combination with the four shafts H, operated from the mud mill shaft B, and the cams *h* for operating the plungers F, all arranged substantially as shown and described.

74,080.—A. W. Hall, East Lebanon, N. H.—*Friction Clutch.*—February 4, 1868.—The ratchet clutch is splined to the shaft and the friction clutch is upon a sleeve splined upon the other clutch. The clutches are operated by separate levers.

Claim.—The two-part clutch E and F, substantially as and for the purpose described.

74,081.—Griffin B. Halsted, New York, N. Y.—*Constructing Molasses Cups of Sheet Metal*—February 4, 1868.

Claim.—A molasses cup constructed of two equal vertical parts, A A, swaged or struck up in proper form, and connected together by solder, substantially as herein shown and described.

74,082.—John R. Hand, College Corner, Ohio, assignor to himself and Johnson Orr, same place.—*Cultivator.*—February 4, 1868.—The fore end of the beam laps over the rear end of the tongue, and is pivoted thereto. The rear end of the tongue carries a rectangular strap-ring in which the beam has vertical adjustment by a screw. The standards are secured to cross bars, the lower pair of which are adjustable in a frame at the rear end of the beam. The standards are adjustable laterally upon the bars.

Claim.—1. The draught pole M, capable of adjustment upon the beam A, by means of the clevis O and screw P.

2. In combination with the elements of claim first, the shares G G′ K K′ and handles R R′, adjustable in the manner set forth.

74,083.—DAVID HARGER, Des Moines, Iowa, assignor to himself, D. H. YOUNG and A. S. VORSE.—*Composition for Roofing.*—February 4, 1868.—Composed of coal tar, 3; sand, 3; quicklime, 3; sulphate of zinc, 1-90th, and sulphur, 1-90th part.

Claim.—A roofing composition, composed of unboiled coal tar, sand, quicklime, sulphate of zinc, and flour of sulphur, all combined and used substantially as and for the purposes set forth.

74,084.—WILLIAM HARSEN, Greenpoint, N. Y.—*Steam Pump.*—February 4, 1868.—The rocking-way shaft has a lengthened bearing within a sleeve forming a lateral projection from the ram at its junction with the piston rod. The way shaft has an arm which serves by direct connection to a crank to rotate the main shaft to which is hung the eccentric operating the slide valve. The action of the valve and the position of the steam ports are oblique.

Claim.—1. The arrangement and combination of ram and piston with the lateral socket H, the rocking-way shaft I, arm J, crank K, and shaft L, substantially as shown and described.

2. The arrangement and combination of the lateral shaft L, the eccentric N, the oblique ports *d d* and *e*, relatively to the axial line of the steam cylinder, and the sliding valve O, substantially as set forth.

74,085.—B. G. H. HATHAWAY, Rock Stream, N. Y.—*Harvester.*—February 4, 1868.—Improvement on patent of G. M. and B. G. H. Hathaway, May 28, 1867.—The planet wheels are turned by the inside gear of the rotating plate, and communicate motion to a spur wheel cast upon the shaft of the bevel wheel, which turns on the axle within the case and engages a bevel wheel on the pitman crank shaft. The driving wheel is connected to the cutting mechanism by pawls, so that a backward rotation of the driving wheel is not communicated to the said mechanism, and the connection admits of being thrown out to stop the motion of the said mechanism when moving forward.

Claim.—1. The planet wheels H, when attached to the inner face of a revolving plate F, so adjustably connected with the driving wheel, that it may be caused to revolve on the axle, or remain stationary, substantially as set forth.

2. The mode of throwing the driving mechanism out of or in gear, by the pawl or pawls G, attached to the driving wheel, notched recess G^1, collar G^3, lever G^5, and rod G^6, acting either by means of the yoke G^4, or its equivalent, substantially as described.

3. The combination of the bent axle B, bar O, lever P, rod P^1, and wheel A′, for regulating the height of the cutter bar M, substantially in the manner set forth,

4. The mode of suspending the rear of the detachable platform Q, by means of the stirrup R, attached to the adjustable bar O, substantially as set forth.

5. The arrangement of the bent axle B B′, driving wheel A, and wheel A′, attached to an adjustable bar O, substantially as described.

74,086.—ASA S. HAVEN, Barre, Mass.—*Device for Preventing Cows and Calves from Sucking the Teats, and for Leading Cattle.*—February 4, 1868.—The adjustable stops are inserted in the nostrils, and the bow lies in front of the mouth.

Claim.—1. The frame *a*, in combination with the adjustable stops or retaining pieces *b e*, substantially as and for the purpose set forth.

2. The eye *g*, in combination with the frame *a*, substantially as and for the purpose described.

74,087.—JOHN S. HENRY and ABRAHAM H. REIST, Manheim, Pa.—*Bolt and Rivet Cutter.*—February 4, 1868.

Claim.—The combination and arrangement of the jaws D E, unobstructed on one side, when said jaw D is connected with piece C, with its fixed loop L, and pivot connection to H, and the jaw or cutter E, with its shoulder *e*, is on the end of the prolonged handle or lever B, combined and operating in the manner and for the purpose specified.

74,088.—PORTER HILL, Millport, N. Y.—*Churn*—February 4, 1868.—The spiral spring beneath the dasher assists in raising the same.

Claim.—In combination with the dasher B, a spiral spring C placed below the same, and arranged to operate substantially as and for the purpose set forth.

74,089.—WILLIAM J. HOFFMAN, Croton Falls, N. Y., assignor to GEORGE V. HOFFMAN.—*Water Wheel.*—February 4, 1868.—The water is received at one point of the periphery and in a tangential direction, impinging directly upon the radial ends of the buckets. The buckets are vertical, and for the most of their length have a tangential direction. The water is discharged upward and downward through convolute chutes.

Claim.—The tangential buckets A*, constructed with radial or nearly radial end portions *b*, and arranged with reference to the inclined passages *e* near the periphery of the wheel, substantially as and for the purpose specified.

74,090.—EDWARD HOWARD, Boston, Mass.—*Stem-winding Watch.*—February 4, 1868.—A double-contrate wheel is splined upon the stem, and is engaged with a train of gears to either wind the watch or set the hands. The barrel is fitted into an opening in the dial plate, and is supported therein by a toothed flange resting on, and attached to the dial plate, so as to allow the winding of the barrel. A spring pawl prevents the barrel from turning in a contrary direction when the watch is running down.

Claim.—1. Applying the winding mechanism directly to the barrel which contains the spring, in the manner and for the purpose substantially as described.

2. The sliding plate *i*, in combination with the spur wheel *g* and button or washer *h*, as and for the purpose set forth.

3. In combination with the arbor or key *l*, provided with a movable double crown-wheel *m*, the spur wheel *g*, sliding plate *i*, and button *h*, as specified.

4. The barrel *c*, constructed as described, and arranged within an opening in the plate *a*, in combination with the main wheel *w*, spring *v*, and pawl *e*, substantially as and for the purpose specified.

5. The spring barrel, formed with the plate *c*, the rim or annular projection *a′*, and the toothed flange *c′*, as and for the purpose set forth.

74,091.—F. A. HOYT, Hanover, Wis.—*Flour Safe and Sifter.*—February 4, 1868.—One end of the sieve is supported by the crank by which it receives motion, and the other is supported on links. The flour falls into the drawer. The pie board slides into the case beneath the drawer bottom.

Claim.—The flour sifter and safe, constructed as described, and consisting of the box B, having door *i*, molding board *k*, drawer *g*, sifter A *a*, crank shaft *d* S, metallic slotted straps *b*, side pieces *e*, wheels *m n*, handle *h*, and connection *e*, all arranged and operating as set forth.

74,092.—N. G. HUGHES, Waynesburg, Pa.—*Corn Planter.*—February 4, 1868; antedated January 27, 1868.—The seed hopper is fixed to the rear of the standard, and the seed slide is operated by levers actuated by the operator.

Claim.—1. The combination of the tubes G and H with the seed box E and spout or tube F, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the connecting rod I, spring J, crank shaft K, connecting rod L, and lever or trigger M, with each other, with the interior tube H and plow handle C, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the hand cover or guard N with the plow handle C, substantially as herein shown and described, and for the purpose set forth.

74,093.—THOMAS H. HUMPHREYS, Trenton, N J.—*Vise.*—February 4, 1868.—The inner bearing of the screw upon its socket is by a thimble, which has a thread engaging that upon the screw. The thimble is held by a set screw, and furnishes means to compensate for wear.

Claim.—1. The combination of the dovetail formed slide or sword A, nut E, and adjustable thimble D, as arranged, shown, and described.

2. In combination with screw C, the adjustable thimble D, operating as herein described.

74,094.—CYRUS D. HUNT, Fair Haven, Mass.—*Nail Plate Feeder.*—February 4, 1868.—The nipper rod and nail plate pass through a cylinder, and are reversed by an oscillating motion given to the cylinder by a pin working in a right and left spiral slot in the said cylinder. The feeding takes place simultaneously by the rods, levers, springs, and clasps upon the nipper rod.

Claim.—The method of feeding the nail plate by means of the hinged rest B, feed rest E, feed rod H, the springs G *g*, the lever F, the catches *f f*, and the nipper rod I, constructed and operating substantially as described.

74,095.—E. J. HUNT, Concord, N. H.—*Machine for Cutting Cards.*—February 4, 1868.—Each cutter is attached to an adjustable section, and laps at one end past the knife with which it corners. The sections have studs entering spiral slots in the circular plate, and are set out or in by rotary movement of the latter. The spring arm, carrying the cutter, acts by a pawl, ratchet, and spur gearing to rotate the cutting table, thus changing the surface beneath the cutters.

Claim.—1. The rotary cutter board B, in combination with the gear wheels C D, the ratchet wheel *m*, and the cutter arm E, constructed and operating substantially as and for the purpose herein described.

2. The adjustable sections *e e*, with the knives *p p*, and the circular slotted plate H, in the cutter box F, constructed and operating substantially as and for the purpose specified.

74,096.—ISAAC B. JONES, Xenia, Ohio.—*Sawing Machine.*—February 4, 1868.—The dog lever is held down by a pawl and ratchet, and engages the log by a dog and spring.

Claim.—The combination of the lever C^2, dog F^2, spring E^2, and ratchet bar H^1, all constructed as described for the purpose specified.

74,097.—DE LANCY KENNEDY, New York, N. Y., assignor to HENRY J. KENNEDY, same place.—*Chain Saw.*—February 4, 1868.—Each link has a curved recess into which the hooked end of a contiguous link engages. The guide plate braces the teeth to their work.

Claim.—1. The manner, substantially as herein described, of connecting the several sections to constitute an endless-chain saw, as and for the purpose described.

2. In combination with the chain saw, the guide plate, made no thicker than the saw, and placed behind the back edge thereof, substantially as and for the purpose specified.

74,098.—HENRY H. KIRK, Springfield, Tenn.—*Distillery.*—February 4, 1868.—Steam is introduced into the lower chamber of the vessel containing the beer. The vapor from the lower chamber passes up a pipe into an upper chamber containing beer, and descends to nearly the bottom of the latter, through the annular space between the said pipe and a cup-formed pipe which is inverted over it. Above this upper chamber is a mash tub. The vapor from the upper chamber passes to the flake stand and the condensed spirit flows to the first doubler and is again condensed. This process is carried on through the whole apparatus. A means of testing under lock is furnished.

Claim.—1. The combination of the chambers B H and flake stand F, first doubler K and second doubler O, with their respective flake stands and recieving tubs, all constructed by a series of closed pipes, for the manufacture, by a continuous process, oft reble-distilled spirits, substantially in the manner set forth.

2. The arrangement of a pipe R, for drawing the low wines from the second doubler N to the chamber B for redistillation, substantially as described.

3. The arrangement of the pipe S, for drawing the low wines from the first doubler K to the chamber B for redistillation, substantially as described.

4. The coaling cylinder Q, constructed with the diaphragms *q* and q^6, in combination with the revolving plates q^1 and q^3, and partition q^2, substantially as and for the purpose set forth.

5. In combination with a coaling apparatus, substantially as described, the flap valve q^5, as and for the purpose set forth.

6. The arrangement of the testing pipes G, substantially as described.

74,099.—WILLIAM A. LAWTON, New York, N. Y.—*Gas Torch.*—February 4, 1868.—A gradual supply of air to the upper end of the reservoir passes through a separate pipe, and a portion of the pipe through which the liquid flows to the lamp.

Claim.—1. A gas torch, for all the purposes for which gas torches are used, composed of the tube A, and supply tube D, and air tube E, and an enlarged wick tube F, substantially as shown and described, and for the purposes set forth.

2. The air tube E, in combination with the tube A and the tube D, substantially as shown and described, and for the purposes set forth.

74,100.—EDWARD C. LEWIS, Auburn, N. Y.—*Seat Clasp or Fastener.*—February 4, 1868.—The clasp takes beneath a rail of the body, and is adjustably screwed into one end of a lever pivoted to a plate attached to the seat. This lever is operated by a cam lever to secure the fastening.

Claim.—The clasp D, levers B and C, constructed and arranged substantially as and for the purpose set forth.

74,101.—R. F. LIVERMORE, Starksboro, Vt.—*Sap Spout.*—February 4, 1868.—The spout is attached by the screw to the tapped hole, discharging into the recess in the inner end of the spile.

Claim.—As a new article of manufacture, a cast-metal sap spout constructed as described, consisting of the spout A, having the head D perforated at *h*, and provided upon its end with the concave surface, in the center of which the screw S is secured, the exterior surface of said head beveled at *a* to form the edge *a'*, and having upon its upper side the projection E, as herein shown and described.

74,102.—T. B. LUZIER and GEORGE A. HAAS, Philadelphia, Pa.—*Ladder.*—February 4, 1868.—The hooks upon the main section of the ladder engage the steps upon the other section, and hold it in position as a long or a step ladder. A button beneath the upper step of the main section engages a step of the other section to secure it within the hooks.

Claim.—Hooks *e e'* and *i*, and a turn buckle *c*, or its equivalent, connected to one section of a ladder, and arranged for the reception and retention of the rungs of another section, substantially as and for the purpose specified.

74,103.—J. R. LYONS, Montrose, Pa.—*Horse Hay Fork.*—February 4, 1868.—The two side bars of the stock give cover to a central bar connected to and operating the engaging tines.

Claim.—In combination with the shank A and oscillating tines B, the rod C and lever D, when said rod is cut away at C^1, so that when the tines are extended the point of attachment of the lever and rod shall be behind the pivot of the lever, so that the weight of the load shall act to hold back the lever with a force proportioned to the weight of the load, substantially as set forth.

74,104.—JAMES MAINS, Olena, Ill.—*Corn Harvester.*—February 4, 1868.—The horse walks between two rows. The ears are stripped from the stalks by the rakes, and carried by the endless ribbed belts to the receptacle.

Claim.—The combination of the gatherers F and elevators H, constructed and operated substantially as described, with the frame A and box K, said box being made substantially in the shape and manner herein shown and described.

74,105.—JOEL MANCHESTER, New York, N. Y.—*Animal Trap.*—February 4, 1868.—The bait arm

has a projection engaging a projection upon the crank. The movement of the bait frees the spring crank, which then makes one rotation, carrying down the lever, whose end carries a serrated plate, and which first transfixes and then casts away the animal. The trap is reset by the aforesaid projections coming into re-engagement.

Claim.—1. The arm or lever F, constructed substantially in the shape and manner herein shown and described, in combination with the toothed plate H, crank lever E, and spring C, substantially as and for the purpose set forth.

2. The pivoted bait hook bar or plate I, constructed substantially as herein shown and described, in combination with the crank lever E, as and for the purposes set forth.

74,106.—LINUS S. MASON, Middlefield Center, N. Y.—*Horse Hay Fork.*—February 4, 1868.

Claim.—1. The tines E E, which project from one or more of the sides of the shank of a harpoon hay fork above the ordinary harpoons C, and which can be drawn in and out at will, substantially as herein shown and described.

2. A harpoon hay fork, when provided with tines E E on the sides of its shank, and with pointed side guards F F, all made and operating substantially as herein shown and described.

74,107.—WILLIAM MAY, Binghamton, N. Y.—*Hand Truck.*—February 4, 1868.—The truck has pointed hooks which engage the side of the case or bale, and sliding hooks which engage its top.

Claim.—1. Providing a hand truck with a hook C, which slides on the center brace of the truck, substantially as herein shown and described.

2. The arrangement and combination with each other, on a hand truck of the hook C, sliding on the center brace, and of the hooks D D, fixed to the lower part of the truck, substantially as herein shown and described, all made and operating as set forth.

3. The hinged plate or bar E, in combination with the hooks D D, substantially as herein shown and described.

74,108.—JACOB C. MCCARTY, Grafton, W. Va., assignor to WILLIAM E. PORTER, same place.—*Railway Switch.*—February 4, 1868.—The rails on both sides of the switch are moved simultaneously; the connecting rods being attached to the opposite ends of a balance beam to insure equal movement. The movement is made through a chain coiled upon a shaft turned by a hand wheel.

Claim.—1. The hinged chair D, when constructed in the manner and used for the purpose specified.

2. The combination of the movable rails A A^1 B B′ with the fixed rail A^2, connecting rods R R′, pitmen P P′, balance beam T, chains S, or their equivalents, and shaft W, or its equivalent, substantially as and for the purpose specified.

74,109.—JOHN K. MCDONALD, Newark, N. J.—*Eyeglass.*—February 4, 1868.—The bows are drawn toward the nose by a ring of rubber placed upon the hinged bridge.

Claim.—The nose piece below the extensions B, when formed of soft rubber tubing upon the spring wire, fitted in notches in the rims, as herein shown and described.

74,110.—H. G. MCGONEGAL, New York, N. Y.—*Pavement.*—February 4, 1868.—The perforations are vertical and contain sand. The object is to roughen the pavement by uneven wear.

Claim.—The blocks A A, when provided with perforations C C, into or through the same, substantially as and for the purpose herein shown and described.

74,111.—JOHN MCKIBBEN, Lima, Ohio.—*Snap Hook.*—February 4, 1868.

Claim.—1. The snap hook, constructed as described, having the spring B reversed in position, with its outer end riveted within the bow of the hook A, and its free end passing back within the jaws C, underneath the lip D of the pivoted jaws C, as herein set forth for the purpose specified.

2. In combination with the above the rein loop F, having formed upon it at right angles the loop G, for the gag runner, substantially as herein shown and described.

74,112.—WILLIAM MCLUCAS, Reinersville, Ohio.—*Corn Planter.*—February 4, 1868.—The hopper has a lower chamber which holds enough seed for one hill. The seed lever is operated by tappets on the periphery of the wheel and acts to close the way into the seed chamber when it opens the exit therefrom to deposit the seed.

Claim.—1. The combination of a lever B with its valves b b^1, operated by a wheel E, with seed hopper A and D, all substantially as described.

2. In combination with the foregoing, the plow shares G G, and harrow roller g, substantially as and for the purpose specified.

74,113.—JAMES MONACH, Philadelphia, Pa., assignor to himself, JEFFREY HART, and ROBERT THORP, Conshohocken, Pa.—*Treating Jute Fiber.*—February 5, 1868.—The jute is boiled for two hours in a solution of caustic alkali, of a gravity of 60° Twaddell. After washing it is steeped a short time in a weak solution of sulphuric acid to neutralize the alkali, and is then washed and dried. It is intended as a substitute for wool.

Claim.—Jute fibers treated with caustic alkali, of the strength of about 60°, substantially as described and for the purpose set forth.

74,114.—JAMES H. MONCE, Hopkinsville, Ohio.—*Working Churns.*—February 4, 1868.—The verge of the clock work is connected to the vertical churn dasher.

Claim.—The arrangement and combination of the regulating and adjustable arm n and dasher adjustable lever o, when connected with and operated by the verge b, as herein described and for the purposes set forth.

74,115.—F. D. MOORE, Edray, W. Va.—*Hand Spinning Machine.*—February 4, 1868.—The stationary end of the roll is held in the left hand, while the operator sits and turns the main wheel by the right hand. The roping is drawn out by the movement of the carriage, which is governed by the treadle.

Claim.—1. The combination of the pulleys g g', the rod n, the slide m, with the upright m^2, the lever l, and the treadle E, arranged and operating substantially as and for the purposes herein described.

2. The slide bar v^4, operated by the lever l, in combination with the slotted swing bar z and the spring hook v^2, arranged and operating as and for the purposes set forth.

3. The ratchet wheel u^3 and spring dog w^2, combined with the pulley g', and operating substantially as and for the purpose specified.

4. The combination of the horizontal sliding bar v^4, the slotted swing bar z, the vertical slide v^3, and the check pulley x, arranged and operating substantially as and for the purposes herein described.

5. The square toothed ratchet wheel u, the dog u^1, the slide bar v, the dog w^1, the slide bar v^1, the spring hook v^2, and the slide bar v^4, combined and operating substantially as and for the purposes set forth.

6. The check pulley x, the slide v^3, the spring a, and the slotted bar z, or its equivalent, combined and operated as and for the purpose specified.

74,116.—GEORGE M. MORRIS and JOHN MCCREARY, Cohoes, N. Y.—*Lubricator for Loose Pulleys.*—February 4, 1868.

Claim.—The bushing B within the hub of the loose pulley, constructed as described, having the chamber a around its periphery, communicating with the shaft by means of the opening e, the ends b of said bushing fitting snugly within the hub, and provided with the eccentric groove c, communicating with the shaft and chamber a by means of the opening d, whereby a constant circulation of lubricating matter is obtained within and around the bushing, as herein shown and described.

74,117.—WILLIAM F. MORTON, New Haven, Conn.—*Carriage Wheel.*—February 4, 1868.—The two collars with connecting ribs are cast in one piece and shrunk upon the hub.

Claim.—The hub cast in one piece with the collars A A and connecting bars *a a*, when constructed in the shape and proportions as described.

74,118.—LYCURGUS H. MOSELEY, Franklin, Tenn.—*Ointment.*—February 4, 1868.—For treatment of piles. Composed of stramonium, 4 oz; rock plant, 16 oz; tan bark, 16 oz; dog-wood root bark, 16 oz; earth worms, 16 oz; sweet oil, 2 oz; venice turpentine, ½ gallon; linseed oil, 1 gallon, and neat's foot oil, 1 quart.

Claim.—The ointment compounded substantially as and for the purpose above described.

74,119.—FLORENT MULLER, Hartford, Conn.—*Breech-Loading Fire-Arm.*—February 4, 1868.—At the rear end of the breech block is an upward projection, which is slotted to receive the end of the lock ing slide. The slide is operated by a lever to which it is connected by a link plate.

Claim.—The combination with the hinged breech block E of the locking slide G and lever J, applied and operating substantially as and for the purpose set forth.

74,120.—JOHN J. NAYLON, Brighton, Mich.—*Portable Hay and Grain Roof.*—February 4, 1868.—The sides of the roof are hinged together to increase its portability. The ends of the roof are supported by cords passing over sheaves at the top of the posts.

Claim.—The ropes G, posts D, shafts H, and cranks J, when used in connection with the roof A, substantially as herein shown and described and for the purpose set forth.

74,121.—WILLIAM H. NICHOLS, East Hampton, Conn.—*Self-Sealing Pamphlet Cover.*—February 4, 1868.—One edge of the cover is extended to form a flap which is attached by mucilage to the other side.

Claim.—A self-sealing catalogue, pamphlet, magazine, &c., substantially in the manner and for the purpose set forth.

74,122.—JOHN K. NORTON, Flushing, Ohio.—*Bridle Bit.*—February 4, 1868.—The bars are pivoted together near their midlength, each of them being connected to the side strap at one end and to the rein at the other.

Claim.—The combination of the bar A with the ring D and branch E, and the bar B with the ring F and branch G, when constructed as herein described, as a new article of manufacture.

74,123.—JAMES WILLARD PATTERSON, Cincinnati, Ohio, assignor to SARAH ELLEN PATTERSON, same place.—*Culinary Vessel.*—February 4, 1868.—The food is inclosed in steam tight vessels within perforated vessels which stand in a column within a steam vessel. A coil of pipe is attached to the boiler bottom in such a manner as to leave one end of the pipe submerged in the water to supply the coil; the other end passes to the surface of the water and conducts the steam generated in that part of the coil below the bottom to the chamber in the boiler above the water.

Claim.—1. The suspending of a series of cooking vessels, having imperforated bottoms and sides, and provided with close covers in an upright column or series in such a manner as to form steam chambers above, below, and around each, as and for the purposes substantially set forth.

2. The steam or water coil K, provided with shield P and cap S, when used in connection with the boiler E, in the manner and for the purposes set forth.

3. In each of a series of cooking vessels, arranged substantially as shown, and used in connection with the boiler, the chamber formed between the close sides of the inner and outer cylinder.

4. The combination of the series of cooking vessels N, M, &c., with the boiler E, the whole made substantially as described, and so as to operate in the manner set forth.

74,124.—EZEKIEL PHILLIPS and HENRY C. PHILLIPS, Blackstone, Mass., assignors to themselves and DANIEL B. POND.—*Picker Staff Check for Looms.*—February 4, 1868.—The picker staffs in their back movement strike against the ends of the levers which are connected by rods to the pendent arm of the friction cylinder. The friction cylinder turns beneath a cap whose pressure upon the cylinder is caused by adjustable springs.

Claim.—1. The friction apparatus, substantially as described, that is, as composed of the levers B B, the friction cylinder and its bearing and cap, and the connection of such cylinder and levers, as specified.

2. The combination of the friction apparatus, substantially as described, or its equivalent, with the lay and its pickers or picker staves, the whole being arranged and so as to operate as and for the purpose as explained.

74,125.—WILLIAM PICKENS, Chicago, Ill.—*Bolt Feeder and Cooler.*—February 4, 1868.—The meal is subjected in the cylindrical case to the action of the radial arms of the rotating shaft. This shaft bears the saucer-shaped disk which stops the lower end of the cylinder. The lower section of the cylinder slides on the upper and regulates the size of the annular exit opening leading to the ventilating case containing the fan. From this case it passes to the chute.

Claim.—The spindle G with saucer F, breakers H H, and fans K K secured to it, and constructed as described, in combination with conveying case N and ventilating case I, both constructed as described, the whole arranged and operating substantially as and in the manner herein set forth and for the purpose specified.

74,126.—DENNIS PIERCE, Waverly, Iowa.—*Pattern for Draughting Sleigh Bodies.*—February 4, 1868.—The curved bars are bent upon the pattern and marked.

Claim.—A pattern board A with elevation B, constructed and adapted for laying off work for sleighs, substantially as described.

74,127.—ANTHONY PIRZ and MANUEL PIRZ, East New York, N. Y.—*Station Indicator.*—February 4, 1868.—The apron exhibiting the name of the station is operated by clock work set in motion by the driver at each corner. The mechasism is arranged to turn the apron in either direction.

Claim.—1. The application of a clock mechanism with a spring or weights as a motor applied to the belt of a street or station indicator for railroad cars in such a manner as to move the belt when the same is liberated, substantially as shown and described.

2. The adjustable plate J with the gearing K L, in combination with the gearing E D and the drum C C′, all arranged substantially as shown and described, for the purpose of reversing the movement of the belt F when necessary, as set forth.

3. The rod P with the notched disk O, in combination with the belt F, gearing M N, and the drums C C′ G G′, all arranged to operate substantially as and for the purpose herein shown and described.

4. The brake arms Q Q attached to the slide rod P, and arranged in such relation with the drums C C′ to operate in the manner substantially as and for the purpose set forth.

74,128.—WARREN PORTLOCK, Pleasant Grove, and JOHN H. SMITH, Toolesborough, Iowa.—*Floor Clamp.*—February 4, 1868.—The metallic side shanks, upon the wooden lever, are adjustable to suit the thickness of the joist, and have spring dogs which engage the sides of the joist, and are disengaged by compression upon the upper ends of the small levers. The knee joint of the back brace opens sufficiently to be self-sustaining.

Claim.—1. The back brace C, provided with a knee or stub joint, constructed substantially in the manner and for the purpose as set forth.

2. The small levers D D, constructed and operating together substantially in the manner as above shown and specified.

74,129.—JOHN W. POST, Castile, N. Y.—*Skate.*—February 4, 1868.—The side clamps have ratchet hooks to engage the sole, and are drawn in by the inclines beneath the skate. The incline plate is drawn backward by the bell-crank lever and forces a stud into the front of the heel.

Claim.—1. Adjusting the clamps G by means of the serrated bar F, provided with a slot *i*, in combi-

nation with the serrated forward end of the bar E, both held in position by a screw *h*, substantially as described.

2. The device for fastening the skate to the boot, consisting of the L-shaped spring lever *e*, riveted to bar E, with serrated and slotted rear end, and ridges *l*, fitting into slots *m* on the clamps G, substantially as described.

74,130.—Moses Powe, Belvidere, N. J.—*Carriage Brace.*—February 4, 1868.—The sheath laps around the joint and braces the same against side or direct strain.

Claim.—The sheath E, covering three sides of the joint of a brace for vehicle hoods or tops, and attached to one of the braces, all substantially as shown and described, and for the purposes specified.

74,131.—Joram Priest, Detroit, Michigan.—*Dumping Wagon.*—February 4, 1868.

Claim.—1. Hanging the box J upon the longitudinal bars E, by a proper fulcrum between the front and hind wheels, so that the box will tilt or dump between the hind wheels.

2. The crank axle F, when operating for the purposes herein described.

3. The semi-rotating bar I and bearings H, when constructed and operating substantially as and for the purposes set forth.

4. The combination of the above parts with the axle A, the wheels B and G, the circle C, the bolster D, the wagon box J, the transverse bar K, the rings L, and the catch M, or their equivalents, when constructed and operating as and for the purposes herein set forth.

74,132.—Iva Prichard, Terre Haute, Ind., assignor to himself and Joseph Raiber, Baltimore, Md.—*Gas Machine.*—February 4, 1868.—The air is forced from its chamber by allowing the inflow of water into the lower compartment, the two chambers having communication together through an outside vertical pipe. When the water flows out the air is drawn in again. The air is, by this means, driven through the carburetter and into the gas holder.

Claim.—1. The combination of the air chamber a^1 and water chamber *a* with the carburetting vessel B and the receiving vessel C, in the manner and for the purpose set forth.

2. The application of a column of water to a carburetting machine, for the purpose of condensing air and forcing it through the carburetting fluid, substantially as shown and described.

74,133.—H. F. Purmort, Saginaw City, Mich.—*Connecting Pump Rods.*—February 4, 1868; antedated January 29, 1868.—The contiguous ends of the sections of the pipe are slotted longitudinally, to admit wedge-formed shanks. The shanks have cross-heads, which enter side cavities of the slots. The end of the section is then covered by a sleeve, leaving a portion of the shank exposed, which is attached by screwing into or over the end of the shank piece of the contignous section.

Claim.—Joining the sections of a pump or other rod together by means of the joint, constructed and applied substantially as and for the purpose described.

74,134.—Silas S. Putnam, Dorchester, Mass.—*Self-Lubricating Axle for Carriages.*—February 4, 1868.—The spindle has an axial chamber, containing oil-saturated, fibrous material, and communicating with the box by radial slots. The outer end of the chamber is covered by a screw cap, which also acts as the keeper nut. The mouth of the oil hole is in the top of the axle, inside the butt collar, and communicates with the inner end of the chamber. The butt collar has an annular chamber, stuffed with saturated fibrous material.

Claim.—1. A chamber *b* within the end of the axle, packed with fibrous or porous material, for receiving and retaining a supply of lubricating substance, which passes through openings to the bearing surface of the axle, substantially as described.

2. Providing the collar H with a chamber *e*, for containing packing saturated with lubricating substance, substantially as and for the purpose set forth.

74,135.—Silas S. Putnam, Dorchester, Mass.—*Curtain Fixture.*—February 4, 1868.—The coiled spring surrounds a rod, which is prevented from turning in its outer bearing, but on which the wooden roller turns. The wooden roller incloses the spring and the greater part of the rod, and serves to wind up the curtain when the spring brake is drawn down.

Claim.—1. The wooden roll D, having a chamber formed within its end, in combination with the device placed therein for raising the curtain, substantially as set forth.

2. In combination with the above, a spring, or brake, *i*, operating substantially as set forth.

3. The bracket C, with its lip, or projection, *l*, in combination with the flattened end 5 of the spindle, substantially as and for the purpose described.

74,136.—Oliver E. Randall, Lewiston, Me.—*Horse Rake.*—February 4, 1868.—Improvement on his patent of May 23, 1865. Each tooth has a spring rod passing through a bar attached by rods to the lifting bar.

Claim.—1. The springs L, applied to the tooth-bars G and to the bar K, substantially in the manner as and for the purpose set forth.

2. The bar I, placed underneath the tooth-bars G, and connected to the oblique bars J J, which are secured to the rod or shaft F, when said bar I has the perforated bar K connected to it for the upper ends of the springs L to pass through, substantially in the manner as and for the purpose set forth.

74,137.—E. F. Richman, Muscatine, Iowa.—*Woven Fabric.*—February 4, 1868; antedated August 5, 1867.

Claim.—1. The method, herein described, of weaving fabrics having two or more thicknesses of separately-interlocked weft-threads, whereby the upper or lower surfaces are made substantially alike, and so that the fabric presents no right or wrong sides, substantially as above shown.

2. A woven fabric, substantially as described, consisting of two or more layers of separately interlocked weft threads, the threads of one layer of weft always lying opposite the spaces between the weft threads of the layer above or below it, and with all the warp threads passing from surface to surface, and binding the whole together, as above shown.

74,138.—John C. Rickerd, Lewisville, Ind.—*Cultivator.*—February 4, 1868.—The beams are gimbal jointed to bars depending from a cross bar attached to the tongue. The seat is hinged to the depending bars, and may be thrown upward and forward when not used.

Claim.—1. The double hinge, consisting of the screw bolt *f*, bases *g*, flanges *h k l*, lips *i j*, and pins *m*, to hinge the cultivator beams to the main frame, all constructed and arranged substantially as described.

2. The hinged seat I, supported by means of curved rods, and provided with foot rests *p*, substantially as and for the purposes set forth.

3. The combination of the frame A, hooks *n*, rods a^2, and foot rests *p*, substantially as and for the purposes set forth.

74,139.—E. S. Ritchie, Brookline, Mass.—*Holtz Electrical Machine.*—February 4, 1868.

Claim.—1. The combination and arrangement of the supporting plate C, of glass or other equivalent material, with the several sectors, and the combs arranged together and with the rotary electrizing disk, substantially as specified.

2. The application of the plate C, not only to the several sectors and combs, for giving support to them in their proper relations with one another and the rotary disk, but as a support for one of the bearings of the shaft of the rotary disk, the whole being substantially as hereinbefore explained.

74,140.—Abram A. Rheutan, Worcester, Mass.—*Envelope Machine.*—February 4, 1868.—The table has two piles of blanks; it is so arranged that one pile can be placed in position while the other is being removed by the gumming and lifting bar. The table has semi-rotation by a lever which enters

a notch when the table is in proper position. A spring lever or gravitating ball has bearing on one edge of the pile to prevent the removal of more than one blank at a time. From the lifting bar the blanks are carried to the folder. The flaps have adjustable bearings. The beaded portions are made eccentric so that the folding of the edges shall be gradual, and to allow free removal of the envelope with the falling table. The bearing pieces are adjustable vertically by temper screws.

Claim.—1. The rotary table B, having one or more receptacles for blanks, substantially as and for the purposes set forth.

2. The lever F, arranged for operation substantially as and for the purposes set forth.

3. The use and employment, in an envelope machine, of a weight separator, for preventing the lifting of more than one blank at a time, substantially as set forth.

4. The combination with the base of the folding flaps of central bearings, substantially as and for the purposes set forth.

5. The combination with the folding flaps I, J, K, and L, of the bearing pieces 7, 8, 9, and 10, substantially as and for the purposes set forth.

6. The combination and arrangement with the standards 3 3 of the projections 4 4, for the purposes stated.

7. Making the beaded portions 14 of the folding flaps eccentric, substantially as and for the purposes set forth.

8. The combination, with the flap I, with an adjustable or spring face, substantially as and for the purposes set forth.

9. The combination with one or more of the bearing pieces of adjusting screws 16, for the purposes set forth.

74,141.—Marvin S. Roberts, Racine, Wis.—*Peat Crib.*—February 4, 1868.—The wedge boards traverse the crib longitudinally, and are withdrawn after the crib is filled. The object is to admit circulation of air.

Claim.—The portable peat crib, constructed of light scantling and boards, substantially as and in the manner herein described, and combined with blocks P P and wedge board or boards F, constructed and operating substantially as herein shown and described, and for the purposes set forth.

74,142.—George M. Robinson, New Wilmington, Pa.—*Apparatus for Operating Horse Hay Forks.*—February 4, 1868.—The ascending ball upon the fork raises the pivoted catch and allows the carriage to pass up the inclined bar. On the return the cam lever, which had supported the fork, strikes the abutment and releases the same.

Claim.—1. The carriage D, upon the inclined bar C, having the pivoted catch I, upon the lower side of which the projection *i* is formed, and also provided with the cam lever J, in combination with the bars E F *f'*, pulley d^2, and ball K, as herein described, for the purpose specified.

2. The combination of the ball K and hoisting rope G with the catch I, having projections *i*, the cam lever J, the pulley d^2, and carriage D, as herein shown and described.

3. The carriage D, operated by the single hoisting and fork rope, when the loaded fork reaches its highest elevation in relation to the carriage, before the latter is permitted to move upon the inclined bar, and when the act of raising the loaded fork disengages the catches of the carriage from their fastenings, as herein shown and described.

74,143.—N. W. Robinson, Moriah, N. Y.—*Hold Back Hook.*—February 4, 1868.—The hook curves around the bottom end of the post, which prevents the escape of the hold back straps.

Claim.—The post F, in combination with the hook B, substantially as and for the purpose described.

74,144.—Edward A. Rock, Ludlow, Vt.—*Globe Steam Valve.*—February 4, 1868.—The segmental ring valve is expanded against the seats by the wedge which is connected to the stem, and acts upon the edges of the valve.

Claim.—1. The combination of the wedge *m*, shell A, and valve G, substantially as herein shown and described.

2. The combination of the ring G and the wedge *m*, substantially as herein set forth.

74,145.—Jeremiah E. Rohrer, Rohrersville, Md.—*Spout Bracket.*—February 4, 1868.—The eave trough lies in a recess at the top of the bracket, and its outer edge is secured by the metallic clasp.

Claim.—The spout-supporting bracket A, constructed as represented, in combination with the clasp C, substantially as described, for the purpose specified.

74,146.—John B. Root, New York, N. Y.—*Steam Generator.*—February 4, 1868.—Each pipe of the vertical series is connected to the pipe above and below it by U bends. The separate series are connected together by transverse pipes. The upper transverse pipes are connected by pipes to the longitudinal cylindrical steam chamber.

Claim.—1. In combination with the water tubes A A, the return pipes or bends C C, arranged to connect each tube with one above and below it, substantially as specified.

2. The bend *c*, for establishing the connection with the water tubes, by free or socket joints, when furnished with packing, and held to their places by independent outside clamps, stud bolts, and nuts, or their equivalents, essentially as shown and for the purpose described.

3. The cross pipes E E' and F F', or either of them, connected with the tubes A A at their ends by means of independent pipes or bends, C^1 or C^2, essentially as shown and described.

74,147.—Thomas Rosbrugh, Bellefontaine, Ohio.—*Medical Compound.*—February 4, 1868.—For treatment of fevers. It is composed of a decoction of the root of the blueberry.

Claim.—The medicine prepared from the root of the cohush or blueberry, substantially in the manner herein specified.

74,148.—Charles Rowland, Quincy, Ill., assignor to himself and Joseph G. Rowland, same place.—*Continuous Leather Peg Strip.*—February 4, 1868.—The leather strip is used as a substitute for the ordinary wooden strip in pegging machines. The width of the strip is equal to the length of the pegs required, and the sides are beveled along one edge. It is made sufficiently rigid by being saturated with a solution of gum or glue.

Claim.—The leather strip for pegs, prepared substantially as described, as a new article of manufacture.

74,149.—Jarvis Royal, Rochelle, Ill.—*Drying and Ventilating Apparatus.*—February 4, 1868.—The porous tubes are laid in the bin in an inclined or vertical position and communicate with the outer air. Each tube has a flaring mouth which receives the tapered end of a pipe connecting.

Claim.—The tubes A, arranged within a bin or other place in which grain or other substance is to be dried, when such tubes are composed of earthen or other equivalent porous material that will absorb the moisture from the substance being dried, as herein set forth for the purpose specified.

74,150.—Henry D. Rumsey, Homer, N. Y.—*Adjustable Head for Barrels and Firkins.*—February 4, 1868.—The chine has wedge-formed projections which engage cleats upon the edge of the head. The cleats are passed between the projections and secured beneath them by partial rotation of the head.

Claim.—The application of the flange to adjustable covers, and the slot to the inside of barrels, casks, or firkins, for the purpose of the more readily opening and closing the same effectually without starting or unhooping them, as herein set forth and described.

74,151.—Hugh M. Sanderson, Noble, Ill.—*Eye Medicine.*—February 4, 1868.—A decoction of mandrake root, 1 lb.; black root, ½ lb.; plantain leaves, ¼ lb.; is taken internally. The eye wash has

lunar caustic, 12 grains, and rain water, 4 oz. The forehead salve has solid extract of belladonna, mercurial ointment, and fluid extract of hyoscyamus in equal quantities. The eyelid salve has bark of bittersweet root, stramonium leaves, cicuta leaves, and night-shade root in equal quantities. Steep in spirits, add two parts of lard, and evaporate. To this ointment, 1 oz., add solid extract of hyoscyamus, 1½ oz.; fluid extract taraxacum, ½ oz., and opium 1½ oz.

Claim.—The medicines or compositions numbered 1, 2, 3, and 4, composed of the ingredients and in the proportions substantially as herein described and specified.

74,152.—August Schausten, Michigan City, Ind.—*Revolving Cannon.*—February 4, 1868.—The cartridge chambers are in an annular block, and are brought in line with the barrel, where they are locked by a spring bolt. The annulus turns in a transverse cavity made in the barrel.

Claim.—1. A cannon consisting of the barrel A, having the annular block or ring B, with the chambers C formed therein, arranged to rotate through an opening in the barrel, as described.

2. The combination of the lever *l*, locking-bolt E, firing-pin *o*, and handle *h*, arranged to operate substantially as set forth.

74,153.—David A. Scott and J. E. Burdge, Cincinnati, Ohio.—*Spring Bed Bottom.*—February 4, 1868.—The ends of the spring are turned downward and enter the cross rail. The slat rests in a downwardly bent portion of the spring and is retained by a transverse rod.

Claim.—The prolongation, in the arms E, in the same direction as the arms *b*, of the helicoidal spring or coils *a*, when constructed and secured to the cross rail A, substantially as herein described, as and for the purpose specified.

74,154.—Francis C. Sebring, Hokoken, N. J.—*Apparatus for Playing Parlor Base Ball.*—February 4, 1868; antedated January 23, 1868.

Claim.—1. The partially revolving bat E, arranged as represented, moving close to the upper surface of the board A, and operated at the will of the player, so as to allow the striking of the ball in the several different positions, and with the several different effects, according to the skill of the player, substantially as herein set forth.

2. The spring G, in combination with the partially revolving bat E, upon a parlor base ball board, and adapted to move the bat as the operating cord H is released, substantially as herein set forth.

3. The automatic pitcher B, mounted on a parlor base ball board, and adapted to project the ball at several angles approximating to the right direction, at the will and according to the skill of the player, substantially as herein specified.

4. The descending motion, in combination with the forward motion of the pitcher, by which the pitching device is carried so low, at the termination of its motion, as to be out of the way of the returning ball.

5. The semi-rims I′, arranged relatively to the cavities I, or the corresponding marked spaces in which the ball is to be stopped in passing, substantially as and for the purpose herein set forth.

6. The swiveling case L and its attachments, mounted on a parlor base ball board, and adapted to operate relatively thereto, substantially as herein specified.

74,155.—Samuel J. Seely, New York, assignor to J. M. Brown, Brooklyn, N. Y.—*Folding Metal Shutters.*—February 4, 1868.—The leaves are curved transversely, and are folded in a zigzag position when retracted.

Claim.—Forming sheet-metal shutters of leaves, bent in a curved form, transversely, and united substantially as and for the purpose set forth.

74,156.—James M. Seymour, Newark, N. J.—*Socket Wrench.*—February 4, 1868.—The socket piece has a dovetail rib which fits a suitable groove in the head and is retained by the ring. The object is to have the socket changeable to suit circumstances.

Claim.—1. The handle A, with its broad bottom, made substantially as shown.

2. The shifting socket wrench, as a new article of manufacture.

74,157.—G. W. Sherman and C. L. Sherman Seymour, Conn.—*Flour Scoop and Sifter.*—February 4, 1868.

Claim.—The combination of the scoop A, having beads *a*, handle C, saddle D, standard E, crank-shaft F, arms G G′, paddles H, sifter B, and lip L, substantially as described for the purpose specified.

74,158.—Jacob A. Sherman, New York, N. Y.—*Truss.*—February 4, 1868; antedated January 24, 1868.—A compound curved pad-spring is applied to a bar extending across the person, and carrying a second spring that acts in unison, and is adjusted in pressure by a movable finger. The arrangement causes an inward and upward pressure.

Claim.—1. The curved spring *d*, carrying the hernial pad, in combination with the bar *a* and spring *f*, substantially as and for the purposes set forth.

2. The sliding finger *h*, fitted and acting substantially as specified.

74,159.—R. K. Slaughter and J. O, Hundt, New York, N. Y.—*Machine for Embossing Window Shades.*—February 4, 1868.

Claim.—1. The carriage G, when provided with an elastic cover *g*, which acts as a counter-die for embossing window shades, placed upon the carriage substantially as and for the purpose herein shown and described.

2. Providing the carriage G with adjustable bars, *h h*, which serve to hold the shade smoothly upon the carriage, and to guide the embossing rollers F F, substantially as herein shown and described.

3. The nut C, when arranged adjustable on the bar B, in which it is held, substantially as set forth, so that the screw D may be moved laterally, as and for the purpose herein shown and described.

4. The frame *e f*, when arranged between the uprights of the press, substantially as described, so as to steady the printing die or roller in every position, and during up and down as well as lateral motion of the same, substantially as set forth.

5. The press, consisting of an adjustable screw and die frame, in combination with the movable carriage G, having an elastic cover, and adjustable guide bars *h*, all made and operating substantially as and for the purpose herein shown and described.

74,160.—F. Smith, Alexandersville, Ohio.—*Carpet Holder.*—February 4, 1868.—The carpet is held by eccentric cams whose bearings are secured to the base boards.

Claim.—A carpet holder, composed of a washer C, and eccentric plate A, said plate A rotating in a chamber in a washer C, secured to any mop board, substantially as shown and described, and for the purposes set forth.

74,161.—John Snyder, Hart's Mills, Ind.—*Grinding Mill.*—February 4, 1868.—The balance-rynd rests upon a ball which is supported on the driving bar.

Claim.—The combination and arrangement of the drive bar K, ball or globe M, and supporting bar N, with each other, with the upper end of the spindle E, and with the upper stone or runner L, substantially as herein shown and described, and for the purpose set forth.

74,162.—S. L. Southard, Rock Island, Ill.—*Bed Bottom.*—February 4, 1868.

Claim.—The springs C C, constructed as described, consisting of the wires coiled into spirals *e e* at their ends, said spirals fitting upon loops secured to the slats *b c*, the centers of said wires bent to form loops or yokes *d*, connected by the tube *m*, all arranged as described for the purpose specified.

74,163.—Fisher A. Spofford and Matthew G. Raffington, Columbus, Ohio.—*Portable Pistol Gallery.*—February 4, 1868.—The flexible shields are raised to catch balls discharged from toy guns.

Claim.—1. Providing the platform A with two flexible folding shields C C on both ends, substan-

tially as and for the purpose herein shown and described.

2. The platform A, when provided with a flexible folding shield, C, on each end, in combination with the perforated target D, all made and operating substantially as and for the purpose herein shown and described.

74,164.—Fisher A. Spofford and Matthew G. Raffington, Columbus, Ohio.—*Adjustable Ball Holder for Games.*—February 4, 1868.—The mouth of the bag is stretched over a hoop attached to a rotatable head on a vertically adjustable staff; the bag serves to receive the ball from a toy gun or pistol.

Claim.—The revolving platform A, when provided with a ledge *b*, and bow *c*, in combination with the bar D, brace *d*, and standard B C, all made and operating substantially as and for the purposes herein shown and described.

74,165.—Charles Steinmann, Napoleonville, La.—*Machine for Exterminating the Cotton Worm, &c.*—February 4, 1868.—The series of steam jets scatter the oil which drips from nozzles immediately over the jets.

Claim.—The portable steam generator or boiler F, or its equivalent, in combination with the pipes M and K, when these pipes are provided with the jets or nipples *a*, and are otherwise constructed as herein described, and the former is used as a steam and the latter as an oil distributor, the whole being arranged substantially as and for the purpose set forth.

74,166.—H. A. Stewart, Minneapolis, Minn.—*Portable Fence.*—February 4, 1868.—The pickets are attached by staples to the tarred ropes. The latter are secured to pins traversing the posts. Each panel is supported at midlength by a triangular frame to whose lower bar it is connected by a hook.

Claim.—1. The combination of the supports B, constructed as described, with the sections of fence, as and for the purpose herein set forth.

2. In combination with the pivoted supports, constructed as described, the section of the fence consisting of the pickets D, upon the tarred ropes C, as herein shown and described.

74,167.—Paschal Stone, Charlestown, assignor to Joseph Veazie and Augustus L. Dole, Boston, Mass.—*Box Opener.*—February 4, 1868.—The ram slides on the handle and by impinging against a shoulder forces the claw into an aperture to open the same.

Claim.—A box opener, substantially as described, viz., as constructed with a claw at one end of its stock or shank, and a hammer head at the other end thereof, and with a ram to slide on the shank or stock in manner and against a shoulder thereof, so as to operate the claw, as specified.

74,168.—John B. Stoner, New York, N. Y., assignor to himself, L. Mendelson, and T. Crommelin, same place.—*Life Preserving Apparatus.*—February 4, 1868.—The India-rubber suit has openings for the head and hands only, elastic bands rendering the two latter water tight. A cork jacket is worn around the chest. The slack of the upper opening is secured beneath the chin. Folding paddles are fixed to the hands and weights to the feet.

Claim.—1. The chin protector C, constructed and applied as herein shown and described.

2. The combination of the open elastic band D, formed of two elastic tubes connected longitudinally by an elastic membrane, the outer elastic tube B, auxiliary band E, and the upper part of the suit A, as herein described, for the purpose specified.

74,169.—John B. Stoner, New York, N. Y., assignor to himself, L. Mendelson, and T. Crommelin, same place.—*Ballasting Vessels.*—February 4, 1868.—The metallic block may be let down to give a purchase in ballasting the vessel or may be drawn up into the recess.

Claim.—The temporary ballast, when consisting of the weight F, secured to the lower ends of the rods I I, and adapted to fit into the metallic socket G, in the keel of the vessel, and operated from the deck, the rods I I working in the vertical tube S of the socket G, as herein set forth for the purpose specified.

74,170.—Thomas T. Strode, Mortonville, Pa.—*Calculating and Registering Machine.*—February 4, 1868.—A spur upon one wheel meshes into a pinion, which in turn meshes into a cog-wheel and carries the latter around one cog for a completed rotation of the first wheel. The result for hundreds or dollars is read off through a slot in a disk superposed on the fourth disk; the units are read off the first or third disk opposite the indicator upon the second disk. The calculating power may be increased by increasing the number of disks.

Claim.—1. The combination of disks A, B, C, D, E, and F, or their respective equivalents, numbered and arranged as herein specified, or in any equivalent manner, all substantially as herein set forth and described.

2. The spur *b'*, in combination with the pinion G and toothed disk D, or their respective equivalents, substantially as shown and described.

74,171.—Samuel Thomson, Osceola, Wis.—*Broadcast Seeding Machine.*—February 4, 1868.—The seed flows from the bottom hopper into a side chamber from which it is carried by the cavities of the seed roller which forms the front side of the said chamber. The roller rotates in the same direction as the wheels and carries the grain over and drops it on the inclined scattering board.

Claim.—The rotating seed-discharging cylinder F, in combination with the seed box or hopper E, having an opening, *a*, at its lower part, the bottom plate *b*, and the scattering board G, all arranged to operate substantially as and for the purpose herein set forth.

74,172.—Chester B. Turner, Grand Rapids, Mich.—*Rotary Steam Engine.*—February 4, 1868.—The steam is received through the piston hub and is discharged through the cylinder side. The steam acts on the hinged pistons and tends to pack their convex sides against the cylinder.

Claim.—The piston B, provided with the partitions J and chambers *i*, and arranged to operate in connection with the induction port *g* and valves D and D', as herein described and represented.

74,173.—S. E. Tuttle, Genoa, Nevada.—*Apparatus for Raising Heavy Weights.*—February 4, 1868.—The blocks are pivoted to the slide and swing inward serially for the engagement within the spiral groove of the anti-friction rollers turning on arbors secured to their sides. The blocks are held outward by the inclined flange until the rollers have passed the center of the cam wheel.

Claim.—1. An improved machine formed by the combination of the shaft B, the wheel E having a spiral groove, e^1, formed in its face, the blocks H, having friction-wheels I attached to them, and the slide F, or equivalent, with each other and with the guides G and frame A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the flanges J and *h'* with the guide G and blocks H, substantially as herein shown and described and for the purpose set forth.

74,174.—R. L. Vance, St. Louis, Mo.—*Vinegar Still.*—February 4, 1868.—The still is divided by a horizontal diaphragm into two chambers; in the upper one the mash is warmed and in the lower one distilled by a coil of steam pipe. The vapor in passing to the condenser is mingled with a small quantity of vinegar which flows into the steam pipe.

Claim.—1. The tank A, when divided into two cells *a* a^1, and combined with the distilling apparatus *e* E E', as described and for the purpose set forth.

2. The combination of the apparatus A E E' with the devices F F^1 F^2, substantially as described and shown.

74,175.—P. H. Vander Weyde, Philadelphia, Pa.—*Preparing Aerated Liquids.*—February 4, 1868; antedated January 27, 1868.

Claim.—1. The described manner of dissolving the carbonic acid gas in water by means of coil, gas jet, and reservoir, with stop cocks, regulator, and safety

valve, this solution being made at the place and time it is to be used as a beverage.

2. Mixing carbonic acid water with the required quantities of concentrated solutions of the salts contained in diverse mineral waters, or the concentrated alcoholic extracts of beer, cider, wine, &c., and thus by only supplying one single fountain with so called soda water, or even with pure water, to draw from it, at will, any desired mineral water, beer, champagne, cider, or wine, and, in general, any beverage containing carbonic acid, always fresh and cool and equally effervescent.

74,176.—R. C. VERNOL, New York, N. Y.—*Walking Vehicle.*—February 4, 1868.—The legs are operated by cranks turning on eccentrics by which they are raised during their forward movement and depressed during their effective stroke.

Claim.—The legs C D of a walking vehicle when they are connected with the eccentric shafts E E, and with the crank shaft B, in such a manner as to receive up and down as well as oscillating motion, substantially as and for the purpose herein shown and described.

74,177.—GEORGE S. WALKER, Erie, Pa.—*Step and Extension Ladder.*—February 4, 1868.—The upper section, when it is used as a long ladder, is raised by a cord passing around pulleys and drawn by a windlass, turning in bearings upon the lower section.

Claim.—1. In a combined extension and step ladder, the hooks *i* and arm *n*, in combination with ladders A B, cord *b*, pulley *m*, and crank shaft *a d*, all constructed, arranged, and operating substantially as described and for the purpose specified.

2. In combination with the above, the hook *h* and guides *e*, substantially as described.

3. The combined extension and step-ladder, constructed substantially as described, and consisting of the sections A B, hooks *i*, arm *n*, guides *e*, pulley *m*, cord *b*, and crank shaft *a d*, all arranged and operating substantially as set forth.

74,178.—ANSON L. WARBURTON and HENRY BENDIR, Fort Wayne, Ind.—*Metallic Scroll Ends for Spring Bars for Carriages.*—February 4, 1868.—The scroll ends consist of a hollow metallic case, which covers the end of the wooden bar.

Claim.—The metallic scroll ends for spring bars and head blocks for carriages, &c., as an article of manufacture, the same being constructed and used in the manner and for the purpose substantially as specified.

74,179.—C. M. H. WARREN, Brooklyn, N. Y.—*Pen Holder.*—February 4, 1868.—The pen, with its holder, slides on the outside of the extension handle.

Claim.—A pen holder, provided with a sliding handle A and barrel B, and with a sliding nosing C, all combined and arranged substantially as and for the purpose herein set forth.

74,180.—GEORGE M. WELLS, London, England, assignor to MOSES D. WELLS, Chicago, Ill.—*Last.*—February 4, 1868.

Claim.—The last, as made with the horn F to project from its instep part B, and be connected therewith as specified.

74,181.—GEORGE M. WELLS, London, England, assignor to MOSES D. WELLS, Chicago, Ill.—*Last.*—February 4, 1868.—The upper portion of the last has a curved dovetail tenon, sliding in a suitable groove in the main portion. The portions are secured together by a vertical, tapered key.

Claim.—1. The improved last, as made, with its two sections or parts connected by dovetails, and having a slot, opening, or hole made and arranged in each, as explained, for reception of a leg or standard, as described.

2. The combination of the key or standard with the two last sections, connected by dovetails, and having slots or key holes or passages arranged in them, as set forth.

74,182.—C. H. WESTON, Lowell, Mass.—*Bench Hook for Carpenters' Benches.*—February 4, 1868.—The weight of the clamping bar is supported by a spiral spring. The bar is clamped to any elevation by the slotted case, which is pressed to contact therewith by the cam bolt, which is turned by a key, its head being reached from the bench top.

Claim.—The bolt H, with its cam projection, when used with the slotted case G for clamping bar D, the several parts being constructed and operating substantially as specified.

74,183.—CHARLES WHITE, Bladensburg, Md.—*Plow.*—February 4, 1868.—The beam is pivoted to the post and adjustable at the rear end. The draw bar slides beside the beam, and its rear end engages a spring within a cylinder.

Claim.—1. The angle iron I, in combination with the slotted transverse bar J and the rear end of the plow beam, for effecting the double adjustment of the latter, in the manner described.

2. The pivotal support G of the plow beam E, in combination with the perforated horizontal flange or lug *a* on the mold board, as described.

3. The plow beam, provided with tubular or semi-cylindrical ribs or corrugations, substantially as described.

4. The yielding tension or draught rod, passing centrally through, or having an equivalent arrangement relative to, the beam, as described.

5. The yielding draught rod, in combination with the spring, operating as described.

6. The drum or socket, formed in or attached to the beam, in combination with the spring and draught rod, as described.

74,184.—S. B. WHITNEY, Coxsackie, N. Y.—*Sustaining Device for Draught Poles for Carriages.*—February 4, 1868.—The tongue is supported by a spring bearing, beneath the axletree and tongue, and supported by a loop on the pivot bolt of the tongue.

Claim.—The loop or hook *i* hanging from the bolt *e* and sustaining the spring F, in combination with the tongue *d* and jaws *c*, as and for the purposes set forth.

74,185.—ALFRED WOODHAM, New York, N. Y.—*Skate Fastening.*—February 4, 1868.

Claim.—1. The heel clamps to the skates when constructed as described, to grasp the heel both upon its sides and edge, under the shank, as herein shown and described.

2. In combination with the above, the pivoted slotted clamps C, when provided upon their inner ends with the swiveled right-angular nuts I, receiving the screw bolt H, whereby the said clamps are permitted to adjust themselves to the sole of the boot or shoe, by combined lateral and longitudinal movements, as herein shown and described.

74,186.—C. F. WOODRUFF, Newbern, Tenn.—*Water Elevator.*—February 4, 1868.—The clutch shaft has a crosshead whose arms traverse slots in the main shaft and engage projections on the drum to cause its rotation. When the clutch shaft is drawn outward the drum has a revolution on the main shaft.

Claim.—The shaft *b*, working in the axle B, having the bar D at its extremity, working through the slot *b''*, clutching the drum C by the stops *d*, in manner substantially as above set forth and described.

74,187.—RUFUS WRIGHT, Brooklyn, N. Y.—*Cherry Stoner.*—February 4, 1868.—The cherries descend the cylindrical tube from the hopper and are carried beneath the needles which descending, eject the stones. The fleshy portion is carried up on the needles and automatically taken therefrom.

Claim.—1. The reciprocating rod H, armed with the needle *c*, provided with notches or barbs, in connection with the bed Q, having the recess or cavity *g* made in it, and the hole *f* extending entirely through it, with the arm S working underneath the hole *f* in the bed, all arranged substantially as and for the purpose set forth.

2. The vibrating bar U, provided with the plates *u u*, in combination with the reciprocating rod H, armed with the needles *c*, and the bed Q provided

with the hole *f*, all arranged substantially in the manner as and for the purpose specified.

3. The vibrating bottom L, in connection with the tube K, the former being provided with the curved projection N, and arranged to operate in connection with the bed Q and guard R, all arranged to operate substantially as and for the purpose set forth.

4. The cam G, provided with the rim *e* and pin *j*, and connected with, or arranged to operate, the rod H, bottom L, strike or arm S, and the bar U, for the purpose specified.

74,188.—HENRY WURTZ, New York, N. Y.—*Compounding Printers' Ink from Grahamite.*—February 4, 1868.—Improvement on patent No. 67,697. The ink may be compounded as follows: crude "grahamite" oil, 5 oz.; lamp-black, 4 oz.; solid "viscosine," 7 oz.

Claim.—The use, as an ingredient in printing inks, of the resinous constituent of the grahamite of West Virginia, called by me, "viscosine."

74,189.—EDMUND A. HARVEY, Wilmington, Del.—*Carriage Shaft and Pole Coupling.*—February 4, 1868.—The pintle bolt of the thill iron enters the hooked end of the clip bar, and is retained by the L-ended bolt whose nut has a washer of rubber.

Claim.—1. The clevis A, with pin or bolt C, with or without either permanent or detachable safety lips G, in combination with hook box B, substantially as described.

2. The hook box B, in combination with key bolt D, with spring or elastic washer E, for the purposes named.

74,190.—JAMES ARKELL, Canajoharie, N. Y., assignor to himself, BENJAMIN SMITH, and ADAM SMITH, same place.—*Machine for Making Paper Tubes, &c.*—February 11, 1868.—The bags are made from a continuous strip whose sides are curved over and pasted to form a flattened tube which is afterward cut into lengths. The bottoms are secured at a subsequent operation.

Claim.—1. The notched and laterally-adjustable paste wheel F, in combination with the elastic covering *b*, on the roller D, arranged to operate for pasting one edge of the paper, substantially as shown and described.

2. The curved former I, arranged in relation with the upper tension roller E, for the purpose of admitting of the folding and pasting of the paper in flat-tube form, as set forth.

3. The extension rods J, applied to the former I, and frame A, for the purpose of adjusting the former I, substantially as set forth.

4. The pressure rollers *h*, applied to adjustable bars K K, and arranged relatively with the former I, to hold up the edges of the paper sheet preparatory to the turning over or folding of the same, as shown and described.

5. The adjustable blades L L, arranged and applied substantially as shown and described, in combination with the former I.

6. The adjustable blades *n*, fitted in swivel brackets *m*, in adjustable arms O, on upright shafts N N, substantially in the manner as and for the purpose specified.

7. The securing of the shafts N, and consequently the bracket arms O, in proper position, by means of the levers P and racks *o*, arranged substantially as set forth.

8. The two cylinders Q Q′, provided, one, Q, with the grooves *r r′ r″ s s*, and the cutters *t t*, and the other, Q′, with the bars *u u′ u″*, substantially as and for the purpose specified.

9. The stationary or fixed cutter R, in combination with the cutter R′ attached to the vibrating plate S, substantially as and for the purpose set forth.

10. The loop or guide Y attached to the pivoted bars *a′ a′*, which are connected to the plate S, and arranged to operate in the manner as and for the purpose specified.

74,191.—J. J. BARNES, Monticello, Ind.—*Finger Bar for Harvesters.*—February 11, 1868.—The finger bar is supported on a series of anti-friction rollers interposed between the guards.

Claim.—The series of loose friction rollers 2, in combination with the guards 1, rod 4, and finger bar A, arranged and operating substantially as and for the purposes set forth.

74,192.—ROBERT BATES, Cohasset, Mass., assignor to himself and WILLIAM HALL, Brookline, Mass.—*Window Sash Fastener.*—February 11, 1868.—The lower side of the barrel of the latch has bearing upon the fillet at the base of the standard. The latch has a spiral spring, tending to hold it in line with the sash bar to which it is attached. The housing has a spring catch which engages the latch when it is swung around against the projection, and the sashes are fastened.

Claim.—1. The combination and arrangement of the standard D, the fillet *d*, and barrel C′, made substantially as described, and for the purpose set forth.

2. The housing K, cast with the projection M, substantially as described, and for the purpose set forth.

74,193.—GOTTLIEB BEURER, Brooklyn, N. Y., assignor to himself and F. ZIMMERMAN.—*Bedstead.*—February 11, 1868.—The head and foot boards are hinged at the mid-length, and the sides are divided at mid-length and hinged to the corner posts. When set up, the sides are connected by the dovetailed cross bar.

Claim.—Constructing the sides A A, with the posts C C C C and legs D D D D, and made in halves, as shown, and provided with the cross bar H, combining said halves, in combination with the end pieces B B, constructed in the manner substantially as herein shown, and for the purpose described.

74,194.—MATHIAS BÖSHENZ, Chili, Ill.—*Harrow.*—February 11, 1868.—The harrow is supported on vertically adjustable wheels.

Claim.—1. The bars *c*, *d*, and *y*, the lever J, the upright K, all constructed and arranged as described, and combined with the frame A, substantially as specified and for the purpose set forth.

2. The bars *c*, *d*, and *y*, the lever J, the upright K, combined and arranged as described, in combination with the rod *y″* and wheel R, substantially as described and for the purpose set forth.

3. The rods T, in combination with uprights E, combined, arranged, and attached as described, and for the purpose set forth.

4. The cutters F F F F F, attached as described, and for the purpose set forth.

74,195.—MORGAN W. BROWN, West Farms, N. Y.—*Preparing Paper for Wrapping Tobacco, Snuff, Soap, and other Articles.*—February 11, 1868; antedated January 27, 1868.—Glycerine is reduced by mixture with water to 22° gravity, and mixed with 10 per cent. of pearlash in a weak solution. The paper is saturated with the mixture.

Claim.—A composition of matter, as herein substantially set forth and specified, and its uses and application to the preparation and treatment of paper, cloth, and vegetable fibrous substances, for the uses and purposes herein specified and set forth.

74,196.—CALVIN CARPENTER, Jr., Astoria, N.Y., assignor to H. H. WOLCOTT.—*Hydrocarbon Burner.*—February 11, 1868.—The blast of air is forced through the water and the oil which floats thereon, and abstracts the lighter part of the oil for present combustion, leaving the lubricating oil to be drawn off.

Claim.—1. The within described process of burning crude petroleum and separating from it the heavy parts fit for lubricating oil by passing currents of air up through the body of the petroleum to be burned, said petroleum being made to float on water, substantially as and for the purposes set forth.

2. The arrangement of one or more cisterns B, surrounded by a water jacket C, and provided with air bonnets *b* below, and with pipes *c*, to draw off the heavy oil, substantially as herein described.

3. The arrangement and combination of the slide *i* with the cistern or cisterns B, in the burner A, substantially as and for the purpose set forth.

4. The arrangement of a rose *j* over each of the cisterns B, in combination with the air bonnets *b* below, substantially as and for the purpose described.

5. The escape apertures *g* in the water jacket C, surrounding the cistern or cisterns B, substantially as and for the purpose set forth.

74,197.—James T. Carson, Greenboro, N. C.—*Belt Punch.*—February 11, 1868; antedated January 6, 1868.

Claim.—The combination belt punch, constructed as described, consisting of the awl A, having the handle B split to receive the knife blade E, the adjustable hammer D, carrying the punch C, with its ears *b* fitting over said handle, and pivoted thereto, the spring *f* secured at *d* in the handle B, and operating the knife blade and punch, substantially as herein set forth, for the purpose specified.

74,198.—E. M. Chumard, Pittston, Pa.—*Wagon Brake.*—February 11, 1868.—The brake lever is connected by a link to a pair of brake blocks suspended from bell-crank levers upon a shaft turning in eyes upon the upper brake bar. The friction of the first mentioned brakes acts to rock the bell-crank shaft and put the additional brakes in operation. A spring frees the brakes when the lever is relaxed.

Claim.—1.—The arrangement of the roller R with the arms *n* and *h*, and the brake bar F, when constructed in the manner substantially as and for the purposes herein specified.

2. The slide *m*, constructed as described, and used with the brake bar F, in the manner substantially as and for the purposes set forth.

74,199.—Seth E. Clapp, Cambridge, assignor to himself and Charles L. Ridgway, Boston, Mass.—*Corkscrew.*—February 11, 1868.—The shank of the corkscrew is jointed, and has a sleeve which slides over the joint and keeps the shank rigid while the screw is being inserted. When the screw is entered the sleeve is slipped from the joint and the stud upon it used as a fulcrum against the bottle neck, while the shank is used as a lever to extract the cork.

Claim.—The sleeve E and stud F, or their mechanical equivalent, in combination with the jointed corkscrew B C, substantially as described and for the purpose set forth.

74,200.—T. J. Corr, Carlinville, Ill.—*Flour and Meal Chest.*—February 11, 1868.—The box has compartments for meal and flour. The sliding lid within the box protects one compartment while access is had to the other.

Claim.—The rectangular box A, with partition *b* and sliding cover *d*, by means of grooves *e e*, drawers *e e*, and inclined lid *f*, all constructed and used substantially as and for the purposes set forth.

74,201.—E. Hall Covel, New York, N. Y.—*Clothes Wringer.*—February 11, 1868.—The box of the upper roller is depressed by the rubber ball, which is adjustable by head screws.

Claim.—1. The chamber in the upper part of the frame for holding the ball, in combination with the cup *h* above the ball, for the purposes herein recited.

2. The ball *f*, made of rubber or some elastic material for forming a spring bearing for the rollers, substantially as described.

3. The double inclined box *g*, for the adjustment of the rollers, in combination with the ball *f*, as and for the purpose specified.

74,202.—Daniel Crowley, Philadelphia, Pa., assignor to himself and J. Stanley Bruner.—*Cleaner for Drawing Rollers.*—February 11, 1868.—The cleaning rollers are covered with sheepskin, dyed with the wool on, and placed wool side out.

Claim.—The combination of cleaners B B, constructed as described, with the rollers A A, substantially as and for the purpose herein specified.

74,203.—W. P. W. Dana, Newport, R. I.—*Line Fastener.*—February 11, 1868.

Claim.—1. A line fastener, in which the griping hook, or its equivalent, is combined with a vibratory arm, to which it is pivoted or hinged, substantially as described, so that the strain of the tightened rope which passes under the hook shall force together the said hook and vibratory arm, and cause the rope to be griped and held between them, as set forth.

2. In combination with an arm or bar capable of a vibratory motion, as set forth, the double hook or griper, with or without the spring by which said hook is held in position, substantially as herein shown and described.

3. The line fastener herein described, in combination with a pulley and pulley block, under the arrangement and for operation as set forth.

74,204.—Clarence Delafield, Factoryville, N.Y.—*Water Gauge.*—February 11, 1868.—The inner end of the tube, which is screwed into the boiler front, has a socket valve seat, and the float rod a segmental valve to work therein. The valve and seat have steam ducts, which are brought into conjunction when the water has sunk to too low a level, and the steam passes through the tubular end of the rod which communicates with the whistle. The end of the rod is also connected to the index finger over the dial plate.

Claim.—1. The use of a funnel-shaped tube, fitted with a valve, and combined with the boiler shell, substantially as described, by which the escape of the steam around the valve stem is stopped, and the motion of the float and dial point provided for.

2. The whistle *a*, in combination with the valve stem, when said valve stem is made with a hole through the same, leading from and matching with a hole in the valve seat, and discharging in the whistle, substantially as described, by which the escape of steam is regulated, and made to sound an alarm at a certain stage of the water.

74,205.—Charles A. F. Dietz, New York, N.Y.—*Medical Compound.*—February 11, 1868.—For treatment of consumption, crushed water cresses, 1 lb., California wine, 4 lbs., are tightly corked and heated in an oven for four hours. Crushed horseradish, 1 lb., and wine, 10 lbs., are treated in the same manner. After cooling and filtering they are mixed in the following proportions: Water-cress extract, 2 parts, and horseradish extract, 1 part.

Claim.—A medical compound, made as herein described.

74,206.—Henry Disston, Philadelphia, Pa.—*Machine for Grinding the Rolls of Rolling Mills.*—February 11, 1868.—The grinding frame is clamped to the uprights of the roll frame, and the rollers are ground while rotating upon their journals.

Claim.—1. A plate E, secured to the frame of a rolling mill, and having a guide for receiving a traversing slide, which carries a grindstone, or the grinding wheel, to which a rotary motion is imparted, all substantially as and for the purpose herein set forth.

2. The plate E, in combination with the within described devices, or equivalent devices, whereby it can be made to assume different curves, as and for the purpose specified.

74,207.—D. P. Dobbins and John S. Richards, Erie, Pa., and James Sangster, Buffalo, N. Y.—*Brick Machine.*—February 11, 1868.—The motive connections of the pistons are secured to the cranks of the main shaft by straps, which are made adjustable by the arrangement of the keys so as to allow lost motion between the shaft and connections to regulate the size of the molds. In order to prevent the lost motion from being taken up by the backward motion of the molds, which might draw the pistons backward by friction, a pin is inserted in one of a series of holes in the guides to limit the motion of the pistons. The lifters are upon the ends of horizontal levers, whose other ends are depressed by cams upon the main shaft. The lifters have downward extensions connected to radius rods by which they are kept vertical. The faces of the followers are detachable.

Claim.—1. The combination and arrangement of the mechanism for regulating the size of the mold while open, consisting of the adjustable strap S, keys W, X, and Y, for holding said strap in position, substantially as herein described.

2. The friction rollers P, when in combination with and connected directly to the sliding molds O, as and for the purposes described.

3. The stationary perforated platen or platens E,

in combination with the friction rollers O, the sliding molds U, and cam No. 2, substantially as and for the purposes herein described.

4. The combination and arrangement of the rods or arms D′ and C′, for the purpose of keeping the lifters A′ in a vertical position, and to prevent the parts from being clogged up while working, substantially as described.

5. The arrangement of the cams 1, 2, 3, and 4, on the wheels J, so as to produce from one set of wheels and one set of cams on each wheel, the alternate reciprocating motions of the sliding molds at opposite ends of the machine, substantially as herein described.

6. The pin Z, or its equivalent, substantially as herein described.

7. The arrangement of the frame N, for supporting the upper gearing, and affording a shield to the wheels J, substantially as herein described.

74,208.—Rufus Dutton, New York, N. Y.—*Harvester*—February 11, 1868.

Claim.—1. Making the foot board and tool box of harvesters of a single metallic piece, when such foot board, at the same time, forms a support for the seat spring and seat, substantially as and for the purposes set forth.

2. Supporting the seat, by means of a main spring Z‴, in combination with a spring brace Z′, arranged, with respect to each other, substantially as described, both being rigidly attached to the frame or foot board, and at their other ends to the seat, and having a short intermediate spring Z″ between them at their upper ends, and free at its lower end, substantially as and for the purposes set forth.

3. Extending back and upward the rear part of the foot board, to form a support or brace for the main seat spring, substantially as described.

4. Fastening the foot board and seat springs by one and the same clasp or fastening, passing around the axle or axle sleeve of the machine, substantially as set forth.

74,209.—Rufus Dutton, New York, N. Y.—*Harvester.*—February 11, 1868.

Claim.—1. In a harvesting machine, having the four sides of the frame constructed of separate parts and rigidly fastened together, making one side of such frame encase and protect all the turning shafts of the machine, and another side encase the axle, for the purposes set forth.

2. In a harvesting machine, having a rectangular frame, its several sides being separate pieces and rigidly connected together, making one of the sides of such frame of two or more pieces, so that they will not only constitute one of the sides of the frame, but will also encase and protect the secondary gearing and pinion and shaft, substantially as and for the purposes set forth.

3. In a harvesting machine, having a rectangular or four-sided frame, its four sides rigidly fastened together, making the end of the frame which is supported by the axle of the machine hollow, and passing the axle through it, substantially as and for the purposes set forth.

4. In a two-wheeled harvesting machine, having a hinged finger bar and a loose pole, and having the pole hinged to the frame, so that the center or axis upon which the pole turns shall be the same with that upon which the frame turns, attaching the draught to the front end of such frame, and supporting the whiffletree or evener from the pole or shafts by a sliding or yielding support, substantially as and for the purposes set forth.

5. Constructing the crank wheel fender so that it will be not only a guard for the crank wheel, but will also support and keep the end of the connecting rod on the crank pin, substantially as and for the purposes set forth.

6. Forming the crank fender in two parts, which are hinged to and upon each other, substantially as and for the purposes set forth.

7. The metallic piece *y*, for attaching to and supporting the evener from the pole, having flanges on its sides, or their equivalents, and open at the forward end, so that the evener can be connected or disconnected without the use of any bolt or pin.

8. In a machine, having two driving or supporting wheels, and having a loose pole, supporting the raker's stand by the pole and behind and below the axletree, substantially as and for the purpose set forth.

9. The arrangement and use of the adjusting screw, passing through the shifter lever, or equivalent support, and operating upon the end of the bevel-wheel shaft, substantially as and for the purposes set forth.

74,210.—Rufus Dutton, New York, N. Y.—*Harvester.*—February 11, 1868.

Claim.—1. In combination with a lever for raising the finger bar, when such lever is forked, or in two parts, at its lower end, so that it will have two points or surfaces to act upon the shoe, the double sheave V¹ attached to the frame of the machine, substantially as and for the purposes set forth.

2. The use and application of the double sheave V¹, in combination with a lever for raising the finger bar, operating substantially as and for the purposes set forth.

3. In combination with a device for rolling or turning the points of the fingers, so attaching to the machine the hook that holds up the finger bar when folded, that such hook shall receive the same motion, when the points of the fingers are raised or lowered, as is communicated to the shoe, for the purpose set forth.

4. In combination with the hook that holds the finger bar when folded, when such hook is so attached to the machine that it moves with the shoe, when the finger bar is turned, the application of a spring for holding such hook to the shoe, substantially as and for the purposes set forth.

74,211.—Rufus Dutton, Brooklyn, N. Y.—*Cutting Apparatus for Harvesters.*—February 11, 1868.—The middle of the cutter bar is raised to allow the attachment of the cutters without countersinking the rivet holes, and to decrease the friction of the bar as well as add to its rigidity.

Claim.—1. A knife bar, having both its front and back edges depressed, so as to form, when combined with the knives or cutters, recesses or openings between the edges of the knife bar and the knives, and having its central part recessed or raised longitudinally from the under side, the whole constructed substantially as and for the purposes set forth.

2. The application and use of the plate D, arranged and held as described, for holding down the front edge of the knife bar, substantially as and for the purposes set forth.

3. In combination with such plate D, for holding down the front edge of the knife bar, the button E, arranged as described, for holding down the back edge of such bar.

74,212.—Rufus Dutton, Brooklyn, N. Y.—*Cutting Apparatus for Harvesters.*—February 11, 1868.—Both ends of the leger plate enter recesses in the finger, and the ends are secured in the recesses by the operation of securing the fingers to the bar.

Claim.—1. Fastening or securing the leger plate between the finger and finger bar, substantially as described, without the use of a separate rivet, or its equivalent, to fasten such leger plate when the finger bar is raised or turned up on its front edge to a level with the upper surface of the leger plate, and so as to form the guard or cross-bar for the support of the knives.

2. Constructing the leger plate so that a part thereof may pass between the finger and finger bar, to hold such plate in position upon the finger, and a part thereof may pass over the knife bar, to act as a button to hold down the front side of such bar, and keep the knives upon the leger plate, substantially as and for the purpose set forth.

3. In combination with a leger plate, constructed as described in the last claim, recessing the front edge of the finger bar to receive the projecting part of the leger plate, substantially as and for the purposes set forth.

74,213.—Rufus Dutton, New York, N. Y.—*Cutting Apparatus for Harvesters.*—February 11, 1868.

Claim.—1. Constructing the finger bar of harvest-

ers by curving and raising the front edge above the upper surface of the bar, sufficiently to give room for the knife bar, when placed on the under side of the cutters, and allow open space between such knife bar and the top of the finger bar, for the escape of dirt, grass, &c., substantially as described.

2. Making the upper edge of the finger bar, when constructed as described in the last claim, form a continuous guard bar in front of the knife bar, substantially as and for the purposes set forth.

3. In combination with a finger bar constructed as described, the use of a button, for holding the knife bar in position, constructed, substantially as described, of soft or flexible metal, with a steel or hardened surface, against which the knife bar acts, for the purposes set forth.

74,214.—WILLIAM FOSKET, Meriden, Conn., assignor to MERIDEN CUTLERY COMPANY.—*Apparatus for Grinding Cutlery.*—February 11, 1868.—Improvement on his patent of December 26, 1865.—The upper face of the plate is straight, and the matrix has the necessary curvature.

Claim.—Constructing the matrix in machines for grinding cutlery substantially in the manner described, so that a single and direct movement only is required for the matrix to present the blade to the grinding apparatus.

74,215.—NICOLAS GONNER and HERMAN BADER, Cape Girardeau, Mo.—*Cistern Filter.*—February 11, 1868.—The water passes through the filtering material down one side of the vertical axial division, and, after passing beneath it, rises upon the other side.

Claim.—1. A filter, consisting of the parts A, B, C, D, E, F, G, and *a*, substantially as described.

2. In combination with the above, the valve H, faucet I, and stoppers J, substantially as herein described.

74,216.—STINSON HAGAMAN, Wiessport, Pa.—*Machine for Beveling Edges of Slates.*—February 11, 1868; antedated January 27, 1868.—The bevel-edged cutter wheels are in one plane, and their peripheries come nearly in contact. The slates are passed between guides.

Claim.—1. The beveled grinding wheels, arranged and operating substantially as and for the purpose described.

2. In combination with the beveled grinding wheels, the guide timbers E E′, arranged substantially as and for the purpose described.

3. In combination, the drum B, the belts D and D′, the beveled wheels C and C′, and the guide timbers E and E′, all arranged and operating substantially as described.

74,217.—ALEXANDER HAMAR, New York, N. Y.—*Smelting and Desulphurizing Iron Ore.*—February 11, 1868.—Steam is driven through a chamber filled with iron filings, 2 parts; and charcoal, 1 part. From this deoxygenating chamber the steam passes through a coiled pipe within a chamber, which, like the first, is heated by the waste caloric current from the furnace. The resulting hydrogen is mingled with the hot air blast in the tuyeres.

Claim.—1. The method, herein described, of desulphurizing both the ore and the fuel in a blast furnace by the introduction of nearly pure hydrogen, in combination with the blast, as set forth.

2. The method, herein described, of desulphurizing both the coal and the iron in a puddling furnace by means of separate jets of hydrogen, as set forth.

74,218.—DAVID A. HARRIS, Ithaca, N. Y.—*Wood-Planing Machine.*—February 11, 1868.—The mandrel carries a right and left-handed head, and is vertically adjusted by a cam, operated by a treadle, to bring either cutter into position. The cam shaft has connection with the shifter, to cause the proper rotation to the head brought into position.

Claim.—1. The arrangement and construction of the treadle N, slotted lever M, and cam K on the shaft L, slide or frame H, and mandrel in the slide or frame, so that the treadle raises and lets fall the tools on the mandrel, substantially as and for the purposes set forth.

2. The arrangement and construction of the treadle N, lever M, shaft L, cam K, slide H and its mandrel, in connection with the slotted lever R, rod S, angle T, slide U, pulleys W X Y, and two belts, changeable by the guides V thereon, for reversing the direction of the revolution of the mandrel and tools, and bringing into action either set of tools at pleasure, substantially as and for the purposes set forth.

3. The arrangement of the treadle, treadle lever, and cam, mandrel, tools, slide, guide rod, and belts, in connection with the fixing rod P, that the changeable belts can be run and not the mandrel, or the mandrel and tools, uniformly and constantly, for any given time, substantially as set forth.

74,219.—CHARLES F. HARTWIG, West Haven, Conn., assignor to himself and GEORGE R. KELSEY, same place.—*Hose Coupling.*—February 11, 1868.—The screw ring has an internal groove, which receives the segmental projections upon the other part of the coupling. The said projections are passed through the notches in the inturned flange of the screw ring, and engaged by a turn. A packing ring is interposed between the parts.

Claim.—The arrangement of the ring G, provided with its flange H, upon the part A, in combination with the ring E, constructed so as to operate substantially as set forth.

74,220.—WILLIAM HARVEY, Albany, N. Y.—*Padlock.*—February 11, 1868; antedated September 12, 1867.—The shackle is engaged by two spring bolts. The operation of withdrawing one bolt holds back the other bolt till the first is released, when, in the further action of the key, the second bolt is withdrawn, and the shackle springs open.

Claim.—The combination of the pivoted tumblers or bolts C D with the spring *l*, constructed, arranged, and operating substantially as described.

74,221.—WESTEL E. HAWKINS, Wallingford, Conn., assignor to SIMPSON, HALL, MILLER & CO., same place.—*Butter Dish.*—February 11, 1868.—The bearings have projections which enter notches in the trunnions, and prevent rotation of the latter with the cover.

Claim.—The arrangement of the projection *d* upon the bearings, combined with the groove *f* in the knob around the trunnion, so as to operate in the manner substantially as described.

74,222.—WILLIAM H. HAWLEY, Utica, N. Y.—*Whiffletree Hook.*—February 11, 1868.—The point of the latch is raised for the passage of the trace, and settles by gravity, to prevent accidental disengagement.

Claim.—The whiffletree hook, composed of the thimble A, hook B, and latch or stop C, constructed and operating in combination substantially as described, and for the uses and purposes mentioned.

74,223.—WILLIAM H. HAWLEY, Utica, N. Y.—*Whiffletree Hook.*—February 11, 1868.—The hook turns upon the end of the singletree, and when projecting backward there is space for the introduction of the trace, which is not found when the hook extends forward.

Claim.—The whiffletree hook, constructed of the thimble A, with the curved end D and E in combination of the ring B and hook C, all constructed and arranged substantially as described, and for the uses and purposes mentioned.

74,224.—GEORGE HERGESHEIMER, Philadelphia, Pa., assignor to himself and CORNELIUS V. FORT, same place.—*Brush Bridle.*—February 11, 1868.—The "bridle" is of rubber, and the flange and suction cup are for collection of paint, running toward the handle when the end of the brush is elevated, as in painting a ceiling.

Claim.—The arrangement of brush bridle B with the suction cup S C and flange F L, constructed and operating in the manner and for the purpose as herein set forth and described.

74,225.—EUGENIUS A. HILDRETH, Wheeling, W. Va.—*Composition of Matter for Forming Ornaments, &c.*—February 11, 1868.

Claim.—1. The method herein described of molding sawdust or pulverized wood into shapes and forms that will become hard and strong: that is to say, by mixing the said sawdust or pulverized wood with a solution of silicate of soda or potassa into a plastic mass, and then molding the same, substantially as described.

2. The method of immersing or saturating objects molded from sawdust or pulverized wood and silicate of soda or potassa, as above described, in a solution of the chloride of magnesium, barium, calcium, ammonium, zinc, iron, lead, or copper, or equivalent decomposing salt, while in a soft or plastic state, substantially as and for the purpose set forth.

3. As a new article of manufacture, architectural ornaments, and other similar hard substances, composed of sawdust or pulverized wood, cemented together by silicates and molded into forms, substantially as herein described.

74,226.—HARVEY HULL, West Exeter, N. Y.—*Hay Loader.*—February 11, 1868.—The ends of the wagon have hinged boards which are let down to form a track for the horses in drawing hay upon the wagon by means of a rope.

Claim.—A hay-loading wagon, so constructed that the draught horses may travel over the same, and draw it from either end, substantially as described.

74,227.—SEWELL E. JEWETT, Haverhill, Mass.—*Operating Window Shutter.*—February 11, 1868.—The vibrating pin is eccentric with the central line of oscillation, so that by the outward and inward movements of the sliding cam-rod the blind is opened or closed.

Claim.—1. The peculiar construction of cam C, especially with reference to the projecting point J, as shown in Fig. 2, when applied to and used for the purpose of opening and closing a window blind.

2. In combination with said cam C, knob K, interior and exterior escutcheons E and E′, slotted connecting bar B, vibrating pin P, and lever plate L, all operating as specified, and for the purpose as set forth.

74,228.—J. LOUIS KASTENDIKE, Albany, N. Y.—*Cooking Stove.*—February 11, 1868.—An air space around the fire pot has communication through passages above the oven with a chamber at the rear of the stove, from which it has exit through registers.

Claim.—1. The combination of the hot-air chamber B, hot-air flues I *i i* J *m*, and valve *l n*, with the smoke flues, substantially as set forth.

2. The axis P, provided with the triangular plates or "rakers" *q q*, in combination with the divided frame N N, arm *y*, and lever *z*, arranged and operating substantially in the manner and for the purpose specified.

74,229.—WILLIAM and JOHN KEATS, Leek-England.—*Manufacture of Boots and Shoes*—February 11, 1868; patented in England April 14, 1863.—The edge of the upper is attached by through stitches to the insole and a welt. The outer sole may be attached after turning, or turning may be dispensed with.

Claim.—The construction of boots, shoes, or other coverings for the feet with an insole, a welt, and an upper, first stitched together and afterward stitched or otherwise connected to a bottom or outer sole, substantially as described, and illustrated in the drawings.

74,230.—FERDINAND KING, Richmond, Va., assignor to himself and C. W. NEUDECKER.—*Gas Generator.*—February 11, 1868.—The tar passes through the water which is contained in the washing vessel above the retort, and which forms a hydraulic stopper to the retort. The steam is generated in pipes over the retort and passes into the latter. The retort is heated to redness and contains coke.

Claim.—1. The method, herein described, of producing carburetted hydrogen gas, by introducing dissolved tar, or its equivalent, and steam, into a red-hot gas-generating retort, substantially as set forth.

2. The improved gas generator, herein described, constructed and operating substantially as set forth.

3. In an apparatus for generating gas from dissolved tar or other liquid hydrocarbon, in a heated retort, a jet of steam introduced into said retort, to act chemically in modifying the gas generated as described, and mechanically to force the gas from the retort, as set forth.

4. In combination with the retort A and a tar reservoir, the two vessels D and E, and the pipe C, constructed and arranged substantially as described, for introducing the dissolved tar into the retort.

74,231.—JAMES S. LAWSON, Disco, Mich.—*Hand Corn Planter.*—February 11, 1868.—The corn is contained in the tubular staff, and a sufficient quantity passes into the seed chamber when the seed slides are at rest, and is discharged by depression of the lever, which closes the passage through the upper slide and opens that of the lower one.

Claim.—A combination of all the principal parts above described, essentially and for the purposes set forth, constituting an entire machine.

74,232.—JOSEPH S. LEHMAN, Mount Joy, Pa.—*Bag-holding Apparatus.*—February 11, 1868.—The jaws are held in place by the clamping rod, which enters a socket in one jaw block, and a screw-threaded hole in the other. The angular bar is placed in the slots of the jaws, and engaged by slipping endways. It is held in position by the spring.

Claim.—The construction of the flanged or slotted jaws B B, clamping rod D, and spring E, with the angular frame C, in combination with the truck frame A, all arranged and operating as and for the purpose herein described.

74,233.—DAVID MANUEL, Boston, Mass., assignor to himself and WILLARD MANUEL, same place.—*Machine for Making Wire Springs.*—February 11, 1868.—The joint of the wire is confined in the bisected tubular socket, and commencing at the point, the wire is wound upon the conoidal, grooved former.

Claim.—The couplings B and C, with the thimble D, in combination with frame A, as and for the purposes specified.

74,234.—SAMUEL MARDEN, Newton, Mass.—*Obtaining Motion by Means of Friction.*—February 11, 1868.—The lever oscillates on the axis of the friction wheel and is connected to the treadle at one end, and at the other end has a friction pawl which acts on the inside of the rim of the wheel to cause its rotation.

Claim.—The wheel A, with its rim *a*, in combination with the lever D and its pawl *i*, substantially as described.

74,235.—SAMUEL MARDEN, Newton, Mass.—*Car Brake.*—February 11, 1868.—The wedge brakes are inserted between the inclined abutments and the wheels. The cam blocks bear against the flange of the same.

Claim.—1. The stationary abutment *a*, with its spline *f*, in combination with the wedge brake *c*, with its groove *e*, substantially as described.

2. The levers C C, in combination with the brake wedge *e*, substantially as described.

3. The wedge brake *e*, with its projection or cam brake *d*, for the purpose of operating on the periphery of the flange, as well as on the tread of the wheel.

4. The wedge brake *e*, constructed, arranged, and operated substantially as described.

74,236.—GEORGE R. MARVIN, Keokuk, Iowa.—*Ice Cutter.*—February 11, 1868; antedated January 30, 1868.

Claim.—The improved ice cutter, formed of a box A A A′, and the cutter B, with teeth F, and a hand lever C, in combination with the toothed ice cutter B and stop bars G G, substantially as and for the purpose set forth.

74,237.—JOHN A. MASON, Keokuk, Iowa.—*Fastening Teeth.*—February 11, 1868.—The metallic fastenings are inserted into the teeth in planes at right angles to the width thereof; and the fastenings projecting from the teeth are inserted into the plate at right angles to those in the tooth.

Claim.—The construction of fastenings for artificial teeth, substantially in the manner and for the purposes described.

74,238.—W. W. MATHEWS, Yates City, Ill.—*Gang Plow.*—February 11, 1868.—The racks inside the clevises of the plow beams engage spur wheels on the draw shaft. The draw shaft has an additional spur wheel, which is detained by a sliding stop when the beams are raised. The stop is retracted by a treadle. The beams are raised by connection with a hand lever.

Claim.—1. The braces *a a*, draught bars *b b*, standards *c c*, constructed and in combination substantially as shown, for the uses and purposes herein set forth.

2. The method of raising, lowering, and securing the front end of plow beam by means of the levers *e* and K, pin *r*, clevises *h h*, draught bar *i*, cog-wheels *m* and *n n*, with their friction rollers, flanges, the lock *o*, crank lever *p*, and treadle *q*, or by any means substantially the same, all in combination and as shown, for the uses and purposes herein set forth.

74,239.—NORMAN MILLINGTON, Shaftsbury, Vt.—*Machine for Graduating Rules.*—February 11, 1868.—Improvement on the patent of Millington & George, August 8, 1854.

Claim.—1. The changeable ratchet K, arranged and operating substantially as and for the purpose herein set forth.

2. The gauge wheel M, arranged and operating relatively to the carriage C and its connections, substantially as and for the purpose herein specified.

3. The count wheel N, having changeable pins, combined and arranged to operate relatively to the gauge wheel M, the graver carriage C, and to the operating pawl P, all substantially as and for the purpose herein specified.

4. The spring O, arranged and operating relatively to the count wheel N, the gauge wheel M, and to the carriage C, or equivalent part, and the motion of which is controlled by the gauge wheel, all substantially as and for the purpose herein specified.

5. The pin *d* on the eccentric strap D, sliding in the hinged arm C^1 of the graver carriage C, in combination with the gauging means M, or its equivalent, adapted to allow the carriage to retreat different distances, all substantially as herein set forth.

6. The levers S, mounted and arranged as represented, adapted to support each other by direct contact both at the front and rear, and allowing the tool holders T to be adjusted laterally thereon, substantially as herein specified.

7. The spring X, pin *x*, and hollow adjusting screw Y, or its equivalent, arranged and operating relatively to the lever S, and its connections turning on the cylindrical rod *s*, substantially in the manner and for the purpose herein set forth.

8. Lifting and holding the rule in the path of the gravers by means of the short-armed rock shaft R^3 R^4 R^5, and its connections, constructed, arranged, and operating as and for the purpose herein set forth.

9. The wedge-headed bolt W, operating as represented, relatively to the triangular graver V, and with the tool holder T, and its connections, mounted and arranged in the machine, substantially as and for the purpose herein specified.

74,240.—JOSEPH H. MOORE and JOSEPH E. GARY, Chicago, Ill.—*Car Brake.*—February 11, 1868.—The brakes are applied by the winding of a chain upon a shaft having a friction wheel engaged by a friction wheel upon the axle, and so connected that the pressure of the brake increases the pressure of the friction wheels together.

Claim.—1. The combination of the chain I, wheel E, and shaft H, with the jointed arms *u o*, and with an arm or arms J, all operating substantially in the manner and for the purposes specified.

2. The combination of the cord N with the rock shaft K, with its arms L and *b*, and the arms J, operating substantially in the manner and for the purposes specified.

3. The combination of the cord N′ and prop C with the cord N and arm L, operating substantially in the manner and for the purposes specified.

74,241.—ALBERT W. NOBLE, Kalamazoo, Mich.—*Spring Punch.*—February 11, 1868.—The punches stand in a tangential direction upon the hub, so that the rear end is fully exposed for escape of the wad.

Claim.—The form and construction of the revolving head, and punches attached, as herein described, in combination with the spring side bars for holding and mounting the same, substantially as herein set forth.

74,242.—CHARLES PAYNE, Brandon, Vt., and BENNET VANDECAR, Waterford, N. Y.—*Cotton Picker.*—February 11, 1868.—The fiber is blown from the plant into the netting bag by movable nozzles on flexible air pipes.

Claim.—1. Removing cotton from the bolls by blowing it off away from the air pipes, in contradistinction to drawing it into the air pipes by suction, substantially as shown.

2. The combination of a fan, or its equivalent, with elastic or flexible pipes or tubes E, and a sliding frame F, to raise or lower their nozzles, substantially as and for the purpose described.

3. The combination of the rotating spindles J in the sliding frame F with the nozzles of the pipes E, substantially as described.

4. The extension A′ of the frame of the machine, in combination with the sliding frame F and the bag N, substantially as described.

5. The combination, with the air pipes E, of the bag N, which receives the cotton blown off the stalks of the plants, substantially as described.

74,243.—MARTIN W. POND, Jr., and ALEXANDER T. BALLANTINE, Titusville, Pa.—*Wedge Buckle.*—February 11, 1868.—The tension upon the trace draws the tongue plate beneath the cam plate, and serves to hold them both in position to secure the trace.

Claim.—A new article of manufacture, a wedge buckle, consisting substantially of the body *a*, wedge plate *b*, eccentric clamp *c*, and cross-bar *d*, or its equivalent, when said clamp *c* is so arranged as to compress and guide the wedge plate when closed, and release it when opened, and the wedge plate *b* so arranged as to move in a converging line with relation to the body *a*, and to close upon and tighten its hold on the trace or strap as the draught is increased, substantially in the manner and for the purposes set forth.

74,244.—ROBERT PORTER, Philadelphia, Pa.—*Vent for Sheet-metal Cans.*—February 11, 1868.—The screw plug is inserted at the side of the top opposite to the main nozzle, and is slotted at the inner end, so as to admit the air when partly withdrawn.

Claim.—A sheet-metal can provided with an attached vent plug C, having stays *c′ c′*, fixed to its lower end, so as to prevent the said plug from being detached or entirely withdrawn from its cylindrical tube *b′*, and at the same time allow of its being elevated sufficiently therein to vent the can, as occasion may require, as described and set forth.

74,245.—THOMAS PRATT, Valparaiso, Ind.—*Wrench.*—February 11, 1868; antedated February 5, 1868.—The moving jaw is on a bar sliding in a transverse mortise of the fixed jaw shank.

Claim.—A wrench, in which the jaw A is formed by a solid extension of the handle, and the movable jaw B is connected therewith by the stem C passing through a mortise at the base of the jaw A, being retained in place by the pressure of the eccentric cam lever and spring D upon the side thereof, substantially as set forth.

74,246.—CHARLES QUARTLEY, Baltimore, Md.—*Cigar.*—February 11, 1868.—The end of the cigar is tipped with fulminate, which enables it to light by friction.

Claim.—As a new article of manufacture, the cigar or cigarette, having the ends coated with the composition herein described, and providing it with a fulminating compound, as and for the purpose set forth.

74,247.—C. E. RICHARDSON, Cambridge, Mass.—*Preserving and Packing Meat.*—February 11, 1868.—The meat killed in warm weather is frozen throughout and then placed in the pickle.

Claim.—The within described process of preserving animal matter, under high temperatures, from putrefaction.

74,248.—Daniel T. Robinson, Boston, Mass.—*Implement for Cutting Tobacco and other substances.*—February 11, 1868.—The knife has a draw cut, being pivoted to the side arm of the lever at one end, and directed by the inclined slot at the other.

Claim.—The above described implement for cutting tobacco, consisting of the block or bed A, post *a*, lever *b*, and knife *d*, the knife being constructed with the slot *e*, and provided with the roller *f*, or its equivalent, for actuating its movements, and supported within the guide *i*, the whole being constructed and operating substantially as herein shown and described.

72,249.—S. B. Rowley, Philadelphia, Pa.—*Cap for Preserve Jars.*—February 11, 1868.—The top of the cover is corrugated, and the outer bearing portion is plain.

Claim.—A cap for preserve jars, consisting of a thin metal plate, formed and corrugated as specified.

74,250.—John Sloan, Philadelphia, Pa., assignor to himself, John H. Jones, and John Given, same place.—*Stiffening Articles of Wearing Apparel.*—February 11, 1868.—The stiffening is formed of connected rubber strips.

Claim.—The stiffener *a b c* and *a' b' c' d' e'*, made out of India-rubber, gutta-percha, or any equivalent elastic substance, constructed or molded in one piece, in the manner and for the purpose above set forth and described.

74,251.—George R. and Charles H. Sneath, Wilmington, Del.—*Tilting Wagon.*—February 11, 1868.—The hind axle is bent downward angularly, to allow space for the body to tilt. The hind end of the box is supported on levers, the central one of which is pivoted to the box bottom, and the outer ends of the side levers rest on the sill.

Claim.—1. The pivots *a a*, in combination with the sills B B and bent axle D D D, constructed as described for the purpose set forth.

2. The lever L, arranged and constructed as described for the object already specified.

74,252.—Chester Stone, Ravenna, Ohio.—*Fruit Frame.*—Febrnary 11, 1868.—The double ×-frame is pivoted so as to fold together, and has braces to hold it erect when in use.

Claim.—The braces C D, in combination with the standards A and slats B, when arranged and pivoted together as described, substantially as and for the purpose set forth.

74,253.—James Sutherland, Morris, Ill.—*Wagon for Loading Logs, Stone, and Hay.*—Febrnary 11, 1868.—The lever crane has means of vertical adjustment, and has grappling irons to engage the stones to be loaded.

Claim.—The construction and arrangement of the stationary grooved upright B, sliding elongated ratchet C, lever E, and pawls *b* and D, swinging lever G, and grappling iron H, in combination with a wagon, substantially in the manner and for the purpose as herein set forth.

74,254.—John Taggart, Roxbury, Mass., assignor to himself and Daniel C. Holder, Dorchester, Mass.—*Water Meter.*—February 11, 1868.—The wheel has a series of radial floats, the sectoral spaces between which communicate serially with the induction and eduction pipes. The air chamber communicates with the spaces when any part of them is above the horizontal diameter of the case, so as to allow the water to run in or out according to their respective positions.

Claim.—1. The improved meter, consisting of the case, with its induction and eduction passages, and the wheel, arranged as specified, and the air chamber or vessel to open into the case, as set forth.

2. The arrangement of the air chamber or vessel between the wheel case and the case of the registering mechanism.

3. The combination for actuating each of the ratchets, the same consisting not only of a cam or stud applied to a rotary shaft or to a ratchet, but of a lever formed with an inflexile arm, and the other a flexile or bowed spring, to operate as set forth.

4. The combination and arrangement of the stellated indicator F with the case C, and the series of ratchets or rotary measuring wheels, arranged within the case, and provided with mechanism for operating them, substantially as described.

74,255.—Daniel E. Teal, Norwich, N. Y.—*Car for Transporting and Drying Peat.*—February 11, 1868.—A series of drying racks are so arranged that a single set of wheels can be used for conveying them, one at a time.

Claim.—The carriage, consisting of the car constructed as described, provided with wheels attached thereto by means of the hooks *h*, so formed as to embrace and support the cross pieces *a*, arranged substantially in the manner set forth and described.

74,256.—Allen C. Thomas, Camp Charlotte, Ohio.—*Animal Trap.*—February 11, 1868.—The trap door consists of two longitudinal angle pieces which open at the middle when the bait hook is drawn forward. The animal falls upon an open grate and resets the trap. The trap may be placed over a barrel containing water.

Claim.—The combination of pitfall A and wicker E, and spring C, in the manner and for the purpose substantially set forth.

74,257.—Abner Thomas, Ulysses, N. Y.—*Packing Eggs, &c.*—February 11, 1868.

Claim.—1. The arrangement of coils of wire, so made as to embrace each egg separately, and the fixing the coils of wire, at close intervals to each other, to shelves or partitions, so as virtually to be as described.

2. The combination with the said coils of wire and shelves or partitions, of cloth, felt, or other padding, on the sides of the shelves next the mouths of the coils of wire, as described.

3. The combination of the box or case A, the shelves C, the coils H, the padding E, and cover B, as described.

74,258.—John S. Tilton, Philadelphia, Pa.—*Sleeve for Brushes.*—February 11, 1868.

Claim.—A sleeve, consisting of a tube or strip of canvas, or equivalent material, having at its lower edge an annular metal spring *n*, as and for the purpose described.

74,259.—John Tingley, Philadelphia, Pa.—*Ice Cream Freezer.*—February 11, 1868.—The outer vessel containing the ice, and an inner vessel containing the cream, as well as the dasher within the latter, are turned in one direction, while the dasher is at the same time rotated within the vessel.

Claim.—1. The vessel E, its dasher spindle G and wheel *m*, in combination with the outer revolving vessel C and the stationary disk or wheel B, the whole being constructed and arranged for joint action, substantially as and for the purpose herein set forth.

2. The within-described dasher, composed of arms *p* and *p'*, adapted to the spindle G and elastic scrapers *s* on spindles hung to the said arms, all substantially as and for the purpose herein set forth.

74,260.—Joseph A. Veazie, Boston, Mass.—*Removing Ink and Colors from Printed Paper.*—February 11, 1868.—To potash, 12 lbs., in a boiling solution, is added tallow, 14 lbs. After boiling 3 hours, soft water, 25 galls., is gradually added, and the mass stirred until cool. The paper is boiled in water, and to each 100 gallons of water 5 gallons of the soap is added, and the whole stirred to reduce it to a pulp. The ink rises to the top, and is allowed to flow off. The dirty water is then drawn off from the bottom, and fresh water let in to wash the material.

Claim.—The within-described saponaceous composition for removing ink or colors from printed paper, and dirt from rags, &c., without injury to the pulp, so that the same can be used repeatedly for the manufacture of white paper, substantially as described.

74,261.—R. H. Waite, Hubbardston, Mass.—*Hand Card.*—February 11, 1868.—The handle has

two dovetailed tongues entering suitable grooves in the upper and under side of the "back."

Claim.—The combination, with the back A of the handle B, in the peculiar manner above described, and as shown in the accompanying drawings, for the purposes stated.

74,262.—Otis H. Weed, Charlestown, Mass.—*Bedstead Slat.*—February 11, 1868.

Claim.—The combination of the spring B, of flat tempered steel, with the slat A, when the spring is constructed with a double curvature, the center resting against the slat, as shown, and arranged so as to operate substantially as and for the purpose described.

74,263.—N. J. and J. P. Wemmer, Philadelphia, Pa.—*Branding Instrument.*—February 11, 1868.—The object is held in an adjustable follower, and is brought in contact with the die, which is heated by a gas stove beneath.

Claim.—1. An adjustable holder, constructed for the reception and retention of a plate or other object to be branded, in combination with a stationary branding iron, heated by the apparatus described, or its equivalent, all substantially as set forth.

2. The adjustable guides L L, in combination with the plate K, substantially as and for the purpose specified.

74,264.—Charles Zaiser, Newark, N. J.—*Animal Trap.*—February 11, 1868.—The upper end of the bait hook rests on one end of a lever whose other end supports the door of the trap. The lever is fulcrumed on a curved spring.

Claim.—1. The elastic or yielding fulcrum D, in combination with the setting rod or detent C, substantially as described.

2. The arrangement of the setting rod C loosely in the staple E, and also in the hole F of door B, substantially as described.

74,265.—William H. Abel, Greenville, R. I.—*Converting Motion.*—February 11, 1868.—The device is to convert rotary motion into reciprocating rectilinear or curvilinear motion.

Claim.—1. The cylinder A, constructed substantially as shown and described, viz, with annular grooves *m* and *n*, and provided with slides *e*, shipper B, and pin *c*, or a tumbling lever *y*, or the equivalent thereof, said cylinder or pulley being applied to a central shaft W, and arranged for operation substantially as and for the purpose or purposes set forth.

2. The cord or chain *a*, applied to the slides *e* and pulley *b*, in the manner and for the purpose substantially as specified.

3. The oscillating lever C, constructed as shown and described, and arranged for operation substantially in the manner and for the purposes set forth.

4. The supporting plate I and stud *h*, made adjustable by means of the slot K and nut *g*, as and for the purpose substantially as specified.

5. The adjustable stops S, secured to the plate I, as and for the purpose specified.

6. The combination of the cylinder A with the slides *e* and shipper B, and the cord or chain *a*, pulley *b*, oscillating lever C, plate I, stud *h*, and stops S, all arranged substantially as and for the purpose set forth.

74,266.—William H. Abel, Greenville, R. I.—*Knitting Machine.*—February 11, 1868.—The slide bar is moved longitudinally with the friction thread carrier over and in contact with the top ends of the jacks; the said ends fit into straight and angular grooves in the under side of the slide bar. The angular grooves act to carry the horizontal levers and the selvedge hooks out to near the end of the feeding arm, when the selvedge hook at each side holds the yarn until the first needle passes under the thread, to hook on, draw back, and form a loop. The clamp and vertical needles are relatively adjusted by a set screw.

Claim.—1. The employment of the stationary bar *g*, in the manner and for the purpose set forth.

2. Liberating and depressing the comb bars, and replacing the same by means of the rod *h* and the spring *i*, substantially as and for the purpose specified.

3. Combining the needles *f* and the selvedge hooks with the jacks *c*, in the manner and for the purpose specified.

4. The combination of the cam E, roller stud *n*, rocking levers G, pivoted shaft S, clamp T, arm 8, set screw 9, with the vertical needles, all arranged to operate substantially as and for the purpose set forth.

5. The combination of all the parts, arranged to operate substantially as and for the purpose set forth.

74,267.—J. A. Alley, Clifty, Ind.—*Combined Plow and Rollers.*—February 11, 1868.—The rollers are sufficiently separated to run on the sides of a single row of plants and are followed by the plows and the guard plate. The tongue is hinged to the frame to allow the plows and rollers to accommodate themselves to the inequalities of the ground.

Claim.—1. The combination and arrangement of the short rollers C, frame A, rigid plow standards I, and pivoted plow standards J, with each other, substantially as herein shown and described and for the purpose set forth.

2. Operating the pivoted plow standards J to guide the plows, by means of a lever O, pivoted to the upper end of one of the said standards, and to a support P, attached to the frame A, substantially as herein shown and described.

74,268.—A. Q. Allis, Dayton, Ohio.—*Sulky Plow.*—February 11, 1868.—The plow is suspended upon the serrated link, and has lateral adjustment thereon. The link is attached to a lever which is sustained by the connection of a latch lever upon it, with a ratchet upon the segmental guide bars.

Claim.—1. The serrated link B, or its equivalent, for the purposes and substantially as herein described.

2. The lever and bar D, or its equivalent, used for the purpose substantially as herein set forth.

3. The combination and arrangement of the guide bars F and the catch and lever G, for the purpose and substantially as herein set forth.

4. The combination of the several parts, for the purpose and substantially as herein set forth.

74,269.—V. D. Anderson, Milton, Wis.—*Steam Generator.*—February 11, 1868.—The reservoir is an annular tank immediately over the flue space, and has a water pipe leading from near its bottom into the boiler. A steam pipe extends from the water level in the boiler into the steam space in the upper part of the reservoir, so that when the water falls beneath the proper level in the boiler steam escapes into the reservoir and allows flow of water therefrom. A float in the reservoir is attached to the stem of a safety valve, and permits the escape of steam when the water is nearly exhausted.

Claim.—The combination and arrangement of the fire box B, having double walls *a*, grate G, and apertures *d*, with the water jacket J, automatic feeder D N *o m*, reservoir C, alarm E P *r*, pipes L *p*, water gauge S, and casing A, all constructed and operating substantially as and for the purpose set forth.

74,270.—Henry Alden, Cincinnati, Ohio.—*Hot Air Furnace.*—February 11, 1868.—The pier is frusto-conical and confines the lower portion of the fire space to an annular form. The annular deflecting plate extends around the air heating space immediately above the inlet pipes, and serves to deflect the air toward the heating plate.

Claim.—1. The provision in an air-heating furnace of the annular fire chamber F, constructed as described, and provided with fuel-feeding passages L L′, substantially as set forth.

2. The ash pit B, with sloping sides and central trench, formed and arranged as described.

3. The arrangement of the air-heating furnace A B C D E, fire chamber F, and imperforate central pier K, for the purpose explained.

4. In combination with the foregoing, the annular deflecting plate H′ with the air inlet H and hot-air chamber G, as and for the purpose set forth.

5. The doors N N, formed and arranged as shown, in combination with the grate D and imperforate pier K, annular fire chamber F, and draught tubes Q, as set forth.

74,271.—Alonzo C. Arnold and Ebenezer Blackman, Norwalk, Conn.—*Lamp.*—February 11, 1868.

Claim.—The glass chimney A, formed as herein described, in combination with the arrangements of the vertical springs D, flat perforated base G, and cone B, in the manner substantially as and for the purpose herein set forth.

74,272.—Jearum Atkins, Mokena, Ill.—*Harvester Cutter.*—February 11, 1868.—The back is bent over and the two sides brought near together and parallel, forming a recess into which the backs of the cutters are inserted. The cutters are made in sections, and the portion entering the bar is dove-tailed and held in position by wedge-formed pieces which are riveted in place, or a wedge may be inserted between the sections and riveted behind the bar, or each alternate section may be made wedge-formed, and a portion extending through the bar be bent or riveted.

Claim.—1. The U-shaped metal back or knife bar A, in combination with and for the purpose of holding adjustable or removable cutters for harvesters, as described.

2. The mode of constructing cutter blades in alternate sections, E and G, dove-tailed in the manner described, so that the section G acts as a key to hold the adjoining sections E and F, substantially as described and set forth.

3. In combination with a U-shaped knife bar, the modes described for fastening the sections by the hook *h*, either with or without a pin and screw, substantially as described and set forth.

74,273.—Dinsmore Austin, Underhill, Vt., assignor to himself and Homer Rawson.—*Whiffletree.*—February 11, 1868.—The pin is driven outward by the spiral spring to engage the trace, and the latter is held upon the pin by the flange upon the end of the spring bar. The pin may be retracted by a cord to release the trace.

Claim.—1. The movable pin *a*, in combination with the spiral spring *c*, when used as and for the purpose specified.

2. The spring C, provided with a flange *i* and shoulder *x*, in combination with the spiral spring *c*, when used as and for the purpose set forth.

74,274.—Dinsmore Austin, Underhill, Vt.—*Whiffletree Tug.*—February 11, 1868.—The tug engages over a straight pin projecting from the end of the singletree, and is retained thereon by the forks of the spring lever. The levers may be operated by a cord to throw off the traces.

Claim.—1. The lever B pivoted to an arm D, attached to the end of a swingletree, and provided with two prongs or hooks *b b*, constructed substantially as and for the purposes specified.

2. The combination of the two-pronged lever B with the hollow arm D, the spring *f*, and swingletree A, when used as and for the purpose set forth.

74,275.—Dinsmore Austin, Underhill, assignor to himself and Homer Rawson, Chittenden, Vt.—*Shaft Coupling.*—February 11, 1868.—One arm of the forked bar traverses the jaws of the clip and the socket of the thill iron, and is held in position by a spiral spring surrounding the other arm.

Claim.—The forked bar C, in combination with the spiral spring *f* and clip B, constructed substantially as and used for the purpose specified.

74,276.—Charles R. Bacon and George D. Clark, Newark, N. J.—*Blacking Box Holder.*—February 11, 1868.—The box is held between the adjustable, and the two fixed lugs and the set screw upon the frame.

Claim.—A holder for blacking boxes, consisting of the frame R, lugs L, clamp or slide C, and screw M, when constructed substantially as herein set forth.

74,277.—John Baillie, Salem, Ohio.—*Saw Mill.*—February 11, 1868.—Plane irons are fitted to the inner sides of the upwardly extending ends of the bifurcated pitman and serve to plane the board, which is fed by vertical rollers to the splitting saw.

Claim.—1. The plane irons K, bifurcated pitman D, as arranged, in combination with the beam C, in the manner and for the purpose substantially as set forth.

2. The saw M, as arranged in combination with the beam C, and radial arm J, in the manner and for the purpose set forth.

3. The arrangement and combination of the adjustable feed roller P, link V, pinions J. T, and stationary roller P′, constructed and operating in the manner substantially as set forth.

74,278.—John Baker, Philadelphia, Pa.—*Machine for Cutting Ice.*—February 11, 1868.

Claim.—1. A traction engine carrying and operating saws for cutting ice, substantially as described.

2. So arranging the saws E, in connection with the ice cutting machine, that they may be adjusted vertically for cutting to a greater or less depth, as may be desired, substantially as set forth.

3. The swivelled lever jack *a* located under the body of the machine in such a position and manner that the machine may be raised and turned thereon, substantially as set forth.

74,279.—Stephen Barnes, New Haven, Conn., assignor to himself, W. S. Sanford, and John Gardner, same place.—*Handle for Pocket Cutlery.*—February 11, 1868.—The handle composition is molded upon the side plate when in a plastic state, and is secured to the dove-tail blocks upon the said plate, or upon the tubes which are used as a substitute. The rivets pass through the blocks or tubes as the case may be.

Claim.—The arrangement of the tubes *b* or blocks *a*, upon the plate A, so as to receive the rivets which secure the blades and the two sides of the handle together, substantially as and for the purpose herein set forth.

2. The introduction of a strengthening wire *d*, within the composition of the handle, in the manner described.

74,280.—Philip G. Beckley, Newark, N. J., assignor to Frederick Stevens, same place.—*Skate.*—February 11, 1868.—The bell crank clamp levers are operated by the nuts upon the right and left hand screw rod.

Claim.—The clamp levers G G and H H, in combination with the nuts I I, and the right and left screw shaft C, constructed and operating as and for the purpose set forth.

74,281.—Seth L. Beckwith, San Francisco, Cal.—*Apparatus for Washing Gold Ore.*—February 11, 1868.—The washer pan is hung over the receiver upon the same vertical crank shanks, which receive simultaneous motion from a common shaft.

Claim.—1. The device for imparting to the pans E F G the peculiar swinging motion used for separating metals when only mechanically mixed, by hanging them to rotating upright crank shafts, in manner substantially as and for the purposes above set forth and described.

2. The pan E, provided with a double bottom, whereof the upper one is arched and perforated, and the lower funnel-shaped, in manner substantially as above set forth and described.

3. The pan F divided into chambers, substantially as above described, the walls whereof are crowned by the overhanging ridges *b*, in manner substantially as above set forth and described.

74,282.—Charles H. Beeman, 2d, North Fairfax, Vt.—*Potato Baker.*—February 11, 1868.—The skeleton frame allows the direct radiation of heat upon the surface of the potatoes.

Claim.—As a new article of manufacture, a potato baker, constructed as described, consisting of the upper and lower rims B B′, connected by inclined stands C, the longitudinal grate bars A, surrounded by the rim B′, all arranged and operating as described, for the purpose specified.

74,283.—Jacob Behel, Rockford, Ill.—*Door Lock.*—February 11, 1868.—The bolt is operated from either side of a central longitudinal guard plate which carries the pivot studs of the key. The tumblers

may be coupled so as to move together by raising the lever which traverses a longitudinal passage in the bolt; in this case the bolt may be locked or unlocked from either side. When the lever is depressed the tumblers are disconnected, and the bolt can only be unlocked from the side upon which it was secured.

Claim.—1. The application of tumblers to the bolt of a lock in such manner that while the bolt can be operated from both sides of the lock case, this bolt can only be unlocked from that side of the case from which it was locked, substantially as described.

2. Providing a lock with tumblers and an exposed latch lever, so arranged that the bolt can be locked and unlocked from both sides of the lock case, and, when desired, so adjusted that it can be locked from either side of the case, but unlocked only from that side of the case from which it was locked, substantially as described.

3. The twin tumblers D D, applied to a bolt C, in combination with a latching device, which is so arranged that the tumblers can be connected together or disconnected from each other, at pleasure, substantially as described.

4. The key guard G, with its key studs *i*, arranged centrally with respect to the bolt C and its twin tumblers D D, in conjunction with a device which will admit of said tumblers being connected together or disconnected, at pleasure, substantially as described.

5. The combination of the spring B^1, lever B^2, and hub J, with the reversible latch B, constructed and arranged substantially as described.

74,284.—JULIUS BEIN and WILLIAM ULRICH, Newark, N. J.—*Children's Carriage.*—February 11, 1868.—The seat and top can be changed from end to end.

Claim.—1. In the children's carriage, the reversible seat and top, constructed substantially as herein specified.

2. Pivoting the top E of a children's carriage to bars F F, which are pivoted to the sides of the carriage body, substantially as herein shown and described.

3. Providing the L-shaped seat D of a children's carriage with pins *c c*, which fit into grooves *d* in the sides of the carriage body, substantially as described, so that the seat can be easily reversed, as set forth.

74,285.—WILLIAM BELLAMY, Newark, N. J.—*Construction of Ice Pitcher.*—February 11, 1868.—The edge of the inner bottom is turned up into a vertical flange, which is soldered to the side; a hoop is then placed over the edge and soldered. The edge of the hoop enters an annular groove in an additional bottom, whose edge is turned down, to line and strengthen the base.

Claim.—1. The fitting and securing of the bottom *a* to the inner case B by a vertical flange *b*, fitted within the lower end of the case and secured thereto by solder, in connection with the hoop *c* fitted on the exterior of the lower end of the case and soldered thereto, substantially as and for the purpose specified.

2. The two bases C D fitted one within the other, with a space between their upper parts, in combination with the bottom *a* of the inner case B, resting on C, substantially as and for the purpose set forth.

3. The combination of the external and internal cases A B with bases *f* C D and the bottom *a* of the internal case B, and the hoop *c* around the lower part of the internal case B, all constructed and arranged substantially in the manner as and for the purpose specified.

74,286.—ERNEST W. L. BELLANDER, Jersey City, N. J.—*Forming Block for Muffs.*—February 11, 1868.—The end blocks are made in sections and expanded by frusto-cylindrical nuts upon an axial right and left screw. The ends of the block are connected by dowel pins sliding longitudinally in the sections. When the radial expansion has taken place, nuts are removed from the ends of the axial screw, and a further rotation of the screw causes longitudinal expansion.

Claim.—An expansible muff former, consisting of a series of blocks, arranged as described, and operated by the left and right-hand screw and nuts so as to expand both longitudinally and radially, or either way alone, at will, as set forth.

74,287.—L. G. BINKLY, Fairview, Ohio.—*Whiffletree.*—February 11, 1868.

Claim.—A whiffletree, constructed of a single bar *a*, sliding forward and backward in a socket or coupling G, and operating against a spring B arranged in front of it, substantially as and for the purpose set forth.

74,288.—GEORGE BIRTWISTLE and ROBERT BIRTWISTLE, Fall River, Mass.—*Grease or Sizing.*—February 11, 1868.—Composed of water, 18 qts.; white soap, 58 oz.; and soda-ash solution, at 18° T., 5 pts. Boil 30 minutes.

Claim.—1. The combination of soap and soda ash in the proportions above described, for the purposes named.

2. The use of soap alone, as an agent, when applied to any starch or sizing, for the purposes above described.

74,289.—LYMAN R. BLAKE, Boston, Mass.—*Sewing Machine.*—February 11, 1868; antedated December 1, 1867.—The leather is fed along a cylinder surrounded by a guide sleeve, and is subjected to the action of the needles and loopers to form the through stitches in the hose.

Claim.—In combination with the loop mechanism, containing the work-supporting arm and the feed and stitch-forming mechanism, the guide sleeve *h*, arranged and operating substantially as set forth.

74,290.—JOHN G. BORDEN, Brewster Station, N. Y.—*Machine for Soldering Tin Cans.*—February 11, 1868.—The bottom of the cam is turned within the solder bath by the rotation of the shaft to which it is engaged.

Claim.—1. The plate A, provided with two recesses or reservoirs *a* and *b* for holding the solder and block C, respectively, substantially as herein shown and described.

2. The block C, when made to fit the recess *b* in the plate A and when provided with a recess or cavity *d* to receive the edge of the can to be soldered, substantially as herein shown and described.

3. The arrangement of the recesses *c* and *e* whereby the cavity *d* in the block C is connected with the solder reservoir *a*, substantially as herein shown and described.

74,291.—D. K. BOSWELL, Columbus, Ohio.—*Range.*—February 11, 1868.—The fire space and oven are divided at their middles by vertical partitions, to enable the use of but half the stove.

Claim.—The herein-described stove, either bricked up in a chimney or standing out in a room, provided with a portable or movable oven G, water lining F, and division plates H I, all arranged in the manner as and for the purpose substantially as set forth.

74,292.—E. C. BRACKET, Dedham, Mass., assignor to himself and HENRY C. GENITSEN, same place.—*Toy.*—February 11, 1868.—The figure is suspended upon the end of a spring wire, whose movements are impelled by a spring arm actuated by a rotating prismatic roller.

Claim.—1. The combination for effecting the motions of the automaton or dancer, the same consisting of the spring, the lever, and the prism, arranged together and with the dancer in manner and to operate as described.

2. In combination with the spring, the lever, and the prism, arranged together, and with the automaton as explained, one or more wires or springs, I I, and a sonorous helix, K, arranged within the box, and so as to be operated by the prism, in manner and under circumstances as specified.

74,293.—F. STANLEY BRADLEY, New Haven, Conn.—*Bed Bottom.*—February 11, 1868.—The bars are connected together by cords, and to the frame by spiral springs at the ends. A central transverse bar is woven through the cords, and its ends connected by spiral springs to the side rails.

Claim.—The combination of the spiral springs with the two bars L and M and the cord K, when the whole is constructed and fitted for use, substantially as herein described and set forth.

74,294.—Francis H. Brown, Stamford, Conn.—*Neck Tie Holder.*—February 11, 1868.—The ends of the wire hook spring apart over the button thread.

Claim.—As a new article of manufacture, a gentleman's neck tie holder, A, constructed substantially as described, and so arranged that it can be attached to the neck band or collar of the shirt, either by means of a button secured to the hook itself, or forming the hook without a button, and attaching it to a stud or button affixed to the collar or neck band of the shirt or to the removable collar, as herein shown and described.

74,295.—Isaac W. Brown, New Haven, assignor to himself and George D. Nettleton, Fair Haven, Conn.—*Motive Power.*—February 11, 1868.—The rubber belt acts in place of a weight or metallic spring to actuate the machinery.

Claim.—The elastic band H, in combination with the gearing, substantially as herein described, for the purpose specified.

74,296.—George W. Browne, Brooklyn, N. Y.—*Row Lock.*—February 11, 1868.—Improvement on his patent of April 30, 1867. When the thole pin is in working position the extended part of the eccentric takes under the fixed plate and prevents the thole pin with the hinged boss plate from being turned over upon the hinge.

Claim.—The plate C and eccentric D, when combined and operated in the manner and for the purpose described.

74,297.—Nelson W. Burnett, South Hadley, Mass.—*Pattern Square.*—February 11, 1868.—The rectangular pieces are connected together by cross bars, which have rectangular lips at their ends, sliding in longitudinal slots in the arms of the rectangular pieces. The bars are all slotted longitudinally through the greater part of their length to allow of adjustment, and are marked off to a scale. The pieces are attached together by set screws, which slide in the slots.

Claim.—The pieces A and B, forming right angles, in combination with the pieces *a*, *b*, *c*, and *d*, placed at right angles with A and B, and adjustable relatively with each other in slots, in such manner that mortises or tenons may be marked at one adjustment of the tool upon two sides of a right-angled timber, substantially as described.

74,298.—Edward M. Butz, Allegheny City, Pa.—*Corn Planter.*—February 11, 1868.—The seed slide is operated by a lever actuated by studs upon a wheel having several concentric rings of cog gearing, either of which may be arranged to engage a motive bevel wheel, turned by gearing connection with a spur wheel on one of the hubs.

Claim.—The combination of the wheels C, D, *e*, and *f*, when used in connection with the lever *h*, spring *i*, and slide J, the whole being constructed, arranged, combined, and operating as herein described, and for the purpose set forth.

74,299.—Abner Campbell, Frederick, Md., assignor to himself and James Whitehill, same place.—*System of Indexing for Records.*—February 11, 1868.—The primary alphabetical arrangement is according to the surnames, and those embraced in one letter are subdivided according to Christian names. Down each are arranged twenty-six vertical spaces, each designated by a letter, in which spaces are written that page of the index book on which is found the subdivision whose surnames correspond to the marginal letter of the key, and whose Christian names correspond to the designating letter of the vertical column.

Claim.—The combination of the key, constructed as described, with the index, arranged as specified, for the purpose above set forth.

74,300.—Thomas A. Campbell, New York, N. Y.—*Machine for Oiling Wool.*—February 11, 1868.—Improvement on his patent of January 2, 1866. The cylinder rotates in a vessel containing oil, and carries the same to the rotating brush, which strikes the adjustable plate and scatters the oil upon the wool passing beneath.

Claim.—The adjustable plate P and rotary brush B, in combination with each other and with the hollow cylinder F, operating substantially as described and for the purposes set forth.

74,301.—C. E. Candee, Jersey City, N. J.—*Paper Clip.*—February 11, 1868.—Intended for use as a shawl pin and for attachment of the railroad check to the dress.

Claim.—The point G and the spring B, in combination with the pin F, substantially as described.

74,302.—John M. Canterbury, Mexico, Mo.—*Field Marker.*—February 11, 1868.

Claim.—The cast-metal wheel B, having a sharp bevelled perimeter, with square shoulders upon each side, when adjusted upon the spindle *a*, by means of the set screw *b* passing through the hub of said wheel, as herein shown and described.

74,303.—Thomas W. Carmichael, Indianapolis, Ind.—*Automatic Fan, Table Caster, and Lamp Stand.*—February 11, 1868.—The fan arms are upon a stem rotated by a spring, and a train of cog gearing within the spherical case.

Claim.—The within-described device for operating the fans N automatically, in combination with the cruet stand W and candle stand X, all arranged and operating substantially as set forth.

74,304.—Alfred Castellaw, Chester, Ill.—*Steak Crusher.*—February 11, 1868.—The instrument is clamped to the table and the steak passed between the rollers.

Claim.—The steak crusher, constructed as described, consisting of the smooth upper roller F and lower corrugated roller D, operated by the gearing *f* in the frame, the end pieces C of which frame are secured together by the plate *k*, whose center projects downward to form a scraper for the upper roller F, as herein shown and described.

74,305.—Jefferson Chase, Orange, Mass.—*Lock for Barrel Hoops.*—February 11, 1868.—The ends of the hoop are passed from the outside through the slots of the plate.

Claim.—The clasp or plate A, having the slots *a b*, formed as herein described, and operating to hold the overlapping ends of the band or hoop, substantially in the manner herein shown and set forth.

74,306.—P. Charles Chipron, Highland, Ill.—*Corn Sheller.*—February 11, 1868.—The corn from the shelling wheel drops upon the grated cradle from whence the cobs are discharged, and the corn passes over a screen and is discharged.

Claim.—1. The shields O and P, set in the frame A, in manner and for the purposes substantially as herein shown and described.

2. The cradle B, having the longitudinal bars *b* and sieve D, and suspended in the frame A, all as set forth, and operating substantially in manner as and for the purposes described.

74,307.—Leroy Clarke, Candor, N. Y.—*Hay Raker and Loader.*—February 11, 1868.—The hay is taken from the rake by the radially toothed cylinder and deposited upon the toothed elevator. The upper toothed cylinder removes the hay from the elevator and deposits it upon the load.

Claim.—1. The hay loading apparatus, consisting of the belts F provided with the teeth *a*, and the cylinders B and C provided with the arms *b* and *d*, all mounted in a suitable frame, and arranged to operate substantially as described.

2. In combination with the cylinders B C and belts F, all provided with the arms, as above described, the spring teeth, arranged as set forth.

74,308.—Elisha T. Colburn, Boston, Mass.—*Child's Toy.*—February 11, 1868.—The figure turns upon a weighted frame whose grooved roller tracks on the ring and communicates rotation to the figure through two star wheels.

Claim.—A figure applied to a ring or hoop, and so constructed that while it will maintain a vertical position thereon, it shall be allowed to move about

upon said ring, and at the same time rotate, substantially as described.

74,309.—W. S. COLWELL, Pittsburg, Pa.—*Machine for Dressing Staves.*—February 11, 1868.—When the ram has reached the extent of its forward movement, the side arm strikes the lever and releases the spring latch, thereby allowing the plummer block to descend, and to disconnect the motive spur wheel from the ram rack. When the ram is relieved from the action of the wheel it is drawn backward by a weighted cord. The spring feed rollers are set laterally by a winch screw. The knives are inclined by a rack lever which engages a segmental rack upon the back part of the head.

Claim.—1. The arrangement of the arm *u*, lever *n*, spring *s*, lever C^1, provided with the arm D^1 and rod f^1, plumber block P, wheel A^3, feed ram A^1, and weight *w*, constructed, arranged, combined, and operating as herein described, and for the purpose set forth.

2. The plumber block P, provided with the universal or socket joint X^1, said plumber block being used in connection with shaft *i*, wheel A^3, and the rack A^2 of the feed ram A^1, as herein described and for the purpose set forth.

3. Providing the feed ram A^1 and wings 4, which are opened or spread out by rollers 18, and contracted by the slides B^2, as herein described and set forth.

4. Pivoting the dressing head of a stave machine on a line with the vertical plane of the cutting edges of the knives, the whole being constructed, arranged, and operating as herein described and for the purpose set forth.

74,310.—EDWARD M. COMERY, Hudson, Mass.—*Cast-Off for Sewing Machines.*—February 11, 1868.—Intended specially for a wax thread sewing machine.

Claim.—The pivoted collar *a* embracing the needle, in combination with the nose *c* and arm *d*, whereby the thread is prevented from passing down between said nose and the needle, as herein shown and described.

74,311.—SAMUEL F. CONANT and HORACE A. MANLEY, Skowhegan, Me.—*Photographic Printing Frame.*—February 11, 1868.—The paper and negative are placed upon the block and clamped thereto by the transverse bars depressed with the spring loops.

Claim.—The block A in combination with the two clamps B B, all constructed and arranged substantially in the manner as and for the purpose herein set forth.

74,312.—JOHN B. CORNELL, N. Y.—*Metallic Column.*—February 11, 1868.—The attachments are all made to the inner portion of the column, which has vertical radial ribs nearly contacting with the ornamental surrounding shell.

Claim.—The construction and arrangement with each other of the interior flanged supporting portion *a* and the exterior protecting and ornamental casing *b*, substantially in the manner herein set forth.

74,313.—JACOB CORSON, Clinton, N. J.—*Grain Sieve.*—February 11, 1868.—The sieve box is supported on shackles, and receives endwise vibration from handles upon it. The vibration is assisted by standing springs which pass upward between lugs on the side of the box.

Claim.—1. A grain sieve, consisting of the combination of the adjustable sieves F G H with the boards I and J, all made and operating substantially as herein shown and described.

2. The above in combination with the slide M, made as set forth.

3. The arrangement of the arms B, springs E E, and lugs *a a* for connecting the box A, containing the sieves, with the pedestal C, so that a shaking motion can be easily imparted to the box A by hand or otherwise, as set forth.

74,314.—ISAAC E. CRAIG, Camden, Ohio.—*Manufacture of Sheet Iron.*—February 11, 1868; antedated January 30, 1868.

Claim.—Softening of iron intended to be rolled into sheets, by the alloying of tin therewith.

74,315.—JOHN S. CRANE, Lake Village, N. H.—*Button Hole Cutter*—February 11, 1868.—The edges of the two cutters are in the arc of a circle; the moving cutter being pivoted at the center of the circle. The moving cutter is adjustable to regulate the length of hole cut. The cutting is done by rocking the instrument upon its edge.

Claim.—The combination of cutters C and C′, constructed and operating substantially in the manner and for the purpose set forth.

74,316.—D. K. CROFFUT, Birmingham, Conn.—*Horse Yoke.*—February 11, 1868.—The hames are in form of a solid ring pivoted at top and bottom to the yoke frame, the upper pivot having side motion in a slot in the frame.

Claim.—1. A solid or continuous hame, constructed so as to slip on over the collar, substantially as and for the purpose specified.

2. The combination of the yoke E with bows C, provided with the slots F, substantially as and for the purpose set forth.

74,317.—DAVID DANIELS, Fitchburg, Mass.—*Compound for Destroying Insects in Trees.*—February 11, 1868.—Composed of fish oil, 1 quart, and sulphur, 1 pound.

Claim.—The compounding of the fish oil and sulphur substantially as set forth, and the application of the same to the trunks and other parts of fruit and ornamental trees.

74,318.—ISAAC N. DEAL, Brooklyn, N. Y.—*Clothes Drier.*—February 11, 1868.—The upper and lower series of arms are connected to the opposite sides of vertical pieces.

Claim.—A clothes drier, constructed as described, and consisting of the central upright A, supports B, arms *a*, and hinges or pivots a^1, when the arms *a* are pivoted to opposite sides of the supports B, and when the hinges a^1, connecting each of the said arms *a* to the central post A, are not in the same vertical line as described, and for the purpose specified.

74,319.—HENRY DE BUS and GEORGE JOHNSON, Cincinnati, Ohio.—*Machine for Crozing Barrels.*—February 11, 1868.—The stave is clamped upon the adjustable bench, and submitted to the action of the rotary cutter, which is carried upon a vertically sliding plate. This plate slides on a horizontally sliding plate. The cutter head is restricted to a curved feed course by connection of its journal plate to an oscillating rod.

Claim.—1. The cutter head D, arranged in relation to the adjustable bench A, raised and lowered by the slide *b*, as herein described, for the purpose specified.

2. The compound vertical slide E and horizontal slide F, the connecting rod *n*, the swivels *p p′*, in which the rod works, and the adjustable slide H in the standard C, combined, arranged, and operating substantially as and for the purpose described.

74,320.—DAVID DICK and OLIVER W. PRESTON, Jr., Corning, N. Y.—*Plaster and Seed Sower.*—February 11, 1868; antedated February 8, 1868.—The ends of the agitator project from the hopper, and have pendent pins which come in contact with the cam surfaces of the driving wheels, and cause the endways reciprocation of the bar. The exit apertures are opened or closed by a pinion, which is operated by a lever and engages a rack upon the slide. The seed or fertilizer is distributed from the trough by the spiral brushes on a rotary shaft.

Claim.—1. The shaking bar *b*, when provided with pins *e e* and stirrers *i i i*, in combination with cam wheels B B, as and for the purpose set forth.

2. The slide D, provided with rack *g*, in combination with shaft *d* and pinion *a*, substantially in the manner and for the purpose specified.

3. The peculiar gear arrangement, in combination with shaft *m*, provided with brushes, shaft *d*, pinion *a*, and slide D, substantially in the manner and for the purposes described.

74,321.—JOSEPH W. DOUGLAS, Middletown, Ct., assignor to W. and B. DOUGLAS, same place.—*Pump.*—February 11, 1868.—The pump rod passes through a stuffing box at the top of the air chamber.

The air chamber has a screw-threaded hole near to the top, surrounded by a concentric series of smaller holes. A plug screws into the central hole, and its shoulder closes the outer series of holes, when the device is used as a force pump.

Claim.—The combination of the pump A, air chamber C, screw pin H, thimble I, revolving stand D, and tubular screw *b*, all arranged as described, for the purpose specified.

74,322.—Stephen W. Downey, Piedmont, W. Va.—*Trunk Label.*—February 11, 1868.—The tablet is in an iron frame, and has a lid having a glass protected by metallic rods. One edge of the lid enters a cavity in the trunk when the lid is opened, and this cavity is covered by a spring.

Claim.—1. Inserting in the body of a trunk, box, or can, a tablet case, when the same is provided with a slate, and the whole is constructed and arranged substantially as described.

2. The spring H, in combination with a tablet case, when the same is constructed and arranged substantially as described.

3. The combination of the tablet case and slate, when the former is provided with a sliding top, and the whole is constructed and arranged substantially as described.

74,323.—Mary A. Duffy, New York, N. Y.—*Marking Gauge for Sewing Machine.*—February 11, 1868.—Improvement on her patent of November 27, 1866.—The tuck is not turned, and its line is creased by an independent spring piece, operated by the presser-foot.

Claim.—1. The combination of tucking plate A, marking lever F, presser-foot P, and tucking gauge D, operating together substantially as and for the purposes described.

2. The combination of plate holder B, tucking plate A, marking lever F, presser-foot P, and tucking gauge D, operating together substantially as and for the purposes explained.

3. The combination of marking spring lever F with tucking plate A, when the two are constructed, arranged with, and operated by the presser-foot, substantially as described.

74,324.—A. R. Dyett, New York, N. Y.—*Window Sash Stop.*—February 11, 1868.—The two bolts are connected by toggle levers, disposed on the lower bar of the sash. The bolts engage racks on the window frame, and are held in position by the spring wedges which fit into the angle formed by the connection of the toggle levers to each other. To shoot back the bolt, the spring is compressed, when other springs acting on the outside of each arm of the toggle levers press them together, disengaging the bolts from the rack.

Claim.—1. The bolts C C′, in combination with the toggle levers D D′, substantially as and for the purposes specified.

2. The said toggle levers, in combination with the wedges E E, or their equivalents, substantially as and for the purposes above described.

3. The said toggle levers, in combination with the springs J J′, substantially as described.

74,325.—George W. Eddy, Waterford, N. Y.—*Railway Car.*—February 11, 1868.—The additional wheel is to prevent accident, by taking the place of a broken one, until the cars can be stopped.

Claim.—The construction and arrangement of the extra wheel C, in connection with the car truck, in such a manner as to admit of its being used as a support and brake, and also as a revolving wheel, in the manner and for the purpose herein described.

74,326.—Philip Eidmann, Pekin, Ill.—*Corn Planter.*—February 11, 1868.—The seed slides are reciprocated by connection with a rock shaft actuated by an arm, which is raised by a double cam on the axle. The axle is rotated by clutch connection with the wheels.

Claim.—The arrangement of shaft B, clutches D D, and cams I I, with the levers for operating the clutches, with the shaft G, arms H H, block H′, and arms L L, which operate the seed slides, as and for the purpose set forth.

74,327.—William P. Everdon, Leavenworth, Ind.—*Plow.*—February 11, 1868.—The plow is tubular and elongated in the direction of its course. The plow passes through the soil, allowing the same to fall into position behind it. The subsoil is raised through the tube and falls on the scattering plate surrounding its upper edge.

Claim.—1. The hollow plowshare adapted to excavate, elevate, and scatter the subsoil without material disturbance of the surface, substantially as set forth.

2. The provision, upon the outside of a tubular plow A, of the deflecting plate or guard E, for the purpose explained.

3. The provision of the adjustable scoop or excavator C, at the rear lower portion of the tubular share A, for the object stated.

74,328.—Joel Fales, Walpole, Mass.—*Machine for Sewing Carpet Lining.*—February 11, 1868.—Improvement on the patent of John R. Harrington, April 1, 1856.—From the smoothing plate the fabric passes through a series of sewing machines, by which it is quilted previously to passing between the measuring rolls.

Claim.—1. The combination of the guide rolls B B^2, smoothing plate H, a sewing mechanism, and feed rolls C C′, all arranged and operating substantially as set forth.

2. The arrangement of the spring *u*, adjusting screw *m*, and feed roller D′, as herein described, for the purpose specified.

3. In combination with a carpet lining machine, constructed as described, the sewing device, smoothing plate H, wheels E F, hammer *d*, spring *u*, and set-screw *m*, all arranged and operating as described, for the purpose specified.

74,329.—Wesley Fenimore, Philadelphia, Pa.—*Dust Cups for Watches.*—February 11, 1868.—The top of the dust cup consists of an adjustable screw ring, whose reduced part enters the cap which fits down snugly on the shoulder of the ring.

Claim.—1. A ring E, rendered adjustable on the ring D of the plate A, in respect to the cap B of a watch, substantially as and for the purpose herein set forth.

2. The ring E, reduced in diameter, so as to penetrate and fit snugly in the opening of the cap B, and having a shoulder for the said cap to bear against, all as set forth.

74,330.—Felix A. Finn, Salt Point, N. Y.—*Threshing Machine.*—February 11, 1868.—The grain passes beneath jointed beaters upon rotating cylinders.

Claim.—1. The inclined bottom *a*, in combination with one or more cylinders B, provided with jointed flails, all arranged substantially as and for the purpose specified.

2. The screen D, operated by the crank pulley G and connecting rod F, from one of the threshing cylinders, substantially as and for the purpose set forth.

74,331.—Isaac Fiske, Worcester, Mass.—*Cornets, &c.*—February 11, 1868.—Improvement on his patent of October 30, 1866. The valves are so arranged in relation to the ducts that both in the open and valve tones a continued unobstructed passage is allowed to the air. The construction admits of the changing from one to another key in such manner that the same quality of tone may be produced in either key, and without increasing the number of turns in the wind passages.

Claim.—1. So constructing and arranging the passages through the valves *g*, and the sections of pipe connected therewith, that a continuous uniform passage is secured through the pipes and valves for both the open and valve tones, said valve and pipe passages being not only uniform in diameter, but free from angles, substantially as shown and described.

2. In combination with the main pipes *r s*, the valve cylinder *q*, having the two pipes *t u* branching therefrom, and having its valve so arranged that connection may be made through either of said branches, thereby enabling the key of the instrument

upon said ring, and at the same time rotate, substantially as described.

74,309.—W. S. COLWELL, Pittsburg, Pa.—*Machine for Dressing Staves.*—February 11, 1868.—When the ram has reached the extent of its forward movement, the side arm strikes the lever and releases the spring latch, thereby allowing the plummer block to descend, and to disconnect the motive spur wheel from the ram rack. When the ram is relieved from the action of the wheel it is drawn backward by a weighted cord. The spring feed rollers are set laterally by a winch screw. The knives are inclined by a rack lever which engages a segmental rack upon the back part of the head.

Claim.—1. The arrangement of the arm *u*, lever *n*, spring *s*, lever C^1, provided with the arm D^1 and rod f^1, plumber block P, wheel A^3, feed ram A^1, and weight *w*, constructed, arranged, combined, and operating as herein described, and for the purpose set forth.

2. The plumber block P, provided with the universal or socket joint X^1, said plumber block being used in connection with shaft *i*, wheel A^3, and the rack A^2 of the feed ram A^1, as herein described and for the purpose set forth.

3. Providing the feed ram A^1 and wings 4, which are opened or spread out by rollers 18, and contracted by the slides B^2, as herein described and set forth.

4. Pivoting the dressing head of a stave machine on a line with the vertical plane of the cutting edges of the knives, the whole being constructed, arranged, and operating as herein described and for the purpose set forth.

74,310.—EDWARD M. COMERY, Hudson, Mass.—*Cast-Off for Sewing Machines.*—February 11, 1868.—Intended specially for a wax thread sewing machine.

Claim.—The pivoted collar *a* embracing the needle, in combination with the nose *c* and arm *d*, whereby the thread is prevented from passing down between said nose and the needle, as herein shown and described.

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Claim.—The block A in combination with the two clamps B B, all constructed and arranged substantially in the manner as and for the purpose herein set forth.

74,312.—JOHN B. CORNELL, N. Y.—*Metallic Column.*—February 11, 1868.—The attachments are all made to the inner portion of the column, which has vertical radial ribs nearly contacting with the ornamental surrounding shell.

Claim.—The construction and arrangement with each other of the interior flanged supporting portion *a* and the exterior protecting and ornamental casing *b*, substantially in the manner herein set forth.

74,313.—JACOB CORSON, Clinton, N. J.—*Grain Sieve.*—February 11, 1868.—The sieve box is supported on shacklos, and receives endwise vibration from handles upon it. The vibration is assisted by standing springs which pass upward between lugs on the side of the box.

Claim.—1. A grain sieve, consisting of the combination of the adjustable sieves F G H with the boards I and J, all made and operating substantially as herein shown and described.

2. The above in combination with the slide M, made as set forth.

3. The arrangement of the arms B, springs E E, and lugs *a a* for connecting the box A, containing the sieves, with the pedestal C, so that a shaking motion can be easily imparted to the box A by hand or otherwise, as set forth.

74,314.—ISAAC E. CRAIG, Camden, Ohio.—*Manufacture of Sheet Iron.*—February 11, 1868; antedated January 30, 1868.

Claim.—Softening of iron intended to be rolled into sheets, by the alloying of tin therewith.

74,315.—JOHN S. CRANE, Lake Village, N. H.—*Button Hole Cutter.*—February 11, 1868.—The edges of the two cutters are in the arc of a circle; the moving cutter being pivoted at the center of the circle. The moving cutter is adjustable to regulate the length of hole cut. The cutting is done by rocking the instrument upon its edge.

Claim.—The combination of cutters C and C′, constructed and operating substantially in the manner and for the purpose set forth.

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Claim.—1. A solid or continuous hame, constructed so as to slip on over the collar, substantially as and for the purpose specified.

2. The combination of the yoke E with bows C, provided with the slots F, substantially as and for the purpose set forth.

74,317.—DAVID DANIELS, Fitchburg, Mass.—*Compound for Destroying Insects in Trees.*—February 11, 1868.—Composed of fish oil, 1 quart, and sulphur, 1 pound.

Claim.—The compounding of the fish oil and sulphur substantially as set forth, and the application of the same to the trunks and other parts of fruit and ornamental trees.

74,318.—ISAAC N. DEAL, Brooklyn, N. Y.—*Clothes Drier.*—February 11, 1868.—The upper and lower series of arms are connected to the opposite sides of vertical pieces.

Claim.—A clothes drier, constructed as described, and consisting of the central upright A, supports B, arms *a*, and hinges or pivots a^1, when the arms *a* are pivoted to opposite sides of the supports B, and when the hinges a^1, connecting each of the said arms *a* to the central post A, are not in the same vertical line as described, and for the purpose specified.

74,319.—HENRY DE BUS and GEORGE JOHNSON, Cincinnati, Ohio.—*Machine for Crozing Barrels.*—February 11, 1868.—The stave is clamped upon the adjustable bench, and submitted to the action of the rotary cutter, which is carried upon a vertically sliding plate. This plate slides on a horizontally sliding plate. The cutter head is restricted to a curved feed course by connection of its journal plate to an oscillating rod.

Claim.—1. The cutter head D, arranged in relation to the adjustable bench A, raised and lowered by the slide *b*, as herein described, for the purpose specified.

2. The compound vertical slide E and horizontal slide F, the connecting rod *n*, the swivels *p p′*, in which the rod works, and the adjustable slide H in the standard C, combined, arranged, and operating substantially as and for the purpose described.

74,320.—DAVID DICK and OLIVER W. PRESTON, Jr., Corning, N. Y.—*Plaster and Seed Sower.*—February 11, 1868; antedated February 8, 1868.—The ends of the agitator project from the hopper, and have pendent pins which come in contact with the cam surfaces of the driving wheels, and cause the endways reciprocation of the bar. The exit apertures are opened or closed by a pinion, which is operated by a lever and engages a rack upon the slide. The seed or fertilizer is distributed from the trough by the spiral brushes on a rotary shaft.

Claim.—1. The shaking bar *b*, when provided with pins *e e* and stirrers *i i i*, in combination with cam wheels B B, as and for the purpose set forth.

2. The slide D, provided with rack *g*, in combination with shaft *d* and pinion *a*, substantially in the manner and for the purpose specified.

3. The peculiar gear arrangement, in combination with shaft *m*, provided with brushes, shaft *d*, pinion *a*, and slide D, substantially in the manner and for the purposes described.

74,321.—JOSEPH W. DOUGLAS, Middletown, Ct., assignor to W. and B. DOUGLAS, same place.—*Pump.*—February 11, 1868.—The pump rod passes through a stuffing box at the top of the air chamber.

The air chamber has a screw-threaded hole near to the top, surrounded by a concentric series of smaller holes. A plug screws into the central hole, and its shoulder closes the outer series of holes, when the device is used as a force pump.

Claim.—The combination of the pump A, air chamber C, screw pin H, thimble I, revolving stand D, and tubular screw *b*, all arranged as described, for the purpose specified.

74,322.—STEPHEN W. DOWNEY, Piedmont, W. Va.—*Trunk Label.*—February 11, 1868.—The tablet is in an iron frame, and has a lid having a glass protected by metallic rods. One edge of the lid enters a cavity in the trunk when the lid is opened, and this cavity is covered by a spring.

Claim.—1. Inserting in the body of a trunk, box, or can, a tablet case, when the same is provided with a slate, and the whole is constructed and arranged substantially as described.

2. The spring H, in combination with a tablet case, when the same is constructed and arranged substantially as described.

3. The combination of the tablet case and slate, when the former is provided with a sliding top, and the whole is constructed and arranged substantially as described.

74,323.—MARY A. DUFFY, New York, N. Y.—*Marking Gauge for Sewing Machine.*—February 11, 1868.—Improvement on her patent of November 27, 1866.—The tuck is not turned, and its line is creased by an independent spring piece, operated by the presser-foot.

Claim.—1. The combination of tucking plate A, marking lever F, presser-foot P, and tucking gauge D, operating together substantially as and for the purposes described.

2. The combination of plate holder B, tucking plate A, marking lever F, presser-foot P, and tucking gauge D, operating together substantially as and for the purposes explained.

3. The combination of marking spring lever F with tucking plate A, when the two are constructed, arranged with, and operated by the presser-foot, substantially as described.

74,324.—A. R. DYETT, New York, N. Y.—*Window Sash Stop.*—February 11, 1868.—The two bolts are connected by toggle levers, disposed on the lower bar of the sash. The bolts engage racks on the window frame, and are held in position by the spring wedges which fit into the angle formed by the connection of the toggle levers to each other. To shoot back the bolt, the spring is compressed, when other springs acting on the outside of each arm of the toggle levers press them together, disengaging the bolts from the rack.

Claim.—1. The bolts C C′, in combination with the toggle levers D D′, substantially as and for the purposes specified.

2. The said toggle levers, in combination with the wedges E E, or their equivalents, substantially as and for the purposes above described.

3. The said toggle levers, in combination with the springs J J′, substantially as described.

74,325.—GEORGE W. EDDY, Waterford, N. Y.—*Railway Car.*—February 11, 1868.—The additional wheel is to prevent accident, by taking the place of a broken one, until the cars can be stopped.

Claim.—The construction and arrangement of the extra wheel C, in connection with the car truck, in such a manner as to admit of its being used as a support and brake, and also as a revolving wheel, in the manner and for the purpose herein described.

74,326.—PHILIP EIDMANN, Pekin, Ill.—*Corn Planter.*—February 11, 1868.—The seed slides are reciprocated by connection with a rock shaft actuated by an arm, which is raised by a double cam on the axle. The axle is rotated by clutch connection with the wheels.

Claim.—The arrangement of shaft B, clutches D D, and cams I I, with the levers for operating the clutches, with the shaft G, arms H H, block H′, and arms L L, which operate the seed slides, as and for the purpose set forth.

74,327.—WILLIAM P. EVERDON, Leavenworth, Ind.—*Plow.*—February 11, 1868.—The plow is tubular and elongated in the direction of its course. The plow passes through the soil, allowing the same to fall into position behind it. The subsoil is raised through the tube and falls on the scattering plate surrounding its upper edge.

Claim.—1. The hollow plowshare adapted to excavate, elevate, and scatter the subsoil without material disturbance of the surface, substantially as set forth.

2. The provision, upon the outside of a tubular plow A, of the deflecting plate or guard E, for the purpose explained.

3. The provision of the adjustable scoop or excavator C, at the rear lower portion of the tubular share A, for the object stated.

74,328.—JOEL FALES, Walpole, Mass.—*Machine for Sewing Carpet Lining.*—February 11, 1868.—Improvement on the patent of JOHN R. HARRINGTON, April 1, 1856.—From the smoothing plate the fabric passes through a series of sewing machines, by which it is quilted previously to passing between the measuring rolls.

Claim.—1. The combination of the guide rolls B B^2, smoothing plate H, a sewing mechanism, and feed rolls C C′, all arranged and operating substantially as set forth.

2. The arrangement of the spring *u*, adjusting screw *m*, and feed roller D′, as herein described, for the purpose specified.

3. In combination with a carpet lining machine, constructed as described, the sewing device, smoothing plate H, wheels E F, hammer *d*, spring *u*, and set-screw *m*, all arranged and operating as described, for the purpose specified.

74,329.—WESLEY FENIMORE, Philadelphia, Pa.—*Dust Cups for Watches.*—February 11, 1868.—The top of the dust cup consists of an adjustable screw ring, whose reduced part enters the cap which fits down snugly on the shoulder of the ring.

Claim.—1. A ring E, rendered adjustable on the ring D of the plate A, in respect to the cap B of a watch, substantially as and for the purpose herein set forth.

2. The ring E, reduced in diameter, so as to penetrate and fit snugly in the opening of the cap B, and having a shoulder for the said cap to bear against, all as set forth.

74,330.—FELIX A. FINN, Salt Point, N. Y.—*Threshing Machine.*—February 11, 1868.—The grain passes beneath jointed beaters upon rotating cylinders.

Claim.—1. The inclined bottom *a*, in combination with one or more cylinders B, provided with jointed flails, all arranged substantially as and for the purpose specified.

2. The screen D, operated by the crank pulley G and connecting rod F, from one of the threshing cylinders, substantially as and for the purpose set forth.

74,331.—ISAAC FISKE, Worcester, Mass.—*Cornets, &c.*—February 11, 1868.—Improvement on his patent of October 30, 1866. The valves are so arranged in relation to the ducts that both in the open and valve tones a continued unobstructed passage is allowed to the air. The construction admits of the changing from one to another key in such manner that the same quality of tone may be produced in either key, and without increasing the number of turns in the wind passages.

Claim.—1. So constructing and arranging the passages through the valves *g*, and the sections of pipe connected therewith, that a continuous uniform passage is secured through the pipes and valves for both the open and valve tones, said valve and pipe passages being not only uniform in diameter, but free from angles, substantially as shown and described.

2. In combination with the main pipes *r s*, the valve cylinder *q*, having the two pipes *t u* branching therefrom, and having its valve so arranged that connection may be made through either of said branches, thereby enabling the key of the instrument

to be changed without increasing the crooks or detracting from the tone of the instrument.

74,332.—Moore R. Fletcher, Cambridgeport, Mass.—*Separating Fibers from Wood and other Substances.*—February 11, 1868; antedated February 5, 1868.—Unslaked lime, 10 lbs., is reduced to the consistency of milk and mixed with water, 8,000 galls; this is placed in a tank with fibrous matter, 1 ton, and the temperature raised by steam pipes to 135° Fahrenheit. In about 30 minutes the heat is raised to 195°, and continued until the water is sufficiently treated, when it is washed with water at 125° and disintegrated mechanically. It is then ready for pulping.

Claim.—1. The process above described for preparing the fiber of wood, or that of any vegetable fibrous substance, for the manufacture of paper, or any textile material, substantially as specified.

2. Subjecting the fibers of wood, or other fibrous vegetable substances, to the action of a very weak solution of alkali, or lime and water, as specified.

3. Subjecting the fibers of wood, or other fibrous vegetable matter, when mixed with a weak solution of alkali, or lime and water, to a degree of heat not above the boiling point or below 33° Fahrenheit, as specified.

4. Subjecting the fibers of wood, or other vegetable fibrous substances, after the same have been subjected to the action of a weak solution of alkali, or lime and water, at a low temperature, until the albuminous, resinous, or nitrogenous matter has been softened, to the action of a high degree of heat and steam pressure, as and for the purpose specified.

5. Bleaching vegetable fibrous substances by subjecting the same to the action of a solution of soda ash and chloride of lime, in the manner substantially as above described.

74,333.—Moore R. Fletcher, Cambridge, Mass.—*Planing Machine.*—February 11, 1868.—The face of the cylinder has a series of cutters, and those adjacent cut the shaving at an equal but opposite inclination to the grain of the wood.

Claim.—Arranging on a revolving cylinder, and on an undeviating line around the surface of said cylinder, one or more series of inclined cutters, so that the cutting edges of said cutters in each series will, as said cylinder revolves, pass through the same space, and stand alternately in opposite directions from each other, but each of them at the same angle from a line parallel with the axis of said cylinder, in the manner substantially as described, for the purpose herein specified.

74,334.—Newton Foster, Palmyra, N. Y.—*Cotton Seed and Corn Planter.*—February 11, 1868.—The seed is stirred by the curved arms, and drops through the aperture in the striking plate into the cavities of the rotary, distributing disk. The thills are adjustable in inclination, and the plow frame is vertically adjustable on the main frame.

Claim.—1. The diaphragm D and the bar G, when made and applied as and for the purpose set forth.

2. The opener X, when applied to the scraper R, and used substantially as set forth.

3. The extension of the iron of the scraper R, by the ends of the roller T, as and for the purpose set forth.

4. The construction and arrangement of the parallel draught bars N and N′, the bar O, and upright P, when held and used substantially as specified.

5. The distributer K and annular rim L, when applied and used in combination with the spindle F and diaphragm D, substantially as set forth.

74,335.—Merwin Fowler, Wolcottville, Conn.—*Die for Closing Buckles.*—February 11, 1868.—The closing together of the three parts is accomplished by a single movement of the peculiarly shaped dies.

Claim.—The dies, constructed as herein described, for closing a three part buckle, in the manner as set forth.

74,336.—Julius Franke, Quincy, Ill.—*Apparatus for Cutting and Pasting Photographs.*—February 11, 1868.

Claim.—1. The box E, back springs F, movable platform H, and pasting frame, combined and operating substantially as and for the purpose described.

2. The reciprocating card holders or catches *o o′*, slides J J′, and springs I I′, in combination with the platform H, operating with the board *v* and its strips *w*, and the box E and springs F, substantially as and for the purpose described.

3. The board *v* and movable strip *w*, for the purpose described, substantially as specified.

4. The arrangement of the slides in three or more divisions so as to hold three or more sets of cards and pictures, substantially in the manner represented and described.

5. The pulleys *t*, belt *u*, treadle *t′*, block *w′*, and weight *w‴*, combined and operating as described, and adapted for the purpose specified.

6. The pin and cutting board, constructed of the removable guide board C, frame B, removable block D, and pins *b*, substantially as described, for the purpose specified.

74,337.—Eugene Gallagher, Brooklyn, N. Y.—*Transmitting Motion.*—February 11, 1868.—A spiral, similar to the clearing screw of an auger, is acted on by the anti-friction rollers on both sides thereof, so that the rotary motion of the wheel carrying the rollers is communicated to the spiral.

Claim.—The wheel, furnished with radial friction rollers, in combination with the screw or spiral shaft A, substantially as and for the purpose specified.

74,338.—William Ganse, Greensboro, Ind.—*Ditching Machine.*—February 11, 1868.—The earth is excavated by the sharp rims of the main wheel and the spades. The latter are connected to an eccentric wheel which causes their extension when entering and carrying up the dirt, and their retraction when the dirt is being scraped from the groove at the periphery of the main wheel. The dirt is removed from the groove and deposited on one side when it has reached the fore end of the machine.

Claim.—1. The wheel A, with its periphery R, Fig. 1, pierced for spades S S, &c., and working on fixed axle *c*, and the wheel or disk B, with its center to the one side of the center of wheel A, the difference equal to the greatest projection of the spades S S, &c., working on same shaft or axle, with curved crank, substantially as and for the purposes set forth.

2. The movable spades S S, &c., arms *n n n*, &c., connected with disk or wheel B, Fig. 1, in such a manner that as the two wheels A and B rotate in the same direction, on a fixed axis on different centers, the spades S S, &c., recede from the front wheel A, and project from bottom, top, and rear of said wheel, substantially as and for the purposes set forth.

3. The wheels H H′, in combination with a ditching machine, combined and arranged as herein described.

4. The arrangement of the frame 10 11 12, with cross beam 10, sliding in grooves 13 13, in frame Z W V, supported by axle 2 and wheels I I′, giving a sliding motion to a machine, up or down, and *vice versa*, to frame Z W V, substantially as and for the purposes set forth.

5. The hinged and adjustable guide K K′, Fig. 1, in combination with the wheel A.

6. The movable and V-shaped cutter F, Fig. 1, when combined with a ditching machine, constructed and arranged as herein described.

74,339.—John F. Gauweiler, and Jost Stengel, Croton, Mich.—*Fire Alarm.*—February 11, 1868.—The tripping spring levers are connected by cords or soldered wires to the different apartments. When the cord is burnt or the solder melted in either apartment, the corresponding spring lever flies out and trips the alarm through the medium of the loop. The tank is suspended by cords, and is rotated so as to twist the cords, and is then retained by another cord which burns off and allows the tank to rotate and scatter the water.

Claim.—1. The indicators *b b*, numbered or lettered, and operating substantially in the manner set forth.

2. In combination therewith loop *e*, as and for the purpose described.

3. The employment of spring lever *h*, in combination with loop *e*, substantially as specified.

4. The tank E, when suspended and operated substantially as described.

74,340.—John M. Gilbert, Troy, N. Y.—*Stuffing for Mattresses, Sofas, and Seats.*—February 11, 1868.—The mattress is stuffed with rubber balls.

Claim.—Stuffing mattresses, cushions, and seats of all descriptions, with hollow elastic blocks or globules B B, substantially as herein shown and described.

74,341.—William Gilbert, Catskill, N. Y.—*Machine for Cutting Turf or Sods.*—February 11, 1868.—The horizontal cutter passes beneath the sod, which is divided into ribbons by laterally adjustable vertical knives, which are supported on a transverse bar.

Claim.—The knife C and shaft D, with its rollers and knife *e*, used with the frame A, substantially as and for the purpose set forth.

74,342.—Alvaro B. Graham, Waukegan, Ill.—*Harvester.*—February 11, 1868.—The finger beam is connected to the gearing carriage by a vibratable link, extending crossways of the line of draught, by a draught rod extending parallel with the line of draught, and by two swivel joints for the link and rod, respectively, so that the finger beam may rise or fall and have forward and backward movement independently of the carriage.

Claim.—1. The combination, as set forth, in a harvester, of the finger beam with the gearing carriage, by means of the vibratable link, the draught rod, and swivel joints M and M^1, so that the finger beam may both rise and fall at either end and rock forward and backward.

2. The combination, as set forth, in a harvester, of the finger beam, gearing carriage, vibratable link, draught rod, swivel joints, and arm by which the rocking of the finger beam is controlled.

3. The combination, as set forth, in a harvester, of the gearing carriage, rocking finger beam, vibratable link, reciprocating cutter, crank shaft on the gearing frame, connecting rod, (connecting said crank shaft with the cutter on the rocking finger beam,) and swivel joint at the cutter.

4. The combination, in a harvester, of the gearing carriage, finger beam, vibratable link, grain wheel, and lifting connection for the grain end of the finger beam, substantially as set forth.

5. The combination, as set forth, in a harvester, of the gearing carriage, finger beam, vibratable link, grain wheel, lifting connection, and lifting connections for the inner or stubble end of the finger beam, so that each end of the finger beam may be raised or lowered relatively to the gearing carriage.

6. The combination of the reel arranged to move with the finger beam, the gearing carriage, radius bar, and two guide-belt pulleys for the driving and slack members of the reel belt, one of said guide pulleys being arranged upon the gearing carriage and the other upon the radius bar, substantially as set forth.

7. The combination, as set forth, of the finger beam, gearing carriage, swivel joint M between the finger beams and gearing carriage, raking platform, and hinge connections between the finger beam and raking platform.

8. The combination of the raking platform, finger beam, hinge connections, gearing carriage, upright stay and link, substantially as set forth.

9. The combination, as set forth, of the finger beam with the grain wheel and platform, through the intervention of a hinge connection.

10. The combination of the movable member of the clutch for throwing the cutter crank out of or into gear with a clutch lever, composed of two parts connected by notches, substantially as set forth.

74,343.—R. C. Graves, Barnesville, Ohio.—*Roofing Composition.*—February 11, 1868.—Composed of coal tar, 40 galls.; pulverized slate, 30 galls.; pulverized clay, 10 galls; boiled rice, 5 lbs.; glue, 1 lb.; terra de sienna, 1 lb.; and linseed oil, 1 lb.

Claim.—A composition for covering roofs, composed of the within described ingredients, substantially in the manner specified.

74,344.—Thomas Green and Jacob Sommer, Metamora, Ill.—*Cultivator.*—February 11, 1868.—The ends of the singletree are connected by chains to the sides of the cultivator, and will assist in turning the latter.

Claim.—The combination of the adjustable pivoted draught rod C and adjustable draught chains E with the singletree D and with the plow beams A, pivoted to each other at their forward ends, substantially as herein shown and described, and for the purpose set forth.

74,345.—James Gresham, Manchester, England, assignor to Ira Dimock, Florence, Mass.—*Injector for Boilers.*—February 11, 1868; patented in England April 13, 1866.—The end of the spindle projects through the steam nozzle into the water space, and has a valve seated at the rear end of the steam nozzle piece. The valve of the main water exit moves a short distance in a cylindrical space connected with its seat. A conical valve slides upon this valve stem in such a manner that it is only closed when the main valve is open, and is not forced open until the main valve has nearly reached its seat. The conical valve allows passage of the water to a small side opening.

Claim.—1. The combination of the steam ram *a*, carrying the steam nozzle *b*, with a central spindle *d*, whereby the steam and water can be adjusted by turning the one handle d^4, substantially as shown and described.

2. The arrangement of the valve d^5 on the stem *d*, in combination with the seat within the steam ram *a*, substantially as described.

3. The valve *f* moving in a cylinder f^2, for a portion of its travel, in combination with the valve *g* and spindle f^1, arranged and operating substantially as set forth.

74,346.—James Gresham, Manchester, England, assignor to Ira Dimock, Florence, Mass.—*Injector for Boilers.*—February 11, 1868; patented in England April 13, 1866.—The cone piece is adjusted longitudinally between the steam nozzle and stop valve by connection with the forked arm of a rock shaft, operated by a lever. A sliding spring stop on the lever engages one of the curved series of notches, to fix the cone piece to proper adjustment.

Claim.—The arrangement of the rock shaft *g* and forked lever g^2, with relation to the cone piece e e^1 and case *d*, all constructed and operating essentially as shown and described, for the purpose set forth.

74,347.—Edwin Griswold, Joel B. Cramer, and William Blay, Helena, Montana Ter.—*Equalizing Doubletree.*—February 11, 1868.—The traces are attached to straps which run on rollers secured to the doubletree. The ends of the latter are jointed, so as to admit of turning backward, but not forward, of a position in line with the central part.

Claim.—1. An improved doubletree, the end parts a^1 of which are hinged or jointed to the central part a^2, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the strap or straps E and pulleys C with the draught bar or doubletree, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the rigid or flexible straps H with the end parts of a jointed doubletree and with the straps E, substantially as herein shown and described, and for the purpose set forth.

74,348.—M. W. Gunn, La Salle, Ill.—*Harrow.*—February 11, 1868.—The draw bar is attached to the cross-bars, and has handles similar to those of a plow. The rails of the harrow are adjustable on the cross-bars.

Claim.—1. The combination of the adjustable cross-bars C, rocking cross-bar E, adjustable cross-bar D, pin J, and hook I, with the pivoted lever G and side bars A B, as herein described, for the purpose specified.

2. Adjustably securing or clamping the forward teeth of the side bars A and B in the slotted forward ends of said side bars, substantially as herein shown and described, and for the purpose set forth.

74,349.—James F. J. Gunning, New York, N. Y.—*Clasp for Hoop Skirt.*—February 11, 1868.

Claim.—A fastening for the ends of skirt hoops, consisting of a slip clasp composed of two sockets C D, secured on the ends of the hoops, and provided respectively with a lip *a*, and a knob or projection *b*, all constructed and arranged substantially in the manner as herein shown and described.

74,350.—Benjamin T. Hardesty, Sunderlandville, Md.—*Tobacco Hill Preparer.*—February 11, 1868.—The plows throw the soil inward, which is then reduced by the harrow and smoothed by the roller. The latter is connected to the cross-bar by links, and to the handles by links and chains.

Claim.—The combination of the plow, rake, and roller, and the manner in which the roller is attached.

74,351.—George Harsin and T. M. Kirkpatrick, Kirkville, Iowa.—*Hand Loom.*—February 11, 1868.—A pinion on the cloth roller gears into another on the shaft of the ratchet wheel. As the cloth is woven the feed hand attached to the lever, which is moved backward and forward by the connecting rod fastened to the crank arm, acts on the ratchet wheel. Oscillation is given to the crank arm by a spring. As the double wheel rotates the spring is raised, which pushes forward the feed arm and moves the cloth roller. When the pin passes from under the spring the latter flies back, thus retracting the feed hand.

Claim.—1. The combination and arrangement of the harness frames H, attached to guide rods H^1, the treadles F, cams G, wheel G′, notched bar E, oscillating arm C, rod B, and lathe A, substantially as described.

2. The take-up mechanism, consisting of the wheel G′, and parts K^7, K^6, K^5, K^4, K^3, and K^2, arranged substantially as described.

3. The combination of the reciprocating bar D, wheel L, shaft L′, arms M and N, and picker staff O, substantially as described.

4. The arrangement of the yarn roller I, having a pulley on its end, and the cord I^1, one end being fastened to the frame and the other to the lever I^2, adjustably held in position by the rack I^3, for the purpose of regulating the tension of the yarn roller, substantially as described.

74,352.—Isaac W. Hart and Omer Norton, New Britain, Conn.—*Carpet Fastener.*—February 11, 1868.—The carpet is engaged upon the curved claw of the nail piece, and the end of the other piece brought over to protect it.

Claim.—The combination of the devices A and B for the purpose of a carpet fastener, substantially as herein specified.

74,353.—P. J. Harvey, Chicago, Ill.—*Spring Bed Bottom.*—February 11, 1868.—The elastic straps are passed around pins in the plates attached to the rails, and the ends embraced by clips passing around the slats.

Claim.—The combination of the clasps F, straps D, and metal plates C, all constructed and arranged substantially as and for the purpose set forth.

74,354.—Edward Hatch, Charlestown, Mass.—*Clasp for Belt.*—February 11, 1868.—The inner plate has two longitudinal slots, with ratchet teeth on one side. The spring catches of the outer plate engage the ratchet, and may be slipped over them to tighten the waist belt. To loosen the belt the catches are thrust inward by thumb knobs.

Claim.—Improved belt clasp, composed of the plate A, (formed with the slots *a a*′, and the teeth or serrations *e e*, &c.,) and plate or part B, (provided with the chamber *f*, the spring catches *g g*′, and the stud *i i*,) the said parts being arranged, constructed, and applied together in manner as set forth, and so as to operate as explained.

74,355—Edward Hatch, Charlestown, Mass.—*Collar and Bosom Combined.*—February 11, 1868.

Claim.—The combined collar and bosom, cut or stamped from a single sheet of suitable material, the said bosom being made whole, and the collar being formed and connected therewith, substantially as herein set forth.

74,356.—Thomas C. Hendry, Union Point, Ga.—*Combined Square and Gauge.*—February 11, 1868.—The sliding plates are attached together by a temper screw to regulate the friction. The slide is removable through an enlargement at the end of the slot.

Claim.—The combination of gauge points *i* and *i* with an arm of a common square, by means of a slot *d*, and plates *a a*, or other equivalent device, substantially as shown and described, and for the purpose specified.

74,357.—Curran W. Henkle, Washington Court House, Ohio.—*Corn Planter.*—February 11, 1868.—The distributing wheel is oscillated by a lever operated by a thumb.

Claim.—1. The metallic box C and bottom *e* for the hopper, fitted in the beam A, the box and bottom being both cast in one piece, and all arranged to operate in the manner substantially as and for the purpose set forth.

2. The distributing wheel D, provided with the seed cell *g*, and slot or opening *h*, all arranged to operate substantially in the manner as and for the purpose set forth.

3. The cut-off brush *d*, applied or secured within the metal bottom *e*, to operate in the manner substantially as and for the purpose specified.

74,358.—Tyson Himmelberger, Heidelberg Township, Pa.—*Horse Rake.*—February 11, 1868.—An arm upon the rake head has connection by a rod to wrist pin upon a pinion turned by a wheel, which is actuated by a lever.

Claim.—The arrangement of the rake head A with the axle B, connecting rod M, wheel J and its pinion, and the wheel I with its handle, the whole operating as and for the purpose herein set forth.

74,359.—Robert Hitchcock, Springfield, Mass., assignor to himself, George C. Fisk, and Levi O. Hanson, same place.—*Link Joint for Car Seat.*—February 11, 1868.—The seat is adjustable in inclination.

Claim.—A link joint for car seats in which the end of the link B is pinned in a socket G, the latter having its top and bottom edges tapered each way from a central point in line with the pin E, substantially as is herein shown and described.

74,360.—John S. Hoar, West Acton, Mass., assignor to himself, Nathaniel E. Cutler, and Charles Hastings, same place.—*Chuck for Planing Machine.*—February 11, 1868.—The object is clamped to the upper plate which is hinged to the plate beneath it. The latter has rotary adjustment on the base plate. The upper clamp plate admits of revolution to the extent of 180°.

Claim.—1. The combination of the ledges *m m* and screws *n n* of the plate B with such plate and the plate A, applied together by means and so as to render one plate capable of being revolved on and clamped to the other, substantially as specified.

2. The combination as well as the arrangement of the adjustable eccentric D (or its equivalent) and the auxiliary clamp plate C, (having ledges and screws as set forth,) with the plates B and A, arranged and applied together, and provided with clamp screws, substantially as hereinbefore explained.

3. The combination of the ledges *m m* and their screws with the clamp plate B, the plate A, the eccentric D, and the auxiliary clamp plate C, the whole being arranged and applied together in manner and so as to operate substantially as hereinbefore described.

74,361.—Henry Abraham Holderman, North Manchester, Ind.—*Fruit Mill and Press.*—February 11, 1868.—The fruit is placed in the hopper of the removable cap and is ground by the rotating cylinder. The fruit falls into the inner of two concentric cylinders, and the juice is pressed by the plunger through the perforations of the said cylinder into the annular space between the cylinder, from whence it discharges through a spout.

Claim.—The two cylinders D E, fitted one within the other, and the inner cylinder E, perforated as shown in connection with the cap G, grating cylinder G^x, and the strainer I, all arranged to operate in the manner substantially as and for the purpose set forth.

74,362.—ISAIAH HONEYWELL, Toledo, Iowa.—*Bee Hive.*—February 11,1868.—The two sections have a double grate between them, making a partial separation, which is rendered complete by a metallic plate which is thrust between the grates.

Claim.—The combination of the boxes A, metallic partition B, caps C, cover E, and honey board D, respectively, constructed and arranged for use substantially as set forth.

74,363.—ELIJAH HORTON, Okee, Wis.—*Wagon Spring.*—February 11, 1868.—The spring bars are on each side of the bolsters, and are connected by iron straps. The bars rest upon blocks of rubber.

Claim.—1. The stirrup C, constructed and applied substantially as shown and described for the purposes set forth.

2. In combination with the stirrup C, the rubber spring D, the cross-bars E, the ties *a*, and the cups *b*, arranged substantially as shown and described, for the purposes specified.

74,364.—MICHAEL HOUSMAN and SIMEON HOUSMAN, Huntington, Ind.—*Corn Sheller.*—February 11, 1868.—The jaws have spiral ribs on the inner surface which serve to shell the corn. The jaws are forced together by spiral springs.

Claim.—The shields A A, in combination with the jaws B B and the claws D D, constructed and operating substantially as and for the purpose herein described.

74,365.—GEORGE S. HULL, Washington, Iowa.—*Fruit Mill.*—February 11, 1868.—The concave may be of cast iron and slightly serrated. The cylinder is adjustable to and from the concave, its journal arms admitting of the necessary movement. It is secured in position by set screws.

Claim.—The combination and arrangement of the concave plate B, the cylinder A, and the adjustable stirrup *c*, substantially as and for the purposes described and set forth.

74,366.—THOMAS HULL and ALEXANDER H. VAIL, Poughkeepsie, N. Y., assignors to themselves and E. WRIGHT VAIL, New York, N. Y.—*Lubricating Compound.*—February 11, 1868.—Composed of petroleum tar. 10 lbs.; paraffine, 2 lbs.; white clay, 1 lb., and plumbago, 2 oz.

Claim.—1. The use of white clay with oily matter or materials, to form a lubricating compound, substantially as specified.

2. The combination with white clay, to produce a lubricating compound of petroleum tar, paraffine, and plumbago, essentially as herein set forth.

74,367.—ASA HURD, Yonkers, N. Y.—*Buckle.*—February 11, 1868.—The adjustable end of the strap is held between the spring dog and serrated roller.

Claim.—1. The combination of the spring c' with the extension c' of the clamping tongue D, substantially as and for the purpose specified.

2. The frame A, constructed with its end a' turned at right angles to its flat portion *a*, slotted as shown at a'' b', and provided with arms *b*, substantially as and for the purpose specified.

74,368.—H. JACKSON, New York, N. Y.—*Game.*—February 11, 1868.

Claim.—A game consisting of a box divided into compartments, representing the different departments of the government, in connection with counters B, and a pack of cards composed of two kinds, one kind being simply numbered, and the other numbered and named, as designated, in accordance with the compartments in the box, all arranged or devised substantially as herein shown and described.

74,369.—JAMES A. JACKSON, Macon, Mich.—*Bee Hive.*—February 11, 1868.—The supplemental tops are fitted inside the honey boxes for attachment of the comb, and to be removed therewith.

Claim.—The supplemental tops *j* fitted in the spare honey boxes, substantially in the manner as and for the purpose set forth.

74,370.—MILTON C. JEFFERS, New York, N. Y.—*Combined Fodder Cutter and Corn Husking Machine.*—February 11, 1868.—The corn stalks pass between the rollers, and the ears being nipped off by the spiral knives of the lower roller, fall through the slide aperture upon the inclined rollers which remove the husks.

Claim.—1. The cylinder of knives C, mounted so as to be reversible, in combination with the roller B, sliding board G, gearing I, and husking rollers H H, as set forth, so that the husking mechanism is disconnected by reversing the cylinder C, and the hopper covered by the board G when the machine is used as a fodder cutter, as specified.

2. The springs K applied to the cap J, in combination with the inclined husking rollers H and pins *b*, to facilitate the separation of the husks from the ear, as set forth.

74,371.—C. S. JEWELL, Black's Mill, N. J.—*Weeding Implement.*—February 11, 1868.

Claim.—As a new article of manufacture. a weeding implement, constructed as described, and consisting of a plate A, one end, B, of which is curved and flattened, and the opposite extremity C forming a chisel, provision being made for the attachment of a strap, D, all as set forth.

74,372.—JOHN JONES, Newark, N. J.—*Smoothing Iron.*—February 11, 1868.—The sides of the handle are jointed together, and their out-turned lower ends are held in the mortises by right and left hand screw bolts, which are pivoted to the upper ends of the said sides, and upon which the handle is screwed.

Claim.—1. One or more screws, in combination with a handle and movable handle frame, as described in this specification, or its equivalent, for the purpose specified.

2. The smoothing iron with mortises, or its equivalent, in combination with a movable handle, when operated on by one or more screws, as described, and for the purpose specified.

74,373.—PHINEAS JONES, Newark, N. J.—*Rein Holder.*—February 11, 1868.

Claim.—The adjustable rein holder or clamp A B C, adapted to gripe the rein with a lever pressure, when drawn by the hand of the driver, substantially as and for the purposes set forth.

74,374.—THOMAS J. JONES, Scranton, Pa.—*Puddling Furnace.*—February 11, 1868.—The arched roof of the furnace, iron chamber, and neck is formed of a course of brick with troughs above in which water circulates.

Claim.—The combination of the brick and bosh, as herein described, and used with a furnace, substantially as and for the purposes specified.

74,375.—ALBERT KAZENMAYER and LOUIS VALOIS, Newark, N. J.—*Burglar Alarm.*—February 11, 1868.—The device is attached to the door frame with its tripping lever in position to be swung around by the opening door. When the lever is moved from beneath the spring bolt the latter explodes the torpedo in the box beneath.

Claim.—The combination of the box L with its hinged cover K, and the lever H with bolt A and spring, all as and for the purpose specified.

74,376.—CHARLES KELLOGG, Detroit, Mich.—*Apparatus for Boring Links.*—February 11, 1868.—The device is for boring a number of links of a precisely similar length, and has a stud fitting the first reamed hole, the pin of the reamer being slightly tapered and entering a steel-bushed socket in the plate.

Claim.—The plate A bearing a standard stud D, and provided with an adjustable end rest B, or its equivalent, and hole *n*, all substantially as shown and described and for the purpose specified.

74,377.—Charles Kellogg, Detroit, Mich.—*Machine for Forming Eyes on Metal Rods.*—February 11, 1868.—The frame has a clamping recess for the rod, whose end is bent around the stud by the flange roller upon the lever.

Claim.—1. The lever L and stud E, or their equivalents, substantially as shown and described, in combination with the plates A B C, or their equivalents, and the adjustable guide plate D, or its equivalent, all constructed, arranged, and operating substantially as and for the purpose set forth.

2. The lever M, collar *h*, flanged roller N, and the stud E, or other equivalent device, substantially as shown and described, and for the purpose specified.

3. The subject-matter of the first claim, in combination with the catch *l*, or its equivalent, substantially as shown and described, and for the purpose set forth.

4. The improved bending apparatus herein described, operating in the manner and for the purpose substantially as set forth.

74,378.—Theodore D. Kellogg, New York, N. Y.—*Preserving Bait for Fishing.*—February 11, 1868.—The bait is placed in a metallic case surrounded on its bottom and sides by a chamber to contain the freezing mixture, and this chamber is surrounded by double walls.

Claim.—A bait preserver, made and operating substantially as herein shown and described.

74,379.—Michael Kelly, New York, N. Y.—*Fence.*—February 11, 1868.—The "thorns" are placed upon the wires and compressed laterally upon them to tighten them.

Claim.—1. The thorns E, produced by dies or otherwise, in the form substantially as represented, and adapted to be secured in place upon a wire by compression laterally both of the thorn and wire, as and for the purposes herein set forth.

2. The thorns E and wire D, combined in the manner represented, and adapted for use in a fence, as herein set forth.

3. The within-described fence, formed by the combination of the thorny parts D and E with suitable posts C, and with the addition of the large rope G adapted for joint operation, as and for the purposes herein specified.

74,380.—Henry Killam, New Haven, Conn.—*Cross Strap for Carriages.*—February 11, 1868.—The cross straps are made of rubber, so as to act when the carriage is loaded.

Claim.—Constructing the cross straps for carriages wholly or in part of rubber or other elastic material, substantially as and for the purpose described.

74,381.—William A. L. Kirk, Hamilton, Ohio.—*Workmen's Time Register.*—February 11, 1868.—The cylinder is fixed on a vertical spindle attached to a coiled spring which gives it motion when free to move, and has a catch lever connected with a clock movement that trips the lever from time to time as desired, to allow the time box to revolve a certain space to change the compartments for reception of checks of the workmen as they commence or quit work, which is registered by series of figures on the circumference.

Claim.—1. The cylinder A, divided into two sets of time compartments, circumferentially and segmentally, as described, rotated by the spring *e* from time to time, and provided with a catch lever connected with a clock movement, and working in a ratchet, as and for the purposes specified.

2. The combination of the cylinder A, marked with sets of figures corresponding to the hours and to the time compartments within the cylinder, as described, and the movable covers *h k*, provided with stop springs *s* and port holes *m m*, for indicating the time of a workman's commencing and quitting work, as herein shown and set forth.

74,382.—William Knoch, Allegheny City, Pa.—*Axle for Vehicles.*—February 11, 1868.—The obliquity or "gather" is given to the spindle by a conical case which is placed upon the end of the square and straight axle, the chamber beneath the case being filled with saturated fibrous material from which the oil passes through holes in the lower side of the case.

Claim.—The tapering spindle B, constructed as described, fitting eccentrically upon the square shank of the axle, the hole in the front end of said spindle being in its center, and the hole in the inner end placed near the lower edge, in such a manner that the under side of the axle lies parallel with the lower perforated side of the spindle, and an inclined lubricating chamber formed above the axle, as herein described for the purpose specified.

74,383.—Hermann Koeller and Wilhelm Uecke, Camp Point, Ill.—*Hand Seed Planter.*—February 11, 1868.—The approach of the handle levers opens the shovels and oscillates the seed plate.

Claim.—1. The oscillating disk E, when provided with two or more holes *g h*, of different diameters, and when adjustable on the plate B, having the drop hole *a*, so that any desired hole of the disk may be employed for measuring and conveying the charge of grain to the drop hole, substantially as and for the purpose herein shown and described.

2. The oscillating disk E, when provided with two or more holes *g h*, of different diameters, in combination with the shaft C and cranks *c c*, hooked rods *f*, and oscillating levers D D, all made and operating substantially as and for the purpose herein shown and described, and in combination with the shovels G G, made as set forth.

74,384.—George Lane, New York, N. Y.—*Door Hinge.*—February 11, 1868.—The hinges have bearings on side knuckles, from which weighted chains pass over sheaves in the framing.

Claim.—1. The knuckles C C′ and grooves D D′, when arranged on the door and its frame, substantially as described, so as to allow the same to be swung open to both sides, as set forth.

2. The above, in combination with the weight or weights F F′, or their equivalents, made and operating substantially as and for the purpose herein shown and described.

74,385.—Charles H. Lavis, Philadelphia, Pa. assignor to Philip Farley, same place.—*Tube Hole Cutter.*—February 11, 1868.—The head of the stock has adjustable tools and a spring center which retreats as the annular groove is deepened.

Claim.—The tool, as a whole, when its several parts are combined, constructed, and arranged as set forth.

74,386.—Samuel Lloyd, Washington, D. C.—*Heating and Ventilating Railroad Cars.*—February 11, 1868.—The air is heated in the hood of the locomotive, or in a fire-proof car at the head of the train, and is conveyed through the pipes to the cars in the rear. The couplings between the cars are flexible. Air for ventilation is conducted through the same or a similar pipe.

Claim.—1. The valve *x*, in combination with the heating pipe *b* and the ventilating pipe *c*, in the manner set forth.

2. Heating and ventilating a train of cars by means of a fire-proof heating car, containing furnaces, calorie engine, blower agitator, receiver, and pipes, arranged and operating substantially as and for the purpose herein set forth.

3. A flexible connecting pipe forming a continued hot-air flue between cars, and attached to the heating or ventilating pipes, by means of a screw cap at one end and a sliding tube at the other, in manner and for the purpose set forth.

74,387.—Horace Lord, Hartford, Connecticut.—*Breech-loading Fire-arm.*—February 11, 1868.

Claim.—1. The employment, in combination with an altered gun barrel (having its rear portion cut out to accommodate a movable breech block) of a reinforce or strengthening band, or external tube, substantially in the manner and for the purpose described.

2. So arranging the reinforce as to protect the extractor and lock down the forward end of the breech piece, as specified.

3. Forming the reinforce with projecting ears for a leaf sight, substantially as described.

74,388.—Robert O. Lowry, Saratoga Springs, N. Y.—*Spring Bed Bottom.*—February 11, 1868.

Claim.—A bed bottom, consisting of a series of independent slats D, suspended on the stiff springs B at the head and the weaker springs C at the bottom, substantially as shown and described.

74,389.—John D. Lynde, Philadelphia, Pa.—*Water Indicator for Boilers.*—February 11, 1868.—The float is within a chamber, communicating with the water space at the lower water level, and communicating with the whistle through the port of an inwardly-opening spring valve. When the water falls beneath the lowest allowed level the forward point of the float lever tips the valve and admits steam to the whistle. A spring try-cock communicates with the chamber beneath the whistle, and the inner end of its stem impinges when thrust in against the outer end of the inner valve stem, and allows the passage of steam or water into the said chamber, at the same time shutting off the steam whistle and opening the exit.

Claim.—The arrangement of the lever G, valve stem F, spring H, valve M, pipe N, with reference to the float B, whistle L, and case A, whereby to sound an alarm when the water is too low in the boiler, and to ascertain the condition of the water at other times, substantially as set forth.

74,390.—John Maclure, Newark, N. J.—*Manufacturing Harness Pads.*—February 11, 1868.—The lower leather is placed in the recessed die and the hair placed in it. The pad plate is then placed on top, then the binding leather. The grooved plate is placed on top of the latter. The treadle jaw is next brought down and held by the ratchet. The grooved plate guides the knife in trimming the leather.

Claim.—1. The revolving table A, with the adjustable shaft B and the projecting jaw B′, substantially as and for the purposes herein shown and described.

2. The thin middle piece of leather c', in combination with the pad plate F and leather a', substantially as and for the purposes described.

3. The former G with the groove h, whereby I am able to stuff the pad by pressure and cut the leather evenly for binding, substantially as specified and shown.

4. Stuffing pads by pressure, whereby I am enabled to obtain an even surface and uniform density in the pad, substantially as described.

5. In combination with the grooved former G, the tool J, substantially as and for the purposes set forth.

6. Lining the dies E, either in whole or in part, with India-rubber, substantially as described.

74,391.—Thomas J. Magruder, Marion, Ohio.—*Harness Trimming.*—February 11, 1868.—The terrets and check hook are upon frames, which are adjustable upon straps of the harness and secured by screws, which engage the frames and straps.

Claim.—1. The rein hook B, Fig. 3, in combination with the center bar, burr plate B′, and screw a^1, or its equivalent, substantially as shown and described, and for the purposes set forth.

2. The loop, center bar, burr plate B′, in combination with the center bar a, substantially as shown and described, and for the purposes set forth.

3. The rein hook B, Fig. 6, in combination with the projection c and center bar a, substantially as shown and described, and for the purposes set forth.

4. The rein hook B, Fig. 9, in combination with the loop e and cross bar a and shoulder s, substantially as shown and described, and for the purposes set forth.

5. The center-bar, burr plate d', Fig. 1, in combination with the terret D, substantially as shown and described, and for the purposes set forth.

74,392.—George Mallory, Bridgeport, Conn.—*Hat.*—February 11, 1868.

Claim.—The combination of the brim of a hat with a drooping hoop, so that the brim is caused to droop at the front and the rear, and to rise at the sides, substantially as set forth.

74,393.—W. S. Mallory, Batavia, N. Y.—*Railroad Rail Coupling.*—February 11, 1868.—The splice pieces are formed of wood, and are reversible. The said pieces are attached to the ties by screw bolts, by nut bolts, or by slotted bolts, which extend through the splice pieces and ties, respectively, and are connected by a tapering key traversing the slots.

Claim.—1. The arrangement and combination of the keys k, slotted bolts h and m, and splice pieces d, in their relation to the rails of a railroad, in the manner and for the purposes herein described.

2. The combination of the central splice piece b with its plate n, in combination with the rails a a, the same being held in place and position by means of screws g and keys and bolts, in the manner and for the purposes herein described.

74,394.—E. J. Manville, Waterbury, assignor to himself and E. M. Judd, Wolcottville, Conn.—*Machine for Making Sewing-machine Needles.*—February 11, 1868.—The blank is grasped by one of the series of jaws and presented progressively to a cutter, a grooving tool, a similar tool to groove the opposite side, a punch, and a polishing wheel. The jaws are upon sliding stocks, which are moved radially by a cam groove, to cause the necessary rotation in the presentation of the blank to the tools.

Claim.—1. The sliding stocks s, having a hole corresponding to the size of the needle blank, with an adjustable cutter outside said stock, in combination with the revolving spindles g, arranged as shown, and moved progressively, so as to present the needle blanks successively to the operation of said cutter while the blank is being revolved, as set forth.

2. The spindle g, rim 11, wheel p, and sliding bevel gears o, in combination with the springs 8 and grooved cam 7, (or equivalent mechanism for moving the gears o,) all arranged in such a manner that the needle blank will be revolved while being turned, and will be held in a fixed position while being grooved and punched, substantially as set forth.

3. The holding jaws i and heads n upon the spindles g, in combination with the sliding blank supplier q, substantially as and for the purposes set forth.

4. The general arrangement and combination of the blank-supplying slide q, the spindles g, the jaws i, the turning mechanism, the grooving and punching devices, and the means for revolving and for holding the spindles during the respective operations, substantially as set forth.

74,395.—Louis H. Marburg, Baltimore, Md., assignor to himself and C. L. Marburg, same place.—*Packing Tobacco.*—February 11, 1868.—The elastic band may surround the bag or act as a sphincter upon the mouth.

Claim.—The method of packing tobacco, above described, consisting of the circular elastic band B, attached to a bag A, in the manner shown, and operating to close it automatically, substantially as and for the purposes specified.

74,396.—J. L. Marsh, Richmond, Ind.—*Churn Dasher.*—February 11, 1868.—Conical blocks are suspended by cords from rectangular teeth at the lower side of the radial horizontal arms of the vertical rotating shaft.

Claim.—A rotary churn dasher, constructed with the shaft A, arms C, teeth D, and blocks E, attached thereto by cords E′, said parts being arranged to operate substantially as described.

74,397.—Charles Martin, Chancery Lane, England.—*Reduction of Refractory Iron Ore.*—February 11, 1868.—Additional tuyeres are placed in an oblique position horizontally and in relation to the sides of the hearth, so as to force air into the molten metal and cause revolution in the same.

Claim.—The methods of reducing refractory iron ores, and of constructing furnaces for such operations, as substantially hereinbefore described and set forth, or any mere modifications thereof.

74,398.—William J. Martin, Catawissa, Pa.—*Attachment for Plows.*—February 11, 1868.—The adjustable inclined bar is for the turning down of weeds, so that they may be perfectly covered by the furrow slice.

Claim.—1. The sweep or bar C, attached to the

beam A, and arranged in relation with the mold-board D, substantially as and for the purpose specified.

2. The adjusting links *c d*, and tightening bolt *f*, in combination with the sweep or bar C and the beam A, substantially as and for the purpose specified.

3. The chain or brace D, arranged in relation with the sweep or bar C, and the beam A, substantially as and for the purpose specified.

74,399.—G. M. McMahan, Mount Sterling, Ky.—*Window and Door Blind and Awning.*—February 11, 1868.—The metallic blind is hinged at top, and is drawn upward by cords to form an awning. Rods hinged to its outer edge are let down to form supports.

Claim.—1. The metallic awning herein described, composed of the strips A A, provided with overlapping flanges and grooves *a a'*, and hinged to the building, so as to be capable of being lowered and fastened down, so as to form a metallic shutter or blind, or the protection of the doors or windows of the building, substantially as described.

2. In combination with the foregoing, the catches or locks *m m*, cords I I, roller D, and crank E, substantially as and for the purpose specified.

74,400.—John H. Mears, Oshkosh, Wis.—*Mop Wringer.*—February 11, 1868.—The pressure rollers are journaled upon the hinged standards and upon the hinged arms respectively, and are brought together upon the mop by the spring treadle.

Claim.—1. The hinging of the rectangular standards B B to the horizontal frame A A, the hooks *s s*, the hinged arms C C, and the detachable connection at *d''*, when arranged substantially as described for the purposes set forth.

2. The hinged arms C C, the spring lever D, and the bail *g*, when arranged relatively to each other and to the rollers E E, standards B B, frame A A, and treadle F, as and for the purposes set forth.

74,401.—David Morris, Bartlett, Ohio.—*Implement for Extracting Nails.*—February 11, 1868.—One of the pinching jaws is attached to the fulcrum block and the other to the lever that is pivoted thereto, so that pressure upon the lever tightens the jaws upon the nail.

Claim.—The implement herein described, consisting of the jaws J J', handle A B, jaws *c c*, claws *e e*, and the head H, provided with face *f*, the whole constructed and arranged as described, as an article of manufacture.

74,402.—Cyrus B. Morse, Rhinebeck, N. Y.—*Bobbin for Spinning.*—February 11, 1868.

Claim.—Packing bobbins by boring holes through them obliquely to the line of their axis, in such a manner that the holes shall intersect the plane of a transverse section of a bobbin at points equidistant from its center, and inserting therein twine, rubber, or other equivalent packing, substantially as and for the purposes herein shown and described.

74,403.—William Mullally, Boston, Mass.—*Lamp.*—February 11, 1868.—The chimney supporter has a circular series of thin springs, which serve by their outward pressure to engage the chimney.

Claim.—1. The chimney expansive and elastic base supporter, constructed substantially in manner and so as to operate substantially as described.

2. The combination as well as the arrangement, as explained, of the chimney expansive and elastic base support and its air passages with the foraminous or perforated burner body and wick tube.

3. The combination as well as the arrangement of the chimney expansive and elastic base supporter with the cone or air deflector, the wick tube, and the perforated or foraminous burner body, arranged as represented.

74,404.—John S. Mullin, Port Monmouth, N. J.—*Steam Generator.*—February 11, 1868.—The tube sheet and tubes are inclined. The caloric current, after reaching the rear chamber, follows a downwardly-curved course, and part of it is conducted back to the furnace. This current is assisted by a funnel at the locomotive front, which draws air into a flue connecting with the return flue mentioned.

Claim.—1. The inclined fire tubes B and inclined tube sheets *a a*, in combination with a steam boiler, substantially as shown and described.

2. The extension of the smoke stack or chimney of a steam boiler near the bottom of the smoke chamber, substantially as shown and described.

3. The double deflector F, whereby the sparks are conducted into the channel H, substantially as described.

74,405.—Joseph H. Mullin, Schellsburg, Pa.—*Horse Hay Fork.*—February 11, 1868.—Toggle levers within the stem are thrust outward to engage the hay by drawing up the inner stem. The latter is kept up by a catch upon a spring lever. The lever is drawn out by a cord to release the stem.

Claim.—The combination, substantially as described, of the shank, the loop E, the slotted sliding bar, and the spring latch, for the purposes set forth.

74,406.—David Munson, Indianapolis, Ind.—*Lightning Rod.*—February 11, 1868.—The corrugations are so sharp that the inner corners hold moisture by capillary attraction. The sections are slotted close to the ends to admit the traverse of the binding strap by which they are connected.

Claim.—1. The lightning conductor, made of sheet copper, tinned on one surface, and formed in flutes or folds, substantially as and for the purpose set forth.

2. Fastening the sections A together, by means of the strap B, in the manner substantially as set forth.

72,407.—Frederick Myers, New York, N. Y.—*Machine for Bundling Kindling Wood.*—February 11, 1868.—A charge of the pieces of kindling falls from the chute into one of a series of boxes upon an endless belt, and is carried over the clamps, into which it is dropped by the opening of the bottom. The clamps are then closed by cams and the wire passed around within a groove in the clamps. The wire is then automatically cut and twisted.

Claim.—1. The grooved semicircular clamps G G', constructed as described, pivoted together and to the standards *g''* at *u*, and provided with projections *g*, pivoted lifter *n'*, spring *c*, and points *b''*, all operating as described, for the purpose specified.

2. The grooved semicircular clamps G G', in combination with the spring cams E E', substantially as described, for the purpose specified.

3. The boxes D, upon the endless belts B, constructed as described, having the hinged bottoms *d'*, operated by the catch *a''* and arm *b*, to permit the fagots to fall beneath the jaws G G', constructed and operating, substantially as described, for the purpose specified.

4. The guide *c*, having the angular slot *e'*, in combination with the chute E''', sliding bottoms *e'' e'''*, angular slotted plate *j*, and spring *o*, substantially as described, for the purpose specified.

5. The combination of the rollers *h h*, hollow shaft *p*, beveled gears O X, bevel gears O' W, the latter upon shaft *w*, slotted spindle *m*, shaft *t*, segmental gear wheel S, and the wire cutter *f*, substantially as described, for the purpose specified.

6. The plunging disk *i'*, supported centrally upon the arm V''' by means of the right-angular arm V'' V, and operated through the plate *i* by means of the pivoted spring lever V' and arm R upon shaft F, constructed to operate as herein described, for the purpose specified.

7. The spring door *i'''*, hinged to the vertical plate *i''*, and operated by means of the fagots passing between the clamps G G', under the impulse of the plunger *i'*, substantially as herein shown and described.

8. The lifting lever *n'*, for lifting the severed end of the fagot wire *n*, substantially as shown and described.

9. The spring M'''', for closing the bottom *d'* of the fagot boxes, substantially as shown and described.

74,408.—W. T. Nichols, Rutland, Vt.—*Portable Railway Elevator.*—February 11, 1868.—The frame of the conveyer is made in jointed sections, to admit of use upon surfaces of varying inclination.

Claim.—1. The construction of the sections G of

the frame or gang plank with railway tracks, and with beveled and hinged or jointed ends, as and for the purposes set forth.

2. The construction of the endless chain *a*, of metallic plates, with flanges bent at right angles to the upper surface upon which the platform F is fastened, when said links are connected by transverse bolts, which bolts carry wheels upon the outside of the flanges, and gear into the driving wheel, as shown and described.

3. A portable railway elevator, constructed in sections as described, carrying an endless platform, when the same may be hinged or jointed together, and each section operated at a different inclination or plane, or separated, so as to carry a section of said endless platform independently.

4. The arrangement of separated sections of the elevator, by means of their driving-band wheels C C, pulleys D D, and rope E, so as to operate at an angle with each other, as shown and described, and for the purposes set forth.

74,409.—Jacob Nacher, La Crosse, Wis., assignor to himself and A. Renggly and J. Ulrich, same place.—*Meat Cutter.*—February 11, 1868.

Claim.—1. An automatic machine for cutting or chopping, composed of a block K, moving backward and forward under the reciprocating knives I, in combination with the guard *o* and pawls *n* and wheels a^2, by means of which the motion of the same is reversed, substantially as shown and described, and for the purposes set forth.

2. The pawls *n*, in combination with the cross head H and wheels a^2 and shaft L and pinion e^2 and rack *e* and block K, substantially as shown and described, and for the purposes set forth.

3. The lever *s*, in combination with the guard *o* and starts e^1, substantially as shown and described, and for the purposes set forth.

4. The plates J, in combination with the uprights B and knives I, substantially as shown and described, and for the purposes set forth.

5. The pawls *n*, in combination with the reversible guard *o* and wheels a^2, substantially as shown and described, and for the purposes set forth.

74,410.—W. H. Nobles, St. Paul, Minn., and M. V. Nobles, Elmira, N. Y.—*Steam Generator.*—February 11, 1868.—The smoke from the flues passes into a chamber, where it is subjected to a jet of water, and blown by a rotary fan wheel down an inclined pipe to the space beneath the furnace; from thence the vapors and gases pass to the fire, and the ashes are discharged through a waste pipe. The heated blast flues and chamber have a water jacket to keep them cool. The ash pit contains water to extinguish the ashes before their entrance into the waste pipe.

Claim.—1. The combination of the fan wheel case K and the water chamber L, as herein described and set forth.

2. The combination of the water chamber E and wheel G, as herein described and set forth.

3. The arrangement of the inner and outer cases K and L, wheel G, discharge opening H, flue F, and chamber D, whereby to conduct the heat and smoke from the fireplace and back in one continuous rotating course, substantially as herein set forth.

74,411.—Omar P. Norris, Fostoria, Ohio.—*Combined Sheep Rack and Shelter.*—February 11, 1868.—The shed is made in sections to admit of removal on a wagon, and is placed on runners for movement in the field. The feed troughs are opened on the outside for introduction of hay, which is accessible through racks on the inside.

Claim.—1. The herein described sheep shed, when constructed in sections, so that it may be taken apart, in the manner as and for the purpose set forth.

2. The arrangement of the racks C and troughs D, in combination with the shed A, for the purpose and in the manner substantially as set forth.

74,412.—W. A. C. Oaks, Reading, Pa., assignor to Harbster, Brothers & Co., same place.—*Window Shade Fixture.*—February 11, 1868.—The lip at the lower end of the sliding-hook bar takes beneath the zigzag spring in the case. The hook serves to hold the shade cord.

Claim.—The combination of the recessed guide plate A, the zigzag spring *c*, and the slide B, substantially as and for the purpose specified.

74,413.—Charles H. Palmer, New York, N. Y., assignor to himself, Newton Palmer, and Joseph Heinrich, same place.—*Hanging Window Sash.*—February 11, 1868.—The sashes are pivoted to the sliding bars, so that the sash can be turned into a horizontal position.

Claim.—The combination and arrangement of the flanged sashes B, the disks, packings *b b*, flanged sliding bars C, weather strips and pivots *a*, all constructed and operating as described, for the purpose specified.

74,414.—John Palmer, Mechanicsburg, Pa.—*Buggy Top Roller.*—February 11, 1868.—The shank of the top prop is covered by an India-rubber cylinder for the bows to rest on, and has a strap to hold them firmly.

Claim.—The combination of a gum elastic cylinder A, and its strap and buckle B and C, with the screw bolt F and top bows D of a falling top buggy, as herein described and for the purposes set forth.

74,415.—Josiah M. Patton, Tipton, Iowa.—*Bee-Hive.*—February 11, 1868.—The double walls are grooved into the corner posts, and contain some thermal non-conductor between them.

Claim.—The corner posts *b*, when grooved their entire length upon two sides, to receive the walls *c c'*, with a space *a* between them, the outer wall *c* having an external covering *d* secured to it, as herein shown and described.

74,416.—Oliver Pearl, Lawrence, Mass.—*Spinning Throstle.*—February 11, 1868.—The weight above and below the whirl is balanced by extending the tubular bearing below the whirl, which is sustained in a tube set in the top rail, with bearings above and below, to prevent vibration and consequent irregular wear.

Claim.—An inverted flier, provided with a ring, a whirl, and an elongated tubular extension, substantially as described, combined with the spindle and the elongated tubular bearing, as shown and for the purpose set forth.

74,417.—George Perry, Georgetown, Conn.—*Cultivating Grape Vines.*—February 11, 1868.—The vines are planted to a circle of stakes twelve feet in diameter, and contain twelve stakes. Each vine, the second season, is laid down in a layer to an adjoining stake in the same direction, and this is continued year after year. In four years the original root is dug up, and this process is continued year by year, always removing the roots which have been four years set.

Claim.—The herein described mode or system of cultivating vines and removing the oldest roots, so as to preserve a vigorous and healthy growth, with new roots, for an indefinite period of time.

74,418.—O. E. Pickett, North Auburn, and R. S. Luce, Lawsville Center, Pa.—*Fire and Burglar Alarm.*—February 11, 1868.—The hammer and other mechanism is tripped by breaking the connection either by forcible entrance or by fire; the alarm is thereby sounded and candle ignited.

Claim.—1. The set *h*, the lever trigger *g*, and the trip rod *e*, combined with the escapement *c*, the hammer *d*, the bell B, the wheel *b*, and the spring *a*, when arranged and operating as and for the purpose described.

2. In combination with the alarm device, the pawl *m*, the igniting plate C, the spring *s*, and the match holder *n*, provided with the spring *p*, arranged and operating as and for the purpose set forth.

74,419.—O. Poole, Detroit, Mich.—*Culinary Boiler.*—February 11, 1868.—The steamers are supported within the boiler upon their flanges, and separated when desired by the removable transverse partition. The drip from the larger steamer or basket drips into a trough, from which it is con-

ducted through a pipe having a faucet outside the boiler.

Claim.—In combination with the boiler A, perforated baskets D, E, and F, and removable partitions C and G, the spout H, constructed and arranged substantially as herein described and for the purpose set forth.

74,420.—E. N. PORTER and P. P. ROBERTS, Morrisville, Vt.—*Potato Washer.*—February 11, 1868.—The rotary frame has a circular series of round posts connecting the two horizontal disks. The lower disk is perforated.

Claim.—The vertical potato washer E rotating in a pail with flanges B, on the inside, when constructed and combined as herein described and for the purposes set forth.

74,421.—JOHN W. POST, Castile, N. Y.—*Skate.*—February 11, 1868.

Claim.—1. The heel fastening, consisting of the lever, pivoted on a sleeve *d*, and made adjustable by means of the set screw F, substantially as described.

2. The pivoted lever G, having a serrated rear face, and secured to the foot plate H, substantially as set forth.

3. The device for adjusting the pivoted lever G′, consisting of the sleeve *d*, moved by the set screw F, provided with a shoulder *f*, which has its bearings in the cross-slot of the slot *e*, in the bracket E, substantially as described.

4. The clamps L, provided with spurs *k*, in combination with the partly serrated slots K, substantially as and for the purposes described.

5. The V-shaped cut *i* in the standard C, and the correspondingly shaped bracket I, substantially as and for the purposes set forth.

74,422.—HIRAM W. RANSOM, Lawrenceburg, Ind.—*Fifth Wheel for Carriages.*—February 11, 1868.—The lower bearing of the lower segmental bar is against a sliding block kept in contact with the said bar by a rubber spring block.

Claim.—The block H, which forms a bearing for the fifth wheel F, and which is provided with a wing on each side, whereby the rubber D is held in the safety guard G, as and for the purposes set forth.

74,423.—BENJAMIN W. REMINGTON, Providence, R. I.—*Curry-Comb.*—February 11, 1868.—The dirt falls through the slots of the plate stretched beneath the teeth, and is prevented from returning by the angular plate fastened beneath each slot.

Claim.—1. The plate A, as applied to a curry-comb, and forming a dirt receiver, substantially as described, and for the purpose set forth.

2. The plate B, in connection with A, for preventing the dirt from falling back, after passing through the slot into the receiver, all substantially as described and for the purpose specified.

74,424.—CHARLES L. RICE, Dunmore, Pa.—*Spring for Vehicles.*—February 11, 1868.

Claim.—The combination of the side springs E, whose lower ends are hinged at *a* to each side of the reach, and whose upper curved ends are hinged to the sides of the wagon body, and the spring F, whose inner end is secured to reach between the springs E, and whose forward end passes through the springs D, and is bent over and hinged to the forward edge of the upper part of said spring, all arranged and operating as described, to prevent the longitudinal and lateral movements of the body, as herein set forth.

74,425.—JOHN RICHARDSON, New York, N. Y.—*Machine for Bundling Kindling Wood.*—February 11, 1868.—The kindling is carried into the receiver by the endless belts. Spring plates in the latter give way as the wood enters. When the receiver is full, the plunger forces the contents into the sharp edged bundling tube. When the plunger is retracted, the sliding section still covers the feed opening for a limited time.

Claim.—1. The carrier belt A, in combination with the belt B, mounted in the hinged or pivoted frame, when arranged to operate substantially as described, for the purpose of feeding the wood to the receiver E, as set forth.

2. The plates 1, 2, 3, so arranged within the receiver E, to receive the wood, said plates being arranged to yield as the wood is fed in, substantially as described.

3. The sliding section or slide *a*, arranged to close the aperture through which the wood is fed into the receiver E, and automatically to open the same, as the plunger is drawn back, when constructed substantially as herein shown and described.

74,426.—ISAAC C. RICHMOND, West Meriden, Conn., assignor to H. C. HULL, same place.—*Snap Hook.*—February 11, 1868.—Each of the two parts forms a perfect hook, and their ends are halved together to form a loop. They are pivoted together, open laterally, and are pressed together by a spiral spring.

Claim.—The combination of the two parts A and B, pivoted and joined together in the manner described, and so as to open by turning one part from the other to the right or left, as the case may be, as set forth and specified.

74,427.—JOSEPH RIDER, Newark, Ohio, assignor to himself and E. REMINGTON and SONS, Ilion, N. Y.—*Snap Ring for Fire-arms.*—February 11, 1868.—The ring is open, and its ends are inserted in the sockets, after which a pin is inserted, which traverses the socket between the ends and prevents side movement of the ring.

Claim.—Uniting a swivel bow to the guard strap or band, by means of the lug and pin, substantially as described.

74,428.—JOSEPH RIDER, Newark, Ohio, assignor to himself and E. REMINGTON and SONS, Ilion, N. Y.—*Breech-loading Fire-arm.*—February 11, 1868.—The dog is pivoted to a projection upon the hammer. A projection on the dog takes against a shoulder on the locking brace of the breech block when the hammer is drawn back, and causes the retraction of the brace; the breech block is then thrown back by the spring and throws out the shell. The breech block, also, strikes the dog and releases the brace therefrom. When the breech block is closed up to the barrel, the brace is thrown into engagement with it, ready for discharging.

Claim.—1. In combination with the spring *f*, the groove and abutment 5 across the groove, so that, when the breech block is replaced after having been taken out of the arm, said spring will find its place in connection with the breech block, and go into action with it, without any care or attention on the part of the user, substantially as described.

2. Hanging the hammer on the two centers *h* and *i*, so that it can move at times on one and at times on the other, as and for the purpose described.

3. The arranging of the pivot *i* in a line in rear of a vertical line drawn through the pivot bolt *h*, so that the hammer can cause the brace to follow it in moving it back without being rigidly connected to it, substantially as described.

4. In combination with the hammer and the brace, the dog *n*, connected and acting therewith, substantially in the manner described.

5. The button *t*, made and operating in connection with the pivot-bolt heads, as and for the purpose described.

74,429.—GERONIMO RIVERA, Cambridgeport, Mass.—*Pine Apple Beer.*—February 11, 1868.—Crushed pine-apple, 1 lb., is placed in water, 2 galls.; when the pine-apple rises to the surface, the liquid is strained and bottled, with the addition of sugar, 2 lbs.

Claim.—The beverage, made and prepared essentially as above described, and which I term Pine-Apple Beer.

74,430.—LEANDER RODNEY, New York, N. Y.—*Cement Roofing.*—February 11, 1868; antedated January 31, 1868.

Claim.—1. The application of strips of wood, or other suitable material, placed edgeways, on the rafters or other support on which the roof rests; these strips (of any desired thickness) being properly secured and fastened together, and this foundation

serves as a body on which to apply water-proof cement, or other suitable material, substantially as and for the purpose herein specified.

2. The application of cement, or other suitable material, to two or more sheets of paper, or other suitable material, to be used in connection with the foundation, as above described, or any other suitable foundation, or separately, substantially as and for the purpose herein specified.

74,431.—Charles Rogers, Alleghany City, Pa.—*Pump.*—February 11, 1868.—The cup valves are alternately moved to and from each other by the compound levers, the upper valve sliding upon the rod of the lower one.

Claim.—The levers A A, pivoted to a brake S of a hand pump, said levers being supported at their outside ends, each by a vibrating link L, the whole being combined and arranged to operate, with respect to the pump box and its attachments, substantially as described.

74,432.—Clark Root and Bishop Bennett, De Ruyter, N. Y.—*Sawing Machine.*—February 11, 1868.—The pitman connects the saw to a wrist pin on the balance wheel, which is rotated by gearing connected to a vertically oscillated lever.

Claim.—The three-armed lever B, swinging fulcrum *f*, and driving devices K *l* I *i* H, all constructed and arranged as herein described and for the purpose set forth.

74,433.—J. P. Scott and S. H. La Rue, Lewisburg, Pa.—*School Desk and Seat.*—February 11, 1868.

Claim.—1. The combination of the grooved support A, slotted guides B, desk C, hinged leg G, brace J, vertically sliding support K, seat L, brace M, and crank N, all constructed and arranged as described, for the purpose specified.

2. The jointed seat brace M N, formed by the combination of the pivoted bar M and pivoted bar or crank N, in combination with the seat L, and seat uprights K, substantially as herein shown and described, and for the purpose set forth.

3. The pivoted and sliding self-locking jointed brace J, in combination with the leaf G and book-box C, substantially as herein shown and described, and for the purpose set forth.

74,434.—Anson Searls, New York, N. Y.—*Pivoted Stump Joint.*—February 11, 1868.—The pivot is traversed axially by the securing rivet, and is spread out into the countersink of the socket.

Claim.—An improved stump joint, substantially as described, and for the purposes set forth.

74,435.—Clark A. Shelton, New Haven, Conn.—*Whip Tip.*—February 11, 1868.—The screw socket fastens the tip to the handle by the thread upon its inner side.

Claim.—A whip tip provided with a socket B, so as to be attached to the stock proper, in the manner herein set forth.

74,436.—Jacob Silberman and Gustav Unger, New York, N. Y., assignors to themselves and Jacob Heinemann, same place.—*Neck-Tie.*—February 11, 1868.

Claim.—A neck-tie formed in one piece by weaving, with the end portions diverging from and wider than the middle portion of the article, as set forth.

74,437.—Amos B. Simonds, Youngstown, Ohio.—*Hand Turning Tool.*—February 11, 1868.—The head of the screw bolt is shaped to engage the countersunk hole in the tool, which hole has a side cavity to receive the projection on the bolt.

Claim.—The screw bolt C, provided with a projection *a*, in combination with the socket B, collar F, cutter E, and a handle A, all constructed, arranged, and operating substantially as described and for the purpose specified.

74,438.—Ezekiel Smith, West Milton, N. Y.—*Potato Digger.*—February 11, 1868.—The potatoes and earth drop from the scoop upon the endless platform, through whose meshes the earth falls. The potatoes are thrown upon the revolving riddle to complete the separation.

Claim.—The revolving riddle *r*, in combination with the endless platform *l* and scoop *f*, the whole constructed and operating as and for the purposes specified.

74,439.—H. C. Smith, D. A. Kelly, and J. E. Murdoch, Jr., Clarksville, Ohio.—*Cloth Rack.*—February 11, 1868.—The rack supports rolls of cloth, and may be revolved upon its central arbor and its casters.

Claim.—The cloth rack, constructed of frame posts A and horns *e*, in combination with the spindles *a*, casters *b*, and step *m*, all substantially as shown and described, and for the purposes set forth.

74,440.—John B. Smith, Pittston, Pa.—*Automatic Cut-off Gas Burner.*—February 11, 1868.—The gas passes beneath a valve, whose stem is connected to a lever, whose other end is secured to a bar lying across the path of the flame. When the flame is blown out the bar contracts and closes the valve. The aperture of the valve is regulated by a temper screw.

Claim.—1. The rod *f*, so arranged as to automatically cut off the flow of gas, substantially in the manner herein set forth.

2. In combination with the above, lever K, substantially as and for the purpose set forth.

3. Stem *d*, in combination with lever K, substantially in the manner specified.

4. Pipe A, provided with bulb B, or any equivalent device, in combination with stem *d*, lever K, and rod *f*, substantially as and for the purpose described.

74,441.—Joseph Snyder, Rock Lick, W. Va.—*Cultivator.*—February 11, 1868.

Claim.—The cultivator, constructed with the curved main beam A and curved supplemental beam B, shares *c d*, handles C, and braces *f*, *g*, and *m*, the whole arranged substantially as and for the purpose specified.

74,442.—Joseph H. Springer, Philadelphia, Pa.—*High and Low Water Alarm for Steam Generators.*—February 11, 1868.—The varying weights are balanced against each other on a lever, and when the larger weight sinks to indicate an improper stage, this lever impinges against another lever and raises the safety valve. The safety valve is in a closed chamber, which has outlet through a steam whistle. When the weights are immersed in a common fluid the larger one draws down its end of the lever and sounds the alarm. When the larger is in the water and the smaller in steam the weights are balanced.

Claim.—1. The employment of two unequal weights, suspended by cords or rods, of unequal lengths, to a lever, with its fulcrum at its center, arranged inside of a cylinder attached to the outside of a steam boiler, said weights being subject to the action of high and low water, substantially as and for the purpose set forth.

2. In combination with the above, the levers *g g′*, arranged within a cylinder outside of the boiler, substantially as and for the purpose specified.

3. Arranging the safety valve within the hollow cap D, substantially as and for the purpose specified.

4. The glass gauge G, when used in combination with cylinder A and weights B B, substantially as set forth.

74,443.—Orsemus M. Stillman, Westerly, R. I.—*Gig for Cloth.*—February 11, 1868.—The cloth is brought in contact with the cloth-raising cylinder in four distinct places. Two of the rollers are journaled in rack plates, which are raised simultaneously to hold the cloth clear of the cylinder when desired. The course of the cloth may then be reversed.

Claim.—1. The combination and arrangement of the cross bands *o o′*, reverse driving pulleys *p* p^1, counter pulleys p^2 p^3, adjusting board *w*, shaft *q*, tubular shaft *s*, bevel wheels *t t′ r*, as herein described, for the purpose specified.

2. The arrangement of the cylinder A, rollers *c*, racks *i*, pinions *j*, shaft *z*, worm wheels *x*, rollers *m n n′*, reversible cloth beams *b b′*, and gear wheels *d* d^1 d^2 d^3, as herein described, for the purpose specified.

74,444.—ANDREW J. STOVER, Sandyville, Iowa.—*Stove-flue Supporter.*—February 11, 1868.—The plate is bolted to the joists and the thimble is made in metallic bisections. The edge of the thimble hole in the plate is serrated, to check conduction of heat.

Claim.—The plate A, the segments *b b*, the bolts *d*, and washer plates *g*, the whole combined and operating as and for the purpose herein described.

74,445.—HENRY STRICKLER, Carlisle, Pa.—*Hoisting Drum.*—February 11, 1868.—The drum is clutched to the shaft in such manner that it can be freed to allow the rope to run down when the hay has reached its destination.

Claim.—The combination of the vertical shaft A, the loose drum D working thereon, the pawl *a*, and brake *g*, both pivoted to lever within guide *k*, the sweep bar C, and the cord B, all arranged substantially as shown and described, and for the purpose specified.

74,446.—WILLIAM H. SUTHERLAND, Seven Mile, Ohio.—*Sash Stop.*—February 11, 1868.—The side of the sash has a rack, and the frame a sliding stop, which is operated by the knob.

Claim.—1. The arrangement of the rack *l l*, in Fig. 2, with inclined cogs, in connection with an inclined tongue *z*, in Fig. 3.

2. The combination and arrangement of the locker, as seen at Fig. 3, viz: the eccentric P P, with its pin *v*, its arm *x*, its square mortise *s s*, and its groove for the reception of band *j*, the band *j*, with its slot *u v*, and combination of said band with plate *w*; the tongue *z*, and its combination with arm *x* and plate *w*, through mortise *y*.

3. The peculiar arrangement of the four-square section *r* of shaft *o o*, in connection with its circular ends, as seen at Fig. 3.

74,447.—JEROME B. SWEETLAND, Pontiac, Mich.—*Corn Harvester.*—February 11, 1868.—The tops of the stalks are drawn backward by the reel, and at their lower ends they are drawn against the knife by the curved, serrated end of the lever, whose rear end is pivoted to a wrist pin on a rotating wheel. The stalks fall on the inclined shield and slide over the rack to the concave tilting bed, from whence they are deposited beneath the machine at the will of the operator.

Claim.—1. The lever J, constructed as described, and used in combination with the inclined platform and the wheel I, and having a sickle knife upon its lower end, substantially as represented.

2. The hook M, in combination with lever J and knife L, as and for the purpose set forth.

3. The concave bed S, pivoted in the frame, and used with the shield K and rack T, as and for the purpose set forth.

4. The rack T, when used as and for the purpose specified.

74,448.—JOHN F. THOMAS, Adamstown, Md.—*Machine for Distributing Guano, &c.*—February 11, 1868.—The agitators are fixed to a bar having end reciprocation in the seed box by means of a lever operated by a cam upon the axle. This bar is connected to the sliding bottom. The bottom has upcurved side flanges, which are slotted in the direction of their length for the passage of the guano. The slots are kept clear by traversing pins which are fixed to the seed box.

Claim.—1. The agitating apparatus above described, consisting of pole F, pins *f f f' f'*, and movable bottom F' substantially as described.

2. The combination of the agitating apparatus with the rod *k*, lever K, arm L, arm or lever M, and cam wheel C, substantially as herein set forth.

3. The combination of the arm L with the rod N, eccentric shaft O, and rod P, substantially as herein shown and described.

74,449.—JOHN L. THOMAS, Newburg, Ohio.—*Belt Coupling.*—February 11, 1868.—The frames are clamped upon the belt as a substitute for lacing.

Claim.—The belt coupling, constructed as described, consisting of the rectangular metal band *a*, formed in one piece, having beveled ends, the plate *b*, provided with the projecting ends *c*, working upon the beveled ends within the band *a*, and operated by the set screws *d*, as herein described for the purpose specified.

74,450.—BJARNE THOMPSON, Chicago, Ill.—*Sleigh.*—February 11, 1868.—The body is connected to the benches by springs, and its connection to the runners allows vertical movement.

Claim.—Connecting the body of the sleigh with the front, or runners, by means of the slots *a* and irons *d*, constructed and operating substantially as specified.

74,451.—J. S. THOMPSON, Sycamore, Ill.—*Animal Trap.*—February 11, 1868.—The gate is attached to a vertical pivot shaft, around which a weighted cord is coiled, The tilting platform is between the gate and the wire side and has a latch which its tilting removes from the gate and allows the gate to turn 90°, closing the entrance behind the rat. When the rat steps off the platform into the trap the gate assumes its first position by a further turn of 90°.

Claim.—An animal trap, with a sinking platform M and revolving gate *c*, secured by latches J *a*, constructed and operating as described.

74,452.—JAMES S. THOMPSON, Lyndon, Vt.—*Apparatus for Boiling Sap and Other Liquids.*—February 11, 1868.—The pan has a U-shaped flue through which the caloric current may be forced; a damper directing the course of the current therethrough.

Claim.—The arrangement of the chambers B C and opening O in the furnace A and flue F, the tube E, short pipes G, pan P, passage *a*, and right-angular damper D, as herein described, for the purpose specified.

74,453.—WILLIAM W. TIMMONS, Rahway, N. J., assignor to ALMETH WHITE, same place.—*Soda Water Bottle.*—February 11, 1868.—The acidulous liquid is contained in an annular chamber around the stopper, and when the stopper is removed the liquids mingle on issuing.

Claim.—1. A separate chamber D, attached to and forming part of a bottle, or similar vessel for containing beverage fluids, substantially as shown and described, for the purpose of causing the contents of the said chamber to commingle with the outflowing contents of the bottle, all as set forth.

2. A screw cap *a*, or its equivalent, substantially as shown, and when used for closing a chamber D, and attached to a beverage bottle, all as set forth.

3. The flange *i*, or its equivalent, substantially as shown and described, and for the purpose specified, in combination with the chamber D and stopper B, all as set forth.

74,454.—JOHN TREMPER, Wilmington, Del.—*Steam Governor.*—February 11, 1868.—The centrifugal movement of the balls is checked, and consequently the stem elevated, by spiral springs, on the radial arms upon which the balls slide. A spiral spring surrounding the upper part of the stem acts to the same end.

Claim.—1. The combination of one or more sliding thimbles or sleeves K with the radial or guiding arms E, springs J, and balls F, substantially as and for the purpose specified.

2. The arrangement of the springs J within the balls F, and their extensions *c*, encircling the radial or guiding arms E, essentially as shown and described.

3. The auxiliary removable springs I, for operation in combination with the balls F and springs J, whereby the velocity may be increased or decreased at pleasure, substantially as specified.

74,455.—JOHN C. TRULLINGER, Oswego, Oreg.—*Water Wheel.*—February 11, 1868.—The water is received between the guides at the periphery of the wheel, and has central discharge in opposite directions. The wheel shaft is horizontal.

Claim.—1. The buckets above described, each having the bridge O and the curves L O N and L M N, when constructed and applied to a water wheel, substantially in the manner and for the purpose set forth.

2. The hoop and hub K, in combination with the

water wheel A, substantially as and for the purpose set forth.

3. The combination of the gates C C, the guide plates D D, the levers G G, the ring F, provided with bases F′, when the several parts are constructed and arranged in the manner and for the purposes specified.

4. The combination of the wheel, gates C C, guide plates D D, levers G G, and cases E E, all constructed substantially as and for the purposes indicated.

74,456.—P. B. Viele, Rochester, N. Y.—*Fruit Basket.*—February 11, 1868. -The sides are made of two pieces laid flat together at their mid-length, and their split ends turned up and attached to a top hoop.

Claim.—1. In combination with the cross pieces A A′, provided with the slitted strips *a a*, as above described, the encircling band *d*, to which the said strips are secured by eyeleting or sewing, the whole arranged as herein specified.

2. Retaining the packed baskets one within another, for storage and transportation, by means of the eyelets, or equivalent openings *c*, in the bottom of the baskets, and the cord *f*, passing through said openings, the whole as hereinabove set forth.

74,457.—Arthur Wadsworth, Newark, N. J., assignor to himself and Robert Schell, New York, N. Y.—*Watch.*—February 11, 1868.—One or both ends of the barrel are so applied as to bind the barrel around the outside. The body is so applied to the head of the barrel, through which the spring acts, that in case the spring breaks it will relieve itself upon the body and prevent destruction of the mechanism.

Claim.—1. A main-spring barrel, for watch and other time movements, in which the body is confined upon the outside by either one or both of its heads, substantially as and for the purpose described.

2. In combination with the above a main-spring barrel, when the body and toothed head, with the latter confining the former upon its outside, are so secured together that the former can turn in the latter upon the breakage of the spring, substantially and for the purpose specified.

74,458.—Nathaniel Wales, Boston, Mass.—*Decoy Bird.*—February 11, 1868.—The hinged wings are raised by a spring and depressed by a cord.

Claim.—A decoy having wings hinged thereto, arranged to be operated by manipulation of a sportsman, substantially as and for the purpose described.

74,459.—Josiah Webb, Spartansburg, Pa.—*Washing Machine.*—February 11, 1868.—The rubber blocks are reciprocated by connection to levers which are oscillated by a compound crank.

Claim.—1. The combination of the crank shaft I, pitmen H H, levers F F, and corrugated blocks E E, when used in connection with a box A, having a corrugated bottom D, in the manner and for the purpose specified.

2. The combination of the step keys L L, with the forked posts K K, supporting the rod G, and rendering the rubbing blocks E E adjustable in height, substantially as and for the purpose specified.

3. The combination of the hinged blocks E E with the hooks *m m* and levers F F, by which the blocks E E can be lifted out of the way when necessary, substantially in the manner described.

4. The arm M, for the purpose of holding the clothes in place while the rubbing blocks are passing over them, substantially as described.

74,460.—Jonathan C. Welsch, Edgerton, Ohio.—*Knitting Machine.*—February 11, 1868.—As the sliding frame is thrown forward the lower rack strikes one of the stops, and in moving operates the upper rack, so that it will engage the cam that moves the needles into their places. As the needles on each side work alternately it is necessary that only one of the racks should strike against the stops, and that on alternate sides. The ends of the stops are made to move by turning the wheel so that while one is raised and does not interfere with the rack on the same side, the other is just in position to engage the rack on the opposite side.

Claim.—1. The ratchet wheel S, the racks T and U, arranged on the sliding frame C, in combination with the eccentric stops for changing the needle-operating cams, as set forth.

2. The arrangement of the crank D, with its shaft wheels K, L, and M, and eccentric stops N N, all constructed and operating in the manner and for the purpose set forth.

3. The combination and arrangement of the bed B, frame C, crank D, with its shaft, wheels, and cams N N, ratchet S, racks T and U, latch openers J J, dog I, and yarn supporter H, all constructed and operating as and for the purpose specified.

74,461.—William Wharton, Jr., Philadelphia, Pa.—*Railway Frog.*—February 11, 1868.—Improvement on his patent of July 18, 1865.—The recess for the reception of the rail is made sufficiently wide to allow the easy removal of the latter after withdrawal of the bolts by which it is attached to the side of the recess. The rails of the side track are raised so that the flange of the wheel runs on the upper surface of the frog.

Claim.—The frog D, having a shoulder against which the side of the main rail bears, and to which it is confined by bolts *c*, or their equivalents, substantially as and for the purpose described.

74,462.—Benjamin F. Wheeler, Calais, Vt.—*Wagon Brake.*—February 11, 1868.—The forward pressure of the hind wheel in descending a hill brings them in contact with the brakes. A spring pawl engages a ratchet wheel upon a hind wheel hub to prevent retrograde movement when ascending a hill.

Claim.—1. The movable handle of the brake, in combination with the slotted central reach metal loop and strap B *b*, forward slotted rocker and the king bolt, and slotted rocker plate, substantially as described, for the purpose specified.

2. In combination with the above, the sliding key C *e* C, substantially as described, for the purpose specified.

3. In combination with a wagon brake, the rag wheel D, dog E, and coiled spring F, substantially as described, for the purpose specified.

74,463.—Cyrenus Wheeler, Jr., Auburn, N. Y.—*Pitman Connection for Harvesters.*—February 11, 1868.

Claim.—In combination with a crank or pitman-head that can turn on or around the pitman, a wrist box that turns in said head by means of its curved surfaces *c c* moving against the concave bearings in the plates *b e*, substantially as and for the purpose herein described.

74,464.—William N. Whiteley, Springfield, Ohio.—*Harvester Rake.*—February 11, 1868.—The rake driving mechanism is chiefly on the opposite side of the machine to the cutter, so as to diminish side draught. The rake and its mechanism may be removed by the extraction of two screws.

Claim.—1. The rake head R, provided with the arm S, curved as described, and mounted in bearings on the swinging block Q, and the pivot post F, all constructed and combined as set forth and described.

2. The combination of the rocking rake head R, swinging block Q, moving upon the pivot G, gearing I Y, shafting W′, and pulleys V and U, all arranged on a two wheeled jointed bar machine, so as to move in unison with the cutter bar and platform, as set forth.

3. The combination, in a single-jointed harvesting machine, of the cutting apparatus, the reciprocating sweep rake R, and the overhung horizontal reel *r*, when said rake and reel are both mounted upon the inner shoe of said cutting apparatus, and constructed and operated in the manner shown and described.

4. The rake head R, with the arm S, curved in the form shown and described, in combination with the stud O on the gear wheel I, and block Q, provided with the slot P, to give a vibrating motion to said block Q and rake R, as set forth and described.

5. The tumbling shaft W′, in combination with the vibrating coupling arm *e*, as and for the purpose set forth.

6. The swinging block Q, constructed with hori-

zontal bearings for the rake R, a slot P, for the actuating stud O, and pivoted upon a vertical axis G, all as set forth and described.

7. The arrangement of the arm S, arm L, block Q, and guide frame J, all constructed as described, and for the purpose set forth.

8. The coupling arm *e*, mounted upon the outer end of the main axle by means of the gimbal ring *y*, and attached to the rear of the main frame by means of the arm *f*, as and for the purpose set forth.

9. The combination and arrangement of the plate E, pivot post F, gear wheel I, block Q, guide frame J, and pinion Y, when constructed as and for the purpose set forth.

10. The arrangement of the driving pulley *v*, the reel pulley *n*, and tightening or guide pulley *u*, so that the reel belt will form a triangle in passing around said pulleys, as and for the purpose set forth.

74,465.—William N. Whiteley and Jerome Fassler, Springfield, Ohio.—*Harvester Rake.*—February 11, 1868.

Claim.—1. The pivoted brace *d*, one of its ends moving on a center, which is coincident with the axis of the main pinion shaft, and its other end moving on the axis of the main driving wheel, as and for the purpose set forth.

2. In combination with the guide frame X, the guide switch *a'*, constructed to open automatically when released from its stop *e'*, and to be closed again by the passage of the traveler on the rake or reel arm next succeeding, substantially as and for the purpose described.

3. In combination with the guide switch *a'*, pin *h'* and the stop latch *e*, constructed and operated substantially as described.

4. In combination with the guide switch *a'* and stop latch *e'*, the spiral spring *d'*, arranged as shown and described, so that the same spring acts against both the switch *a'* and latch *e'*, as set forth.

5. The rake head *o*, constructed so that the upper ends of the shanks of the teeth are exposed, and provided with the curved rim or flange *s*, as and for the purpose described.

6. The adjustable guard *w*, placed upon the rake head, substantially as shown and for the purpose set forth.

7. The guard *y*, placed upon the finger bar, substantially as and for the purpose set forth. in combination with the forked pitman *p*, provided with conical or conoidal journals, as described, the spiral spring *c''*, for the purpose set forth.

8. The seat slide S, constructed with the offset, so that the seat may be placed over the center of the platform, or may be placed at one side of the same to counterbalance the weight of the rake, as set forth and described.

74,466.—William E. Whiting, Providence, R I.—*Gauge for Augers.*—February 11, 1868.—The tube is made in adjustable telescopic sections, and is clamped by set screws to the auger.

Claim.—The tubes A and C, in combination with the ring D and flange E, when constructed and arranged substantially as set forth and for the purpose specified.

74,467.—C. B. Williams, Bourbon, Ind.—*Churn.*—February 11, 1868.—The angular dashers are attached to the ends of radial arms, and are slightly inclined from the vertical. The adjustable wings are radial on the shaft.

Claim.—The shaft G, with its angular dashers I I and wings H H, adjustable upon the shaft for gathering the butter, when used within the box F as constructed and secured, and operating in the manner and for the purposes set forth.

74,468.—J. A. Williams and W. W. Williams, Mattoon, Ill.—*Self Acting Wagon Brake.*—February 11, 1868.—The brake is upon the arm of a rock bar journaled to the rear bolster in such a position that the friction of the wheel tends to increase the pressure. This bar has an arm connected to the singletrees in such manner that a draught upon them will release the brake; the spring acts to press the brake upon the wheel.

Claim.—The combination of the brake bar *b*, the spring *g*, the connecting rod, and chains, and the singletrees *p p*, constructed, arranged, and operating as a self-acting wagon brake, substantially as herein described.

74,469.—Thomas Williams and Joseph J. Yates, New York, N. Y.—*Steam Heater for Brewers and others.*—February 11, 1868; antedated January 31, 1868.—The pipe mouths have outwardly opening valves which are opened by the pressure of steam, and allow the latter to pass into the mash, but close by means of the spring when the pressure is removed and prevent the entrance of the mash into the pipes.

Claim.—1. The heating apparatus, consisting of the main pipe B and branch pipes C, which are provided with self-closing valves E, substantially as and for the purpose herein shown and described.

2. The valve E, when constructed as herein shown and described, so that by lengthening or shortening the stem the amount of steam discharged during a given time may be increased or diminished at will.

3. Providing the steam pipes in a heating apparatus with self-closing valves, substantially as and for the purpose herein shown and described.

4. The annular horizontal flange *k*, when arranged around the lower part of the conical valve D, substantially as herein shown and described.

74,470.—M. V. B. Williamson, Jamesport, N. Y.—*Draught Equalizer for Doubletrees.*—February 11, 1868.—The outer trace of each horse is attached to a hook on the end of the doubletree, and the inner traces to the opposite ends of a chain running through a pulley block pivoted to the hammer bolt.

Claim.—1. Hanging the pulley B forward of the doubletree, substantially as and for the purpose set forth.

2. So constructing and attaching the arms or clevis *b* as to allow them and the pulley B to have free lateral vibratory motion from the bolt *a* as a center, substantially as hereinabove specified.

74,471.—M. V. B. Williamson, Jamesport, N. Y.—*Doubletree.*—February 11, 1868.—The outer trace of each horse is attached to an end of the doubletree, and the inner trace to the center bar, which is pivoted at its midlength to a clevis on the hammer bolt.

Claim.—1. The combination with a doubletree A of a short singletree or center bar B, capable of swinging on its centre, and attached to the doubletree by means of a clevis, or its equivalent, substantially as and for the purpose set forth.

2. The combination of the doubletree A with the singletree B, substantially as set forth.

74,472.—Horace Wood, Leverett, Mass.—*Staging Frame.*—February 11, 1868.—The carriages are mounted on wheels and raised or lowered by windlasses upon them, around which are coiled fixed ropes lying over the comb of the roof.

Claim.—1. A staging frame composed of a series of frames A, connected by planks or slats *d*, and provided with windlasses B and cords or chains *e*, all arranged substantially in the manner as and for the purpose set forth.

2. The windlasses D applied to two or more frames A, operated by the screw and worm wheel gear, and provided with ropes F, which pass through pulleys *k*, attached to fixed ropes *l*, substantially as and for the purpose specified.

74,473.—James W. Wood, Lowville, N. Y.—*Roofing Shoe.*—February 11, 1868.—The plates are punched and attached, burr outward, upon the shoe to prevent slipping.

Claim.—The combination of the perforated plates A D E, when made in separate pieces, and secured to the sole of the boot or shoe, in the manner and by the means herein described.

74,474.—William B. Young, Chicago, Ill.—*Plow.*—February 11, 1868.—The truss rounds and tie rods are inclined in relation to each other to render the handles rigid.

Claim.—1. The combination of the round *b* and rod *d*, with or without either or all the rounds *a* and

c and rod *e*, substantially as described and for the purpose set forth.

2. The combination of rounds *a*, *b*, and *c*, and rods *d*, *e*, and *f* with the handles and beam of a plow, substantially as described and for the purpose set forth.

74,475.—ANDREW RALSTON, West Middletown, Pa.—*Portable Animal Tether.*—February 11, 1868.—The tether cord is attached to the halter at one end, and to a weight at the other; it is run through a swivel block supported by a journal bar stretched between the tops of the posts.

Claim.—1. A portable stock-feeding, hitching frame, consisting of upright posts A A′, mounted upon carriages and provided with a hitching rope or chain E, and also with means for keeping this rope or chain under proper tension, substantially as described.

2. In combination with uprights A A′, and hitching rope or chain E, a swivel frame G, and a loaded tether *h i*, substantially as described.

74,476.—LEVI ADAMS, Amherst, Mass.—*Lubricator for Axles and Mode of Attaching it to Axles.*—February 18, 1868.—The out-turned flange of the box and the collar upon the axle are engaged by the jaws whose pintle is secured to a clip on the axle. The upper jaw has an oil cup.

Claim.—1. The two jaws E E, fitted or secured to the axle, as shown, in combination with the collar C at the inner end of the arm B, and the flange *a* at the inner end of the box D, all being constructed and arranged substantially in the manner as and for the purpose set forth.

2. The packing *i* and the oil cup F, in combination with the jaws E E, the collar C on the axle, and the flange *a* on the box D, all arranged substantially as and for the purpose specified.

3. The button, consisting of metal plate *d*, rod *e*, pivoted in lug *f* and the nut *g*, when used in combination with the jaws E E, and all arranged substantially in the manner as and for the purpose set forth.

74,477.—THOMAS P. AKERS, New York, N. Y.—*High and Low Water Alarm for Steam Generators.*—February 18, 1868.

Claim.—1. The employment of two weights, of greater specific gravity than water, inside the boiler, said weights being arranged so as to be subject to the action of high and low water within the boiler, substantially as described.

2. A combined high and low water indicator which is controlled by weights, of greater specific gravity than water, applied upon the unequal arms of a lever, which is hung within the boiler in such a manner that, while the weight upon the longer arm shall so far preponderate as to open a valve at certain points of either high or low water, such preponderance will be counteracted by the water when at any intermediate point, substantially as described.

3. The combination of the steam whistle F, alarm valve *d*, vibrating lever G, and weights J J′, of greater specific gravity than water, arranged within a boiler, substantially as and for the purpose described.

4. The combination of the slide step *b*, valve rod D with its valve, and the projection *i* of the lever G, substantially as and for the purpose described.

5. The combination of the slide step block *b*, valve rod D, and the adjustable device at the top of said rod, substantially as and for the purpose described.

6. The devices L T R, or their equivalents, constructed substantially as described, in combination with the safety-valve and the steam whistle, for the purpose set forth.

74,478.—F. W. ALEXANDER, Baltimore, Md.—*Muzzle Loading Ordnance.*—February 18, 1868; antedated February 6, 1868.—The "caliber diminisher" is inserted into the muzzle of the gun after loading, and is held in position by catch arms which turn on the trunnions, and engage a flange on the outer end of the diminisher.

Claim.—The apparatus termed a caliber diminisher, for the purpose of diminishing the caliber of smooth-bore or rifled guns after they have been loaded, thus preventing any windage of the ball and capable of being withdrawn after firing for a fresh load, and of reinsertion, &c., as heretofore described.

74,479.—HORACE B. AMES, Great Barrington, Mass., assignor to JOHN S. STONE, Honsatonic, Mass.—*Spring Cup Toy.*—February 18, 1868.—The cup consists of three or more spring arms.

Claim.—The toy ball and elastic spring cup, formed as specified, as a new article of manufacture.

74,480.—HORATIO ANDERSON, Chicago, Ill., assignor to himself and G. W. CUSHING, same place.—*Safety Valve.*—February 18, 1868.—The upper section of the case containing the spring safety-valve is irremovable without the valve, thereby preventing any tampering with the same. The lever is connected to the valve stem so as to enable the raising of the latter, but not to interfere with the upward movement of the stem when raised by steam. The cap top has perforations to allow the escape of steam, and a horizontal plate beneath prevents a rod reaching the valve through the perforations.

Claim.—1. The case U H, arranged with holes *o x*, lugs B B, dome L, flange K, and stop *f*, substantially as and for the purpose herein described.

2. The holes *o*, in combination with the plate M, substantially as and for the purpose set forth.

3. The combination of lever *t*, pivot top E F, and stop *f*, substantially as set forth.

4. The combination of the nuts G J, spindle P, valve R, and spring S, as and for the purpose set forth.

74,481.—P. W. ARMSTRONG, Logan, Ohio.—*Tinners' Die.*—February 18, 1868.—The plate is bent by the rollers and its edge turned by the dies, and prepared for wiring by the folder.

Claim.—1. Adjustable annular dies F and G, in combination with the fixed dies D and E of a tinner's swaging machine, substantially as and for the purpose herein set forth.

2. A folding device H, in combination with the dies F and G, and constructed and operating substantially in the manner and for the purpose herein set forth.

74,482.—BENJAMIN ATKINSON, Davenport, Iowa.—*Pessary.*—February 18, 1868.—The arms are connected to a nut traversed by the screw stem, and are drawn forward after insertion to expand the leaves. The leaves are drawn inward by the rubber strips.

Claim.—A pessary consisting of the hinged leaves *g*, arms *e*, with the stem *e* attached to the leaves *g* by the rubber strip *l*, and operated by the screw stem *b*, all constructed and arranged substantially as described.

74,483.—JOSEPH BARKER, Amboy, Ill., assignor to himself and ALONZO KINYON, same place.—*Separator Sieve.*—February 18, 1868.—The two sieves are united in one frame.

Claim.—A double sieve, for separating seeds, of coarser and finer netting, having the sides of the same so shaped as to incline the sieve to the shoe, in fanning mills, said sides being provided with the strips *a*, or their equivalent, substantially as shown and described and for the purposes set forth.

74,484.—Cancelled.

74,485.—JOHN W. BARTON, Clifton Springs, N. Y.—*Churn Dasher.*—February 18, 1868.—The dashers reciprocate alternately, being guided by the staples which slide on rods attached to the central post.

Claim.—The arrangement as a whole of the jointed cross piece B, standard A, ways *c c*, open and closed dasher wings E G, rods D D, and lever C, the several parts being so combined as to form one connected working apparatus, as and for the purpose herein set forth.

74,486.—HERRICK BATCHELDER, Reading, Mass.—*Head Block for Saw Mills.*—February 18, 1868.—One of the dogs is hooked into a fixed ring, and the other into a ring attached to a sliding plate which is moved by the wedge at one end and acts to tighten the dogs.

Claim.—1. Securing the inner end of one of the dogs D to a movable block E, as and for the purpose set forth.

2. The wedge H in combination with the block E and its dog D, operating substantially as and for the purpose described.

74,487.—Daniel S. Bear, Toledo, Iowa.—*Bee Hive.*—February 18, 1868.—The hive is made in bi-sections, so that each section of a full hive may be matched with a counterpart section of an empty hive for artificial swarming.

Claim.—1. The open bottomed boxes B B, constructed as described, having their inner and upper sides formed of slats *c c*, said boxes fitting over the double inclined bottom A, and adapted to be removed separately from opposite sides of the hive, as herein described for the purpose specified.

2. The boxes B B, constructed and operating as described, in combination with the double inclined bottom A, slotted honey board E, cap C, and surplus honey boxes D, when the sides of said boxes B B are adapted to fit over the edges of the inclined bottom upon the projecting sleepers *b*, as herein described for the purpose specified.

74,488.—Asa M. Beard, Hillsboro, N. H.—*Gearing.*—February 18, 1868.—One portion of the divided gear wheel acts by positive pressure to drive the mechanism, and the other portion acts by the spring in a contrary direction, to keep the driving teeth in contact and prevent back lash.

Claim.—For the purpose specified in the construction and arrangement of a pair of meshing gears, dividing one gear in a plane square to its axis, and fixing one part on its shaft while the other part is attached to said shaft by a spring, which operates to turn said part or its shaft with reference to each other.

74,489.—Jason A. Bidwell, East Boston, Mass.—*Wood Screw.*—February 18, 1868.—The core tapers throughout its length, and the thread only at its point.

Claim.—As a new improved article of manufacture, a wood screw, having its core tapering from its shank to its entering point, and provided with a thread of uniform diameter, as herein described.

74,490.—Jason A. Bidwell, East Boston, Mass.—*Screw Driver and Boring Tool.*—February 18, 1868.—The quadrangular, tapered bit carries an adjustable countersinking tool, and enters the socket of the screw head to act as a driver.

Claim.—1. The construction of a screw driver which is adapted for driving perforated head screws, with cutting edges formed on a pyramidal point, in combination with scores or grooves *e* for conducting out of the hole the chips or dust while in the act of boring, substantially as described.

2. As a new and improved article of manufacture, a tool having a rectangular tapering point *c*, a rectangular straight shank *a*, and an adjustable countersink *b*; said tool being adapted to serve the threefold purpose of a screw driver, a boring tool, and a countersink, as herein set forth.

74,491.—Michael Biglin and Daniel W. Bennett, Wilkesbarre, Pa.—*Wagon Jack.*—February 18, 1868.—The lever has two flattened surfaces, upon which the block rests when in its elevated and depressed positions, respectively.

Claim.—The entire form of the "wagon jack," and more particularly the faced lifting block or follower, marked D, and lever C, as constructed and operating, substantially as described.

74,492.—T. M. Bradley, Chestnut Level, Pa.—*Sewing Machine.*—February 18, 1868.—The pins upon the wheel on the main shaft act respectively upon the curved bar operating the upright lever and the plate operating the needle bar. As the spring hammer strikes the seat of the inclined spring lever the point of the same is pressed against the semi-cylindrical shuttle holder, and throws the lower part forward, to move the lower and pointed end of the shuttle forward until the loop of the thread has passed over the point of the shuttle, which is accomplished while the needle is stationary and just before it moves upward. The needle thread passing up and around the top of the shuttle is interlocked with the shuttle thread.

Claim.—1. The arrangement and combination of the upright lever D with its curved arm C, the plate H, the needle bar J, and the wheel A, as herein described, and for the purposes set forth.

2. The movable hammer W, inclined lever Z, and pivoted shuttle box *a*, as combined and operated by the upright lever D, as herein described, and for the purposes set forth.

74,493.—Clarence Brosius, Hancock, Md.—*Skid for Elevating and Lowering Barrels, &c.*—February 18, 1868.—The slide has rollers which sustain it upon the skid. The object is retained in position by the stay pins. The slide is operated by a cord passing around pulleys journaled to the skid and slide.

Claim.—The skid, slide, and stays, as described and set forth.

74,494.—Sanford S. Burr, Dedham, Mass.—*Folding Bedstead.*—February 18, 1868.

Claim.—The combination, with the upright case or false cabinet, of a folding bedstead, hinged to the rear of the same, and constructed as herein described, so that when folded up its headboard shall constitute the cap or cornice of the cabinet, substantially in the manner shown and set forth.

74,495.—John Bussey, Cincinnati, Ohio, assignor to himself and John F. Gunkel, same place.—*Corkscrew.*—February 18, 1868.—The screw shank being exposed, the point of the corkscrew is inserted into the cork by depression of the handle, the entrance of the shank into the nut in the cylindrical part of the handle causing the rotation of the corkscrew. When the screw is inserted the pin on the spring lever engages the screw shank, and the cork is withdrawn as by an ordinary instrument.

Claim.—The arrangement of the lever K, catch G, and spiral spring J within the handle E, for the purpose of detaining and releasing the spiral shank B of the corkscrew A, and enabling the said catch to be actuated by the thumb of the hand by which the instrument is worked, substantially as described and represented.

74,496.—W. P. Byler, Leavenworth, Kan.—*Combined Corn Planter, Sower, Revolving Harrow, and Cultivator.*—February 18, 1868.—The rims of the rotating harrows are made in sections, and the arms are slotted, so as to admit of extension to increase the diameter of the harrows. The harrows have vertical shafts, to which are splined bevel wheels, engaged by similar wheels upon the axles. The shafts are swiveled at their upper ends, and may be raised clear of the ground by levers. The bevel wheels upon the vertical shafts may be lowered, to disengage them from their driving wheels.

Claim.—1. The revolving harrows E, made adjustable, so as to be contracted and expanded, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the harrows E, vertical shafts F, bevel-gear wheels D and I, axles B and wheels A, with each other, substantially as herein shown and described, and for the purpose set forth.

3. The combination and arrangement of the vertical shaft F, slide bar L, chain P, pulley Q, lever pawl O, curved rack N, and slide or guide bars M, with each other, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the adjustable support J and spring catch K with the vertical shaft F, bevel-gear wheel I, and frame C, substantially as herein shown and described, and for the purpose set forth.

5. The combination and arrangement of the slide S, lever T, spring X, connecting rod U, and bent or foot lever V, with each other and with the seed box R and frame C, substantially as herein shown and described, and for the purpose set forth.

6. The combination of the bent lever H′ and curved rack I′ with the slotted end of the pivoted tongue G′ and with the frame C, substantially as herein shown and described, and for the purpose set forth.

74,497.—B. J. Camp, Marion, Ohio.—*Scroll Saw.*—February 18, 1868.—The guide bar has horizontal

arms, serving to hold down the stuff, and the spring attached thereto has bearing against the saw back.

Claim.—The up-and-down adjustable guide bar G, carrying the bent spring H, constructed and arranged to operate as herein set forth.

74,498.—DANIEL H. CARPENTER, Hector, and HIRAM L. SLAGHT, Lodi, N. Y.—*Churn.*—February 18, 1868.—The churn rests in the swinging frame, the uprights of which are slotted for traverse of the axial pin, and have segmental bars bearing upon the dasher crank shaft, and causing its reciprocating rotation.

Claim.—1. The stationary frame A, the swinging frame composed of the parts C, E, J, and D, arranged substantially as described, for the purpose set forth.

2. The fulcrum pin *i*, slot *k*, connecting rod I, shaft H, with the friction rolls *f*, in combination with the swinging frame, the whole arranged and operating substantially as and for the purposes described.

74,499.—JOSEPH H. CHADWICK, Wheaton, Ill.—*Carriage Spring Brace.*—February 18, 1868.—One end of each brace is connected to the sill and the top of the spring respectively, and the other and lower ends are connected together and to a link rod pivoted to the bottom of the spring. The object is to retain the spring in a vertical position.

Claim.—The combination and arrangement of the spring A, the sill C, or its equivalent, the braces *c d*, and jointed arm *f*, in the manner and for the purposes set forth and shown.

74,500.—TAYLOR CHAMBERLIN and T. ELWOOD GARRETT, Philadelphia, Pa.—*Pump.*—February 18, 1868.—The hollow sector-formed piston has valves on its radial sides, and oscillates on a shaft which is tubular at one end and admits water. The water is forced out through valve ports leading into a discharging chamber.

Claim.—1. The hollow shaft and piston C D, arranged and operating substantially as shown and described.

2. The combination of the hollow piston and shaft C D, the discharge chamber B, and the cylinder A, substantially as and for the purposes specified.

74,501.—J. HENRY CHAMPLIN, Essex, Conn.—*Spike.*—February 18, 1868.—Inclined notches are cut in the corners of the spike, making barbs, to prevent retraction.

Claim.—The spike A, constructed with slots or notches *a a a a*, cut into the body of the same at its several angles, substantially as described, and as and for the purposes set forth.

74,502.—ALVIN B. CLARK and CHARLES DAVIS, Richmond, Ind.—*Washing Machine.*—February 18, 1868.—The washboard is secured in the suds box in a position slightly inclined from the horizontal. The roller is reciprocated upon the said board by connection to a frame operated by a crank. The pawls prevent the rotation of the roller while passing in one direction, and thus cause the feed of the clothes.

Claim.—1. In combination with washboard C, (or other suitable surface,) the roller *a*, rotating and sliding at each alternate stroke, substantially as described and for the purpose set forth.

2. The combination of the reciprocating rods *d* and *d*, hangers *b* and *b'*, springs V and V, ratchets *e*, and pawls I, with roller *a* and board C, all operating substantially as described and for the purpose set forth.

74,503.—N. E. CLARK, Low Moor, Iowa.—*Well-boring Apparatus.*—February 18, 1868.—The stem is hollow, to allow the passage of air to occupy the space beneath the auger when it is being raised from the well.

Claim.—The combination of the hollow perforated stem F and a detachable point G, with the extensible rod or stem J, auger E, valves H, and shell or casing I, all constructed and arranged to operate in the manner and for the purpose set forth.

74,504.—MILTON B. COCHRAN, Davenport, Iowa.—*School Desk and Seat.*—February 18, 1868.—The chairs are placed in the position desired and a continuous desk built to them.

Claim.—The continuous desk board *b*, provided with the rail *g*, and shelves or pockets *f*, in combination with chairs *a* and iron braces *e e' e''*, when constructed and arranged for use, as herein described and for the purpose set forth.

74,505.—JOHN T. COE, Chambersburg, Pa., assignor to himself and EDWARD F. COE, same place.—*Churn.*—February 18, 1868.—The upper ends of the dasher shafts are supported when the cover is off by bands which are hinged to one side, and hooked into an eye on the other side of the cream box.

Claim.—1. A churn dasher, consisting of two wings set at any desired angle with each other, said wings being made with sides inclined in opposite directions, as and for the purpose set forth.

2. The dasher *b*, in combination with the band *c*, hook *d'*, and staple *e*, substantially as described.

74,506.—JOHN COLLINS, Jr., Detroit, Mich.—*Machine for Cutting Rags.*—February 18, 1868.—The volute-formed cutter is covered by the flexible guard, and the rags fed thereto between the upturned end of the guard and the feed roller beneath. The feed roller has rotation by a friction pulley upon its shaft, which receives rotation from the reduced portion of the cutter shaft.

Claim.—1. The spring guard I, feed roller H, and cutter E, combined and operating together substantially as described and for the purpose set forth.

2. The combination of the cutter E, spring guard I, and feed roller H, with the table A, the driving wheel B, shaft C, pulley D, and wheel G, all constructed and operating substantially as and for the purpose described.

74,507.—L. O. COLVIN, New York, N. Y.—*Cow Milking Machinery.*—February 18, 1868.—Improvement on the patent of L. O. Colvin, May 22, 1867.—The neck of the cow is brought between the gates and the milker applied. The vertical reciprocation of the milker is caused by a cord which is attached to a lever actuated by the pump rod, and the metallic tube connecting the milker with the pump has rubber sections allowing the flexion of the tube in movements of the milker.

Claim.—1. So operating the "milker" that the same may have a vertical or "bunting" movement, substantially as and for the purpose specified.

2. The pulley *n* and cord *k*, in combination with the tube F of the milker and the bent lever I, substantially as and for the purpose specified.

3. The bent lever I, in combination with the pump D, operating the milker, substantially as and for the purpose specified.

4. The gates or stanchions B, so constructed and operating as to secure the cow while being milked, and to admit of her passage between them when liberated, substantially as set forth.

5. An escape valve, arranged in relation with the pump D and the tube F of the milker, substantially as and for the purpose specified.

6. The universal joint *h*, arranged in combination with the milker and the tube F thereof, substantially as and for the purpose specified.

74,508.—JAMES M. CORNS, Black Rock, N. Y.—*Curtain Fixture.*—February 18, 1868.—The corrugated disk of the roller rests upon a similarly corrugated disk, which is adjusted by a spiral spring and nut, to cause the requisite amount of friction between the radially ribbed surfaces. The friction acts to sustain the shade, and yet allows the rotation of the roller by the cord.

Claim.—The radially corrugated disk *g*, in combination with the similarly corrugated bearing *f*, spiral spring *h*, nut *i*, and roller B, arranged and operating substantially in the manner and for the purpose set forth.

74,509.—CHARLES S. CRANE, Selma, Ala.—*Card Safe.*—February 18, 1868.—The front of the picture frame is made to open and disclose a chamber furnished with clips to hold the cards.

Claim.—The album or card case, with an exterior as a picture frame having an interior receptacle, the

ing valve which is forced to the rear end of its case by the draught, substantially as herein shown and described.

2. The hub *b* of the sliding valve, when constructed as described, so that both a sliding and an oscillating motion can be imparted to the valve, as set forth.

3. Providing the case or shell A, in which the sliding valve D moves, with elastic abutments F F, which are so arranged that the valve, when striking against one of the abutments, will be brought into an inclined position, substantially as and for the purpose herein shown and described.

4. The shell and case A, when provided with elastic abutments F F, in combination with the sliding oscillating valve D, and with the channel B, all made so that the lower edge of the valve does not come in contact with the bottom of the shell, and all operating substantially in the manner herein shown and described.

74,535.—J. Burt Holmes, Cincinnati, Ohio.—*Canopy for Tent and Bed Netting.*—February 18, 1868.—The stretchers are arranged somewhat like the primary ribs of an umbrella, and the apex may be drawn upward so as to elevate and draw in the canopy.

Claim.—1. The canopy A, in combination with stretchers H and stretcher support E, when the same are constructed and operate substantially in the manner as and for the purpose herein set forth and described.

2. The caps C C′, pulley bolt *b*, and nut and eye D, when arranged substantially as specified, and for the purpose set forth.

3. The stretcher support E and stretchers H, constructed as herein shown and specified, and for the purpose set forth.

74,536.—Marcus L. Horton, Worcester, Mass.—*Furnace.*—February 18, 1868.—The fireplace may be turned on its tubular trunnions which communicate between the tubular grate bars and the air spaces around the fire space and ash pit.

Claim.—1. The combination as well as the arrangement of the air chambers D C, and the grate made hollow, and with hollow journals to open into such chambers respectively, as set forth.

2. The arrangement of horizontal and vertical pipes or conduits of the fire-proof lining of the fireplace, such pipes being arranged within such lining and made to communicate with each other and the fireplace, and with the external atmosphere, so that air may flow into and through the pipes and lining, and be discharged into the fireplace, as specified.

3. The combination of the system of pipes and air passages in the fire-proof lining with the air chamber C, partially surrounding the ash chamber and grate, and made with a perforated top, as set forth.

4. The arrangement of the hollow grate and its hollow journals, the induction and eduction air chambers D C, the fire-proof lining, and a system of pipes or air conduits arranged in such lining, and made to communicate with the chamber C and the fireplace, substantially as specified.

74,537.—William H. Horton, Chelsea, Mass., assignor to himself and Nathan P. Brown, same place.—*Lamp Shade.*—February 18, 1868; antedated December 27, 1867.—The hook takes over the top of a glass chimney, and the fork rests against the side of the same. The socket is intended to apply to a gas burner.

Claim.—1. The lamp shade supporter and adjuster, consisting of the friction arm C, the bars B and D, arranged and applied together and to the shade, as set forth.

2. The combination and arrangement of the fork E with the arms C B D, arranged and applied together, and to the shade A, substantially as hereinbefore explained.

74,538.—David J. Howenstine, Marshallville, Ohio, assignor to himself and Paterson V. Wilkins.—*Horse Hay Fork.*—February 18, 1868.—The ratchet sleeve to which the outer spiral fork is attached, turns upon the stem which carries the other fork. The tines of the two forks wind in contrary directions, and may be inserted in or released from the load when the ratchet is released from the catch.

Claim.—The spiral tines 1 and 2, attached to revolving shaft A, in combination with the spiral tines 3 and 4, attached to the sleeve B, in combination with the latch E and rope F, when arranged and operating substantially as herein described.

74,539.—N. W. Hubbard, New York, N. Y.—*Horse Shoe.*—February 18, 1868.—The calks are dovetailed in the plates which are attached to the shoe by screws.

Claim.—1. The removable toe calks E for horseshoes, substantially as shown and described, in combination with the toe plate G, clamp screw *a*, or its equivalent, all as and for the purpose set forth.

2. The heel calks for horseshoes, substantially as shown and described, in combination with the plates, as shown at B or C, and screws *b* or *d*, all as and for the purpose set forth.

74,540.—Joseph Huber, Buffalo, N. Y.—*Construction of Tan Vats.*—February 18, 1868.

Claim.—A tan vat, constructed of strips of board or plank laid up with coal tar and felt packing between the strips, and nailed together, in the manner and for the purpose substantially as described.

74,541.—Eugene Humphrey, Boston, Mass.—*Saw.*—February 18, 1868.—Improvement on patent of Joseph W. Strange, August 13, 1867. The slide has grooves to receive the beveled edges of the recesses in the saw and tooth plates, and is held in a position engaging with both recesses by a notch in the slide, or in the side of the recess in the tooth plate. When removing the tooth, the notch is disengaged by a blow upon the back of the tooth, and the slide is then driven wholly into the recess of the tooth plate, admitting the forward turning and removal of the tooth.

Claim.—The fastening of a movable or insertable and self-adjusting saw tooth in its recess in the saw plate by means of a slide operating in combination with a recess extending into the plate and tooth, substantially as described, when said slide or recess, or both, are cut away or varied in width, for the purpose described.

74,542.—John Ingersoll, Cleveland, Ohio.—*Lamp.*—February 18, 1868.—The wick is contained in a vertical tube which communicates at bottom with the space between it and an inclosing tube, the latter space communicating at its upper end with the globe. A small pipe allows the escape of gas from the upper part of the globe to the flame.

Claim.—Extending the tube E from the top of the lamp down into the hollow stem or shank D, and so arranged, in relation to each other and the globe of the lamp, as to form a passage for the oil between the said tube and shank in filling and in burning, substantially as set forth.

74,543.—Thomas J. Jones, Rochester, Mich.—*Press for Packing Fruit.*—February 18, 1868.—The barrel is placed upon the wheel platform and the head pressed down by the lever cam.

Claim.—The combination and arrangement of the cam-shaped projection E with lever F, rock shaft D, ratchet wheel G, pawl H, posts C C, floor A, inclined plane B, axle I, and wheels J J, when operating as and for the purpose herein set forth.

74,544.—T. J. Jones, Rochester, Mich., assignor to himself and Lorenzo D. Gillett.—*Neck Yoke.*—February 18, 1868.—The breast rings slide on the bar, being connected by rods to opposite sides of an adjustable wheel at the midlength of the bar.

Claim.—1. The circle E and the bars D D and F, when arranged substantially as and for the purpose set forth.

2. The hinge bolt G, when constructed and operating substantially as described.

3. The combination of the above named parts with the bar A, the rings B B, H, I I, and J J, the guards C C, all arranged and operating substantially as and for the purposes specified.

74,545.—RUFUS JOSLYN, Pawtucket, R. I.—*Picker for Looms.*—February 18, 1868.—The picker is made of plates of leather, and may be turned on the attaching screw to reverse the ends.

Claim.—The combination of the picker staff, screw C, and reversible picker, constructed and arranged substantially as and for the purposes specified.

74,546.—SAMUEL KLEN, East Bridgewater, Mass.—*Butter Worker.*—February 18, 1868.—The round shaft of the oscillating worker forms a tight joint with the upper flaps of the sliding doors. These flaps are connected to the pieces beneath them by elastic strips, which serve to draw in the flaps against the shaft.

Claim.—1. The paddle or butter worker H K, when working in the manner substantially as described, and for the purpose set forth.

2. Combining the pieces D′ D‴ with the pieces D D′, by the elastic strips P P′, substantially as described, and for the purpose set forth.

74,547.—JOHN KELLY, San Francisco, Cal.—*Construction of Sea Walls.*—February 18, 1868.—Metallic strips are interposed between the stories in the outer course of masonry.

Claim.—The strips of metal or lead A C, when placed between the joints of blocks of masonry, substantially as and for the purpose herein specified.

74,548.—JOHN KERNS, Louisville, Ohio, assignor to himself, D. M. SLUSS, and D. M. SLUSSER, same place.—*Extension Ladder.*—February 18, 1868.—The upper section has rollers at its upper end, which run up the building when that section is raised by the rope passing through a pulley block attached to the upper end of the lower section. The upper section is sustained by spring pawls on a shaft journaled in the lower section and relieved by a cord.

Claim.—The combination of the pawls I I, pawl axle H, arm M, and cord N, when used in connection with the ratchets L L in the part B, which have irons, Q Q, inserted therein, and when the ladder A has the slots S S, all arranged in the manner and for the purposes specified.

74,549.—JACOB KING, Indianapolis, Ind., assignor to himself, JAMES HAMILTON, and B. STOKELY, same place.—*Ditching Machine.*—February 18, 1868.—The earth is raised by the plow and discharged onto the elevating endless apron which runs between the inclined way boards. The depth of the furrow is adjustable by rack and pinion.

Claim.—1. The combination of the side cutters C C with the way boards S S, when the former are constructed with circular recesses to receive the correspondingly rounded forward extremities of the way boards, so as to form a hinge joint, substantially as and for the purpose specified.

2. The yoke Y, arranged to slide upon the frame A, and adapted to change its position in conformity with the adjustment of the cutter beam N, as and for the purpose specified.

74,550.—THOMAS, ROBERT, and SAMUEL KNOWLES, Jersey City, N. J.—*Harvester Cutter.*—February 18, 1868.—Fixed knives are attached to the finger bar, and the cutter knives oscillate above them.

Claim.—The fixed knives C, attached to the finger bar by means of the connecting bar *c* and supporting blocks *b′*, substantially as shown and described.

74,551.—CHARLES F. KRAMER, Mondovia, Wis.—*Settee, Bed, and Table.*—February 18, 1868.—The settee back may be brought up on the arms and opened out to form a table, or may be turned back to form a bed.

Claim.—The construction and arrangement of the settee, bed, and table, when combined and adjusted by the pivoted side levers K K, and side catches G and L, as herein described, and for the purposes set forth.

74,552.—ISRAEL LANCASTER, Baltimore, Md.—*Harvester.*—February 18, 1868.—The cutter is reciprocated by anti-friction rollers which run on an annular cam flange on a vertically placed wheel. The flange has outer and inner concavities, the concavity of one side standing opposite to the projection of the other. The cutter is thrown out of gear by moving the rollers from the cam. The block which carries the rollers is slotted to receive a guide spring by which undue elevation or depression is prevented.

Claim.—1. Placing the fulcrum of the reciprocating lever H *d*, which is between the points at which the power and resistance are applied to the said lever, upon one side of a vertical line drawn through the driving wheel center, and the knife bar upon the other side.

2. The fulcrum plate *g*, constructed and operated as described and for the purpose mentioned.

3. The lever H *d* and friction rollers *c c*, acting in combination with the cam flange *b b*.

4. The combined spring and bearing T, constructed and operating as described and for the purpose mentioned.

74,553.—MARTIN and STEPHEN C. LEONARD, Oberlin, Ohio.—*Animal Tether.*—February 18, 1868.—The points are masked by the spring shield until the animal presses against the fence, when the points are exposed and pierce the skin.

Claim.—1. An animal tether, composed of the yoke A, and cross strip C, and pricking points *e′*, and shield D, and springs *a* and *a′*, substantially as shown and described, and for the purposes set forth.

2. The pin B, in combination with the key *d*, and the spring *d′*, substantially as shown and described, and for the purposes set forth.

3. The cross strip C and points *e′* in combination with the yoke A and the perforated sliding shield D, substantially as shown and described, and for the purposes set forth.

4. The shield D, in combination with the springs *a* and *a′*, and with the yoke A, substantially as shown and described, and for the purposes set forth.

74,554.—ELIAS LEVEE, West Point, Iowa.—*Sulky Plow.*—February 18, 1868.—The plow is raised by a chain winding over a sectoral block. The fore end of the beam is raised by an adjustable link connected to a bell crank lever, which is operated by a hand lever.

Claim.—1. The combination of the sliding guard or guide bars J and K with the plow beam A and with the tongue F or frame of the sulky, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the adjustable bar R, adjustable bent lever S, and bar or handle U with each other, and with the plow beam A and support T, attached to the tongue F or frame of the sulky, substantially as and for the purpose set forth.

3. The combination of the crank journal g^1, slotted support g^2, wheel 1, and axle, substantially as described and for the purpose specified.

74,555.—JOHN A. LIEB and E. W. CRANE, Newark, N. J.—*Safety Attachment for Umbrellas.*—February 18, 1868.—The runner has a series of lock rings which prevent it from moving on the stick to open the umbrella, except when the rings are set to the proper combination.

Claim.—1. The notched rings *c* and jackets *f*, in combination with the stops *e* and runner B of an umbrella, substantially as and for the purpose described.

2. The scalloped edges and ridges *g* in combination with the jackets *f*, rings *c*, and runners B, constructed and operating substantially as and for the purpose set forth.

74,556.—E. W. LOCKWOOD and B. T. FREDERICK, Marshalltown, Iowa.—*Cast Iron Sleigh Runner.*—February 18, 1868.

Claim.—1. The U-shaped metallic knees B, provided upon their upper curved sides with the slotted horizontal supports *c*, the runners D, having the shoulder *g* for the reception of the end of the rave, all cast in one piece, substantially as described, for the purpose specified.

2. The metallic knees B, when made V-shaped in their transverse section, and curved vertically, to form a brace for the runners D and supports *c*, substantially as described, for the purpose specified.

74,557.—Lucius M. Lull and James T. Starr, Walnut Grove, Ill.—*Breech Loading Ordnance.*—February 18, 1868; antedated February 6, 1868.—The breech block turns on trunnions, and is retained by a lever, to which it is connected by a chain which serves to draw the block backward to receive the charge. The lever is held by a bar which is inserted behind it.

Claim.—The breech block or cylinder B, constructed as herein described, and used in combination with a cannon provided with lever D, chain C, and bar E, when constructed in the manner substantially as and for the purposes specified.

74,558.—William J. Lyman, East Hampton, Mass.—*Portable Chamber Closet.*—February 18, 1868.—The seat has a funnel which enters the urinal, and serves to prevent escape of effluvia. The said vessel rests upon a platform sustained upon elastic cords.

Claim.—A portable chamber-closet, constructed with the spring platform and funnel, substantially as and for the purpose described.

74,559.—Horace B. Marshall, Waldoboro, Me., assignor to himself and Samuel R. Bridgham, Hebron, Me.—*Brake for Vehicles.*—February 18, 1868.—The shaft to which the brake arms are pivoted is moved longitudinally by connection to a bell-crank lever, one arm of which is within the vehicle.

Claim.—1. A brake attachment for four-wheeled vehicles, composed of the shaft D, levers B, brakes *a*, and connecting rod E, and lever F, substantially as shown and described, and for the purposes set forth.

2. The sliding main shaft D, in combination with the bent levers B, and brake blocks *a*, and connecting rod E, and lever or crank F, or its equivalent, substantially as shown and described, and for the purposes set forth.

74,560.—Thomas F. Maury, Washington, D. C.—*Tooth Brush.*—February 18, 1868.—The ends of the bristles have a rounded taper communicated by grinding.

Claim.—A tooth brush, in which the ends of the bristles of which the brush is composed are ground or smoothed and polished, substantially in the manner and for the purposes herein described.

74,561,—Charles D. McAuley, Carthage, Ohio, assignor to himself and George W. Kaylor, same place.—*Edge Plane.*—February 18, 1868; antedated February 10, 1868.—The cutter has a guard plate, and a rib which runs around the cavity between the upper and sole.

Claim.—1. The concave cutting blade C, the edge being beveled or sharpened on the outside, and having the returned face *b* slotted for the purpose of securing it in any desirable position to the stock B, substantially in the manner herein shown.

2. The adjustable gauge D, provided with the slot *e* and guard *d'*, when secured to the stock B or its equivalent, for the purpose set forth.

3. The stock B, having the guard *d* and groove *c*, in combination with the adjustable gauge D, cutting-blade C, and set screws *e'* and *a*, when the same are constructed and arranged in the manner and for the purpose herein described and set forth.

74,562.—Louis P. McCarty, San Francisco, Cal.—*Newspaper File.*—February 18, 1868.—The two rods spring apart, but are retained by a hook.

Claim.—A newspaper file, constructed substantially as and for the purpose herein described.

74,563.—S. T. McDougall, Brooklyn, N. Y.—*Lamp.*—February 18, 1868.—The wick is within an annular space in the tube, when a cylindrical wick is used; but the space may be so divided by the introduction of plates as to receive a series of flat wicks. The wick tube is connected to a central, vertical screw rod reaching to the base, and by whose rotation the wick is vertically adjusted. The chimney is made in sections, which slide together in manner of a telescope.

Claim.—1. So constructing a wick tube that either round or flat wick can be employed, substantially in the manner as described.

2. The construction and operation of a telescopic chimney, substantially as and for the purposes specified.

3. Suspending the button to deflect the flame within the chimney, for the purposes fully described.

74,564.—S. T. McDougall, Brooklyn, N. Y.—*Quartz Crusher.*—February 18, 1868.—The pounders are attached to one end of the levers, and the followers to the other ends of the same. The followers operate to stir the ore and present it to the pounders. The levers are operated by revolving cam arms.

Claim.—Combining, constructing, and operating the pounders and followers, substantially as shown, for the purposes indicated.

74,565.—Edwin McKenzie, Watertown, N. Y.—*Horse Hay Fork.*—February 18, 1868.—The sliding rod has cavities which receive the pin on a spring lever, which is retracted by a cord to release the load.

Claim.—The locking device, constructed as described, consisting of the bent lever L, pivoted to the sleeve C, and provided with the projection *h*, fitting through the strip B, into the sliding rod A, and held in place by the spring K, its upper end *l*, slotted for the passage of the rod A' and side strips B, as herein shown and described.

74,566.—James McKittrick, Brooklyn, N. Y.—*Paint and Varnish Brush.*—February 18, 1868; antedated February 5, 1868.—The portion of the handle covered by the brush has radial ribs upon it.

Claim.—The tapering handle A of the paint brush, when made round at its lower end, and provided with two inclined pieces B B upon opposite sides, all constructed as described for the purpose specified.

74,567.—Stewart McMillan, Fletcher, Ohio.—*Fanning Mill.*—February 18, 1868.—The grain falls from the hopper onto the upper shoe, and is subjected to the action of the air thereon, and while falling to the inclined screens beneath, from whence it is discharged.

Claim.—1. The inclined shoe E, having the screens suspended from the cross-frame A by means of the pivoted bars *h*, and oscillated longitudinally from the crank *s* of the fan-shaft *b* by means of the short pivoted bar *g*, cross-bar *e*, and connecting rod *d*, all constructed as described for the purpose specified.

2. The construction and arrangement of the cross-frame A, hopper C, oscillating pendent shoe E, boxes J J, drum B, fan D, pivoted lever *e*, connecting rods *g d*, and crank *s*, as herein described for the purpose specified.

74,568.—Ellis R. Meeker, Elizabeth, N. J.—*Implement.*—February 18, 1868.—The claw hammer has a sliding jaw similar to that of a monkey wrench.

Claim.—1. The pendent extension D of the claw C of the hammer, in connection with the sliding jaw H, all constructed and arranged substantially in the manner as and for the purpose set forth.

2. The detachable extension F, with the guide rod G attached, and its upper end fitted in the pendent extension D, in connection with the sliding jaw H and the screw I, all arranged substantially in the manner as and for the purpose specified.

74,569.—John A. Merriman, Chicago, Ill.—*Corn Sheller.*—February 18, 1868.—The shelled corn and cobs drop into the annular space, where they are carried around by the conveyor; the cobs to the discharge chute, and the corn to drop through the holes into the annular trough beneath, whence it is carried around to the spout and subjected to the action of the fans.

Claim.—1. The shelling wheel H, provided with one or more channels *d*, having elastic or yielding bottoms, in combination with a shelling cone K, arranged and operating substantially in the manner and for the purposes set forth.

2. In combination with a corn-shelling wheel and cone, an annular cob receiver I, and cob conveyor *h*, arranged and operating substantially in the manner and for the purposes described.

3. In combination with the shelling devices and

cob receiver as above described, an annular corn receiver L and corn conveyor, *i*, arranged so as to operate substantially as specified.

4. In combination with a shelling wheel H, cob receiver I, and corn receiver L, the arrangement of fan wings *j*, operating as and for the purposes shown and set forth.

74,570.—S. A. Millard, Clayville, N. Y.—*Process of Rolling Hoes.*—February 18, 1868.—The blank is rolled into form by passage through a series of irregular rollers. The blank is passed in transverse and longitudinal directions.

Claim.—Forming the head and blade portions of a hoe, by rolling the stock out between rotary dies, in the manner substantially as described, that is to say, by rolling the stock alternately from near the center toward each edge, so as to "spread" the blank, and then alternately lengthwise in one direction to form the ears, and lengthwise in the other direction to draw or plait out the blade toward its edge.

74,571.—Moses Romual Molleur, Chicago, Ill.—*Hay Press.*—February 18, 1868.—The bottom is hinged at one side, and supported on adjustable blocks so that it may be allowed to fall slightly, taking its pressure from the doors, when the holding bars of the latter are being removed. The sides of the press are sprung out by toggle levers to loosen the bale for removal.

Claim.—1. The combination of the vertical box A, provided with doors B B, opening upward, the movable bottom C, follower D, cords K, rollers R, ratchets and pawls H I, all arranged and operating as and for the purposes specified.

2. In combination with a hay press having yielding sides, as described, the rod M and lever P, arranged and operating substantially in the manner and for the purposes set forth.

74,572.—George R. Moore, Lyons, Iowa.—*Machine for Corrugating Sheet Metal.*—February 18, 1868.—The bearing standard of the upper, corrugating roller is arched, so as to admit the cylinder which is to be corrugated over the lower corrugating roller and its bearing arm. The cylinder lies on supporting rollers, and is corrugated by revolution between the corrugating rollers. The upper one of the latter is depressed by a winch screw. The portion of the mechanism inclosed within the cylinder is supported at one end, and the middle, by hinged supports, so connected by rods that the depression of one insures the elevation of the other.

Claim.—1. The combination of base plate B, standard A, arms E and F, and arched brace S, constructed and arranged substantially as described.

2. The combination of the extension arm G with the arm F and hinged supports C and D, constructed and arranged substantially as described.

3. The combination of arms F and G, roller bearings H H, and corrugating rollers I and J, constructed and arranged substantially as described.

4. The combination of the rods M M, gauge L, latch nut O, and screw arbor P, constructed and arranged substantially as described.

74,573.—H. A. Moore, E. Otis Frink, and S. C. Frink, Indianapolis, Ind.—*Box for Street Stop Cocks.*—February 18, 1868.—The box gives access to the cock. The lugs of the lid take under the inclined flanges, and are secured by a twist.

Claim.—1. A street stop-cock box for gas, water, or other purposes, provided with the flanges *e* and *f*, and the inclined flanges *h*, substantially as and for the purpose specified.

2. The cover, provided with the lugs L and *k*, substantially as described and for the purposes set forth.

74,574.—John Moore, Madison, Ind.—*Combined Cane Mill and Steam Engine.*—February 18, 1868.—The frame of the mill is so constructed as to give bearings for a steam engine and to allow the removal of the rollers, when the engine may be applied to another purpose.

Claim.—The arrangement of the cylinder of a steam engine and the rollers of a cane mill upon the same frame, substantially as herein shown and described, for the purpose specified.

74,575.—Thomas W. Moore, Richmond, Ind.—*Bolt Cutter.*—February 18, 1868.—The bolt is received in an aperture in one jaw and cut by a cutter block secured to the other.

Claim.—The combination of lever A (provided with cutting edge, as set forth) and lever B, (provided with aperture *b*,) when operating substantially as and for the purpose described.

74,576.—Adam Myers, Van Wert, Ohio.—*Carriage Jack.*—February 18, 1868.—The disk head of the lever is eccentrically pivoted to the upper ends of the lifting and brace bars.

Claim.—The combination of the adjustable spring catch or shoulder E with the long arm A of the jack, substantially in the manner herein shown and described, and for the purpose set forth.

74,577.—William Neff, Center Hall, Pa.—*Harvester.*—February 18, 1868.—The finger bar is supported upon a rocking shaft, which is connected by a crank arm to the arbor of the grain wheel, and at the other end to the middle of a lever, one end of which is supported upon a link, and the other by a flexible connection to a hand lever, by whose movement the ends of the bar are simultaneously depressed. The gag bar is attached to the under side of the main frame, and projects outward and underneath the drag bar, and prevents its dropping below a given line. The drag bar is attached to the gag bar by a curved pivot, so that the drag bar may roll or rock toward the main frame and back on the gag bar.

Claim.—1. The arrangement of the rocker lever *i* on the shaft *f*, and its connection to the main frame by a link *j*, and to the lever D by a flexible connection *k*, so that operating the lever D will raise and lower the finger bar at both ends simultaneously, substantially as described.

2. In combination with a hinged drag bar B, that can roll to and from the main frame, the gag bar *d*, connected thereto by the curved pivot *e*, as and for the purpose substantially as described.

3. The reel arms, working in the same circuit, but at different velocities, and independent of each other at different portions thereof, when driven through eccentrically-hung circular gears, substantially as described.

74,578.—R. L. Nelson, Mexico, N. Y.—*Device for Changing Feed.*—February 18, 1868.—For changing the feed of saw mills, &c. The intermediate wheel is on a swinging frame, and may connect wheels of the desired relative diameter.

Claim.—1. So arranging the gear wheels *a b* on two parallel shafts B C, which are to be connected, for changing the feed of certain mechanism, that the line drawn over the faces of the wheels on either shaft will be a curved line, as set forth.

2. Hinging the swinging frame E, in which the shifting gear *d* is held, so that the shifting gear will first come in gear with the driving shaft and then with the shaft that is to be driven, as set forth.

3. The sliding frame D in which the shaft F that carries the shifting gear *d* has its bearings, when connected, by means of jointed bars *e*, with the rock shaft G, substantially as and for the purpose herein shown and described.

4. The arrangement and combination of the shafts B C, carrying the gear wheels *a a* and *b b*, respectively, with the wheel *d* on the shaft F, sliding frame D, hinged frame E, levers *c c*, bars *e e*, and rock shaft G, all made and operating substantially as herein shown and described.

74,579.—Thomas Nevison, Jr., and James Nevison, Morgan, Ohio.—*Carriage Wheel.*—February 18, 1868.—The metallic spokes are curved, so as to act as springs, and each one is attached to the felloes in two places, each spoke being connected at the felloes to the spokes on each side of it.

Claim.—The herein-described wheel, when the spokes of the same are constructed and secured to each other and the felloe or rim, in the manner substantially as set forth.

74,580.—Philip A. Newhall, Lynn, Mass.—*Slide-block Last.*—February 18 1868.—The lower

portion of the block has a dovetail form, and slides in a suitable cavity of the last. A tongue on the lower side of the block fits a groove in the last.

Claim.—In combination with a slide block, fitted by tongue and groove to slide upon the last, the square face or point *g*, to abut against the shoulder *f* in the last, to be thereby protected from slipping back, substantially as set forth.

74,581.—Don Carlos Newton, Batavia, Ill.—*Wagon-Pole Support.*—February 18, 1868.—The king bolt passes through the rear end of the lever, and is supported by a chain from the pivot bar of the tongue. The end of the lever is attached to a spring connected to the tongue.

Claim.—1. The combination of the steel spring B with the wooden lever C.

2. The manner of attaching the wooden lever C to the draw bolt E by means of the chain D.

74,582.—George and William L. Nixon, Sandyville, Ohio.—*Device to Prevent Hogs from Rooting.*—February 18, 1868.—The plate has three projections, one of which lies on the snout and prevents rooting, and the others give bearing to a rod which traverses the upper part of the snout transversely just above the gristle, and forms the attachment.

Claim.—The within described device, consisting of the plate A, arms C C, with holes D D, and wire B, the several parts being arranged and used substantially in the manner and for the purpose herein specified.

74,583.—William Ord, Brooklyn, Ohio.—*Steam Engine Valve.*—February 18, 1868.—The segmental valves are connected by links which enter the slot of the stem. The links have rectangular holes traversed by tapering bars having a wedge between them which is swiveled in, and adjusted by a temper screw in the end of the stem to adjust them to their seats. The valve blocks are also forced to their seats by spiral springs.

Claim.—1. The combination of the segments A, having chambers E, with the slotted stem B and heads *e*, substantially as set forth.

2. In combination with the above, the links L, wedges *a*, and key D, substantially as specified.

3. In combination with the above, the screw H and springs S, substantially as described.

74,584.—T. C. Page, Chicopee, Mass.—*Sewing Machine.*—February 18, 1868; antedated February 7, 1868.—The reciprocating, rotary movement of the looper, caused by the cam groove on the needle bar, forms a twisted loop stitch; but the common loop stitch may be formed by adjustment of the mechanism.

Claim.—1. A needle bar and needle, having a reciprocating, rotary motion, in combination with a looping device, working beneath the bed plate of the machine, substantially as described.

2. The combination of the spiral slot *b* and straight slot *l*, formed in the needle bar *e*, substantially as set forth.

74,585.—John Paley and Thomas Rawsthorn, Preston, England.—*Mule for Spinning.*—February 18, 1868; patented in England November 23, 1864.—Motion is communicated to the cam shaft by a belt which may be shifted from a fast to a loose pulley on the cam shaft by a shipper operated by the traveling frame of the mule.

Claim.—The combination, with the driving band *b*, of the fast and loose pulleys *d* of the cam shaft, the connected levers *c i*, and the block *l* and weight *m* of lever *i*, substantially as shown.

74,586.—G. W. Pearson, Billerica, and D. Coburn, Lowell, Mass.—*Machine for Cutting and Separating Dye Woods.*—February 18, 1868.—The blocks are fed endways to the cutters, and the cuttings drop on shaken sieves. The fine particles drop onto the inclined boards and are conducted to the bolt, from whose lower end the coarser particles are elevated to the higher floor. Thus the chips are separated into three degrees of fineness.

Claim.—1. The conducting spout *e'*, and aprons *a' a'*, or their equivalents, in combination with the cylinders *b b*, for the purpose substantially as described.

2. The application of the elevator and reel bolt *r*, in combination with the conducting spout *e'* and aprons *a' a'*, when arranged to operate substantially as described, and for the purposes fully set forth.

3. The combination and arrangement of the cylinders *b b* with the cutters *c c*, conducting spout *e'*, aprons *a' a'*, reel bolt *r*, cam *u*, block *v*, and elevator, all for the purposes herein described and fully set forth.

74,587.—Antonio Pelletier, Washington, D. C.—*Composition for Manufacturing Stone and for other Purposes.*—February 18, 1868.

Claim.—1. The compound, consisting of vegetable fiber, mineral asbestos, emery powder, soapstone, silicate of soda, (or potassa,) and litharge, substantially as described and set forth.

2. The compound consisting of vegetable fiber, mineral asbestos, emery, soapstone, silicate of soda, or potash, litharge, when manufactured into stone, (sand being used in addition,) or when coated on wood, cloth, leather, brick, stone, metals, or other solid surfaces, and treated with chloride of zinc, oxide of zinc, sal-ammoniac, chloride and sulphate of iron, salts of lead and manganese, sulphate of lime, substantially as described and for the purpose set forth.

3. As a new article of manufacture, the composition, substantially as herein described and for the uses and purposes set forth.

74,588.—Benjamin P. Perry, Richmond, Ind.—*Head Block for Saw Mills.*—February 18, 1868.—The feed rack is engaged by a spur wheel upon the shaft of the ratchet wheel, which also carries the elliptic by which the feed pawls may be raised from the ratchet teeth and permit the rack to be freely moved. The pawls are operated by a lever, and the oscillation of the latter is restricted by a collet on the shaft which comes in contact with adjustable eccentrics at the ends of its strokes.

Claim.—1. Connecting the pawls P and P' with the sleeve *a* on the same side of the latter, by which a simultaneous action of said pawls is produced, resulting in the alternate operation on the ratchet, substantially as set forth.

2. The collet H, having the projection *h*, in combination with the eccentrics *n* and *n'*, for adjusting the feed, substantially as set forth.

74,589.—G. M. Plympton, New York, N. Y.—*Carriage Step.*—February 18, 1868.—Bars of rubber are laid on the lower plate, and the upper plate has flaps cut and turned up to secure the said bars.

Claim.—A step for carriages, &c., formed of the two plates F and A, in combination with the India-rubber ribs D, or their equivalents, when the plate A is formed to receive such ribs D, substantially as and for the purpose described.

74,590.—Anthony Pohl, Detroit, Mich.—*Brick and Mortar Elevator.* — February 18, 1868.—The endless chains are carried over wheels above and below, and the material carried up on the frames attached to the chains.

Claim. — The endless chain or belt, carrying pivoted open frames, supporting the removable shouldered boxes *f*, for the purpose substantially as described.

74,591.—John Price, New York, N. Y.—*Shackle for Platform Springs of Wagons.*—February 18, 1868.—The ends of the springs are connected by a gimbal joint.

Claim.—A shackle for connecting the ends of the parts of platform springs, composed of the cross tubes *a b*, and the bolts *c c e e*, all constructed and applied substantially in the manner as and for the purpose herein specified.

74,592.—Homer Rawson, Jericho, Vt., assignor to himself and O. H. Shaw, same place.—*Ox Yoke.*—February 18, 1868.—The bows pass loosely through the yoke and are keyed to the hinged cap.

Claim.—The adjustable hinge C on the cap A, and

the movable or adjustablo staple E, in the center of the yoke B, all for the purpose as herein set forth.

74,593.—Joseph Reichmann, Dubnque, Iowa.—*Valve for Steam Engines.*—February 18, 1868.—The steam admitted on one side of the valve pistou, and the exhaust on the other side, moves the said piston and valve. When the latter reach the desired point steam is admitted on the reverse side, checks the motion, and ultimately stops them.

Claim.—1. The steam and exhaust ports, so arranged as to cause the motion of the valve piston, or its equivalent, and to check and stop said motion of said piston, or its equivalent, substantially as herein set forth.

2. The stationary valve plate *h*, constructed as described.

3. The combination of the valve *d*, piston *f*, cylinder *c*, plate *h*, and valve *i*, constructed as described, and so arranged as to produce self acting and self checking motion, substantially as and in the manner herein set forth.

74,594.—S. S. Rembert, Memphis, Tenn.—*Breech-Loading Fire-Arm.*—February 18, 1868.—The barrels are hinged to the fore end of the stock and are thrown up at the breech by the oscillation of the trigger guard, which action simultaneously draws out the cartridge case through the medium of the retractor levers.

Claim.—1. The retractors O, pivoted to the sides of the stock, and operated by the trigger guard, whereby, as the barrels are raised by pushing forward the trigger guard, the upper ends of the retractors catch against the nipple K and withdraw the cartridge, as herein shown and described.

2. The nipple K, when inserted in the cartridge case J, with its lower end resting upon the screw block N, in the under side of said cartridge, as herein shown and described.

74,595.—W. Rickard, Chicago, Ill.—*Pearl Barley Machine.*—February 18, 1868.—The grain is placed in one of the two hoppers and passes through the annular space between the toothed cylinder and the case. The cylinder has horizontal, toothed rings alternating with plain ones. The shell has holes with the burrs inside, and inclined slots which incline to the right and left, to operate when the cylinder is turned in either direction, according as the grain is furnished by one or the other hopper. An adjustable fan blast removes the husks from the machine. From the elevator the grain passes over a screen which keeps back the unhusked grain, and the same is returned to the alternate hopper.

Claim.—1. The cylinder C, constructed substantially as herein shown and described, in combination with the perforated casing D and shaft B, as and for the purpose set forth.

2. Forming the long holes or slots in the casing D with their lips inclined to the right and to the left, substantially as herein shown and described, so that the machine may work equally well whether run backward or forward.

3. In combination with the cylinder C, case D, and shaft B, as constructed, the fan chamber G and fan H, as set forth, for the purpose specified.

74,596.—Richard N. Roberts, New Britain, Conn., assignor to himself and Justus M. Alling.—*Hitching Post Cap.*—February 18, 1868.—The hitch strap is held beneath a turning cam.

Claim.—An improved article of manufacture, viz: a metallic hitching post cap, in combination with a cam strap holder, constructed and arranged substantially as described.

74,597.—Louis C. Rodier, Springfield, Mass.—*Steam Globe Valve.*—February 18, 1868.—The valve is contained in and removable with the plug, so that by taking out the plug the valve may be repaired or cleaned.

Claim.—The metallic plug, having one or more valve seats therein, and one or more valves attached thereto, in combination with the shell or case A of a globe valve, the aperture B being constructed therein so as to receive said plug, and the whole arranged substantially as herein described and set forth.

74,598.—George O. Roe, Conantsville, Conn.—*Plate Lifter.*—February 18, 1868; antedated February 16, 1868.

Claim.—The lifter, composed of the hooked arms *b*, shank *a*, and sliding hook *c*, the whole arranged and operating substantially as and for the purpose specified.

74,599.—Evan T. Rogers, San Francisco, Cal.—*Boot and Shoe.*—February 18, 1868.—The leather is marked by the ridges as a guide for the stitcher.

Claim.—Making the ridges on the markers by casting them in one piece with the plate, substantially as described.

74,600.—William Rose, Lake, Ill.—*Harvester.*—February 18, 1868.—The cam wheel receives rotation from the axle by a chain, and oscillates an arm connected to the pitman of the cutter bar.

Claim.—The combination of the cam wheel J K, arm P, rod Q, block L, arm M, and arc N, all constructed, arranged, and operating in the manner set forth, and for the purposes specified.

74,601.—M. Rothschild, Harrisburg, Pa.—*Pliers for Bending Sheet Metal.*—February 18, 1868.—The instrument is for bending small strips of sheet metal over the joints of hoop skirts, and it has one concave and one corrugated jaw.

Claim.—The form, construction, and arrangement of the jaws A and B, and their combination with the handles and spring, as herein described and for the purpose set forth.

74,602.—William D. Rowlstone, Butternuts, N. Y.—*Sleigh Brake.*—February 18, 1868.—The dog brake is pivoted to the frame at the upper end, and is operated by a hand lever connected to it by a link.

Claim.—The above-named sleigh brake, arranged substantially as above described and for the purposes herein mentioned.

74,603.—William Russell, Atlanta, Ga., assignor to himself and George Winship, same place.—*Cotton and Hay Press.*—February 18, 1868.

Claim.—1. When used in a cotton and hay press, the combination of the stationary vertical screw rods R R with the movable nut V, having the trunnions *v v*, and the arms H H, for the purpose of moving the follow block up and down, while allowing it to be turned aside from the top of the press box, all the parts referred to operating substantially in the manner and for the purposes specified.

2. The bent arms H H, attached to the follow block and provided with ears *h h*, which are supported by and pivoted upon a nut or other device, working up and down by the action of screw rods R R, substantially as and for the purpose set forth.

3. The gear wheel G, provided with the inner rim *o o*, and fixed to the wooden beams *d d*, substantially as and for the purpose set forth.

4. The combination of the screw rods R R with a follow block fixed to pivoted arms, so as to turn back away from the top of the press box when elevated above it, substantially as described.

5. The combination of the press box A with the gear wheels G *g*, screw rods R R, arms H H, and follow block B, all the parts being constructed and operating together substantially in the manner and for the purposes specified.

74,604.—Napoleon Sarony, New York, N. Y.—*Photographic Rest.*—February 18, 1868.—Improvement on the patent of Oliver Sarony, June 5, 1866. The stand is fixed to the floor or platform, and the rests are extensible and adjustable thereon.

Claim.—1. The head block *d*, constructed in the manner specified, in combination with the stand or column *a* and rod *b*, as and for the purposes set forth.

2. The rest holder *g* or *g'*, in combination with the head block *d*, rod *b*, column *a*, and rest *h k*, substantially as and for the purposes set forth.

3. The extension cabinet front or panel, in combination with the table *p*, substantially as specified.

4. Two or more rests, supported from one column by means of the rest holder *g*, substantially as set forth.

5. The curved arm *n'* and movable table *n*, in com-

bination with the column *a* and rod *b*, as and for the purposes set forth.

6. Attaching the column *a* removably to a base *a'* that is permanently attached to the floor, in order that the rest may be a fixture when connected to such base, but removable to other bases, for the purposes set forth.

74,605.—FRANK SAUNDERS, Aberdeen, Miss.—*Measuring Faucet.*—February 18, 1868.—The valve is at the inner end of the faucet, and is closed by the pressure of the liquid. The valve stem has a sleeve carrying a spiral propeller occupying the cylindrical passage in the shank, and having a spur wheel whose rotation is indicated by a pointer, to denote the quantity which has passed through the faucet.

Claim.—1. The propeller B, sliding rod C, with its plug D and locking slide I, in combination with a faucet, substantially as and for the purpose set forth.

2. The combination of the lifter G, locking slide I, and screw *d*, arranged to operate essentially as specified.

3. The flexible, spiral, or twisted vanes B B', arranged as described, in combination with the mechanism for operating the index or closing devices, substantially as specified.

74,606.—HENRY K. SCHANCK, Chicago, Ill.—*Composition for Roofing.*—February 18, 1868; antedated December 27, 1867.—Composed of coal tar, 5 galls.; sulphur, 8 lbs.; plumbago, 6 lbs; litharge, 3 lbs.; India-rubber, 3 lbs. These matters are melted together sufficiently to vulcanize the rubber, and the vessel is placed in a furnace kettle containing a little boiling water; blue clay is then added, and a mortar made under heat. The mortar is applied with a trowel.

Claim.—1. A composition for roofing and other analogous uses, composed of coal tar, sulphur, plumbago, clay, and litharge, substantially as herein specified.

2. In combination with the above, the employment of the ingredient, India-rubber, substantially in the manner and for the purpose set forth.

74,607.—CHARLES A. SEELY and CHARLES J. EAMES, New York, N. Y.—*Preserving Dead Bodies.*—February 18, 1868.—The body is kept moist for a certain time with carbolic acid, or similar antiseptic, either by immersion or other means. The liquid may be injected into the cavities of the body by the natural passages, and may also be injected into the blood vessels.

Claim.—1. The process for preserving dead bodies, substantially as described.

2. The use of carbolic acid, and combinations of carbolic acid with other substances, for the preservation and embalming of dead bodies.

74,608.—CHARLES A. SEELY and CHARLES J. EAMES, New York, N. Y.—*Disinfecting Compound.*—February 18, 1868.—Disinfectants, as carbolic or cresylic acid, are mixed with some substance, such as sawdust, salt, or charcoal, which will have no chemical effect on the acid. Sawdust, 10 lbs., may be mixed with carbolic acid, 40 oz. The dead oil of coal tar may be mingled with these neutral granulated substances, to form a cheap disinfectant.

Claim.—The disinfecting compound as above described.

74,609.—WILLIAM SELLERS, Philadelphia, Pa.—*Lathe for Turning Iron.*—February 18, 1868.—The back upright of the fixed head has an opening upward from the spindle bearing, allowing the latter to descend vertically, and this opening is stopped by a tongued block slid in horizontally from the back. The segment nut engaging the feed screw slides horizontally, and is moved by a screw operated by a hand crank at the front of the rest. The longitudinal and cross-feed are taken from the same shaft, which is clutched by the right or left rotation of a single screw to the gearing operating the said feeds respectively.

Claim.—1. Attaching the fixed or live head to the shear or bed by bolts passing through and straining upon the flanges on the cross-girths in the bed, as described.

2. Forming a hole in the side of the lathe beds, for the purpose of operating the bolts or other holding-down apparatus for the live heads, substantially as described.

3. Casting a web across the bottom of lathe beds, between the two girths, under the head, for the purpose of stiffening the bed, when a hole is made in the side, and to form a secure tool receptacle in the same, substantially as described.

4. Supporting the back journal of the spindle in a solid conical bearing, when this bearing is held in position by an oil box, substantially as described.

5. Receiving the end thrust of the spindle upon collars placed inside of an oil box, at the rear of the back bearing, when this box is so arranged as to permit the spindle to pass through it, for the purpose specified.

6. The block N, substantially as described, and for the purpose specified.

7. Placing the lead screw under cover, and in a bearing its whole length, substantially as described.

8. Engaging or disengaging the saddle or slide rest with a feed screw, supported as described, by means of a segment of a nut moving horizontally, for the purpose specified.

9. Operating the longitudinal and cross-feed of the lathe by two clutches on the same shaft, in the manner substantially as and for the purpose specified.

10. Engaging and disengaging both clutches by movements of the same handle in the same direction, substantially as described.

74,610.—J. H. SEYMOUR, Hagerstown, Md.—*Spittoon for Cars.*—February 18, 1868.—Improvement on his patents Nos. 54,613 and 59,280. The spittoon has an outer conical case reaching through the lower bottom. The neck flares slightly downward, to prevent choking.

Claim.—1. The combination of the conical shell B with the spittoon C and the bottom A A*, substantially as and for the purpose specified.

2. The neck *a*, made with its interior of conical form, and largest at its lower end, arranged at the bottom of the spittoon C, and in relation with the valve *b*, substantially as and for the purpose specified.

74,611.—WILLIAM ANTHONY SHAW, New York, N. Y.—*Manufacture of Tin-Lined Lead Pipe.*—February 18, 1868; antedated February 6, 1868.—The mandrel has limited movement in the ram to allow adjustment to the die aperture, to prevent fracture of the mandrel, and insure concentricity between the inner and outer surfaces of the pipe.

Claim.—1. The combination of the mandrel C with the ram A, said mandrel being rigidly connected to said ram in a deep cavity, as shown and described, so as to give said mandrel capacity to spring in said cavity, and adjust itself in the center of the die.

2. Connecting the mandrel to the ram by the interposition of a flexible link, substantially as described.

3. In combination with the ram A, the cup B, for the purpose of facilitating the connection between the mandrel and the ram, substantially as described.

74,612.—WILLIAM ANTHONY SHAW, New York, N. Y.—*Manufacture of Tin-Lined Lead Pipe.*—February 18, 1868; antedated February 6, 1868.

Claim.—1. The formation of a metallic pipe, by forcing two or more of the ductile metals together, in the form of tubes, over a mandrel or core, out of two or more cylinders, and through, on, or in two or more dies, substantially as described.

2. The use of two or more cylinders, two or more rams, and two or more dies, or their equivalents, when combined with a mandrel or core, substantially as described, for the purpose of making laminated pipe, whether said pipe be made of metal or other material.

3. The manufacture of a metallic pipe, consisting of three tubes of soft metal, such as a tube of lead pressed between two tubes of tin, by forming and forcing them together, through three dies, out of three cylinders, over one core or mandrel, in the manner described.

4. In combination with a pipe press, a set of drawing or stretching rollers, for the purpose of drawing or stretching the pipe on the mandrel or core, as it issues from the press, substantially as described.

5. The manufacture of a continuous metal pipe, whether of lead or of composition, from metal disposed in two or more retaining cylinders, by forcing it out of the same in the form of two or more tubes, over a mandrel or core, and in such proportion that the retaining cylinders shall not both or all be exhausted at the same time, so as to avoid the defect in the pipe resulting from the failure of the successive charges to thoroughly weld, as in the ordinary press, substantially as described.

74,613.—William Anthony Shaw, New York, N. Y.—*Manufacture of Tin-Lined Lead Pipe.*—February 18, 1868; antedated February 6, 1868.—Improvement on his patent, March 10, 1863. To overcome the irregularities incident to the tendency of the metal in proximity to the mandrel to issue at greater speed than that nearer the circumference, the central block of metal is made in form of frustums of cones with their smaller ends forward.

Claim.—1. Making the charge of metal in three distinct parts, as described, and uniting them either before or after they are put in the cylinder.

2. Making the central ingot or charge of tin, in the form of a double frustum of a cone, or its equivalent, for the purpose of securing a uniform thickness of tin in the lead tube or pipe.

3. Making the intermediate lead or alloy ingot in the form of a frustum of a cone, substantially as described.

4. Making the cavities D in the upper end of the charge, substantially as described, for the purpose specified.

74,614.—William Anthony Shaw, New York, N. Y.—*Making Tapering Tubes.*—February 18, 1868.—The tapering mandrel has movement with the ram, which brings its enlarged part gradually forward, to cause increased inside diameter in the pipe.

Claim.—The manufacture of a pipe, funnel-shaped along its interior diameter, and of equal diameter externally, by pressing the material of which the pipe is composed out of a retaining cylinder, through a die, over a taper mandrel, substantially as described.

74,615.—Otis Shepard, Alton, Ill.—*Hammer.*—February 18, 1868.—The wagon hammer has fixed side projections which combine with projections on a sliding head, to form an adjustable wrench.

Claim.—A hammer, the head of which is made of two parts A and C, connected by the handle M and spring *k*, when the several parts are constructed and operate in relation to each other, substantially as shown and specified.

74,616.—William Shields, Philadelphia, Pa.—*Die for Making Square-Headed Bolts.*—February 18, 1868.—The holding dies have horizontal flanges, which, meeting together, form the lower side of the head cavity. The upper part of the heading die is advanced to form cutters on the top and side, for removal of fins.

Claim.—The combination of the jaws with flanges A A and the plunger B, constructed and arranged and operating substantially as and for the purpose herein described.

74,617.—James A. Sinclair, Woodsfield, Ohio.—*Animal Trap.*—February 18, 1868.—The rat while attempting to reach the bait is entrapped, and its efforts to escape result in its being killed and thrown from the trap, and the trap reset.

Claim.—1. The combination of the tramp wheel J, shaft L, cog-wheel M, and toothed bar N, having a knife or spear X pivoted to its end, and spring O, with each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the drop gate K, bent lever R, and spring O with each other and with the tramp wheel J, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the trap door S, lever T, arm U, and bar N with each other, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the arm W with the bar N, substantially as herein shown and described, and for the purpose set forth.

5. The combination of the arms A′ and guide plates Z with the bar N and the frame of the trap, substantially as herein shown and described, and for the purpose set forth.

6. The combination of the inclined guide B′ and spring C′ with the bar N and frame of the trap, substantially as herein shown and described, and for the purpose set forth.

74,618.—W. Y. Singleton, Springfield, Ill.—*Beehive.*—February 18, 1868.—The top and bottom consist of trays containing ashes, resting on canvas and wire gauze; the air for ventilation passes through the trays in limited quantities.

Claim.—1. The absorbent bottom C and lid or top D, constructed and applied to the hive substantially in the manner as and for the purpose set forth.

2. The air chamber B with the air passage E attached, substantially as and for the purpose specified.

74,619.—Reuben T. Sitterly, Callaway County, Mo.—*Belting Tobacco.*—February 18, 1868.—The levers have each two horizontal cutters and an inclined cutter. A ring of bark is removed by a full half revolution of the cutters.

Claim.—The construction and combination of the blades, as herein described.

74,620.—George W. Skinner, Rockford, Ill.—*Horseshoe.*—February 18, 1868.

Claim.—1. Constructing a horseshoe with a beveled projecting spur *a* at its front, and the toe calk with a corresponding recess, to receive the spur *a*, and then securing the toe calk in place by means of the same, together with a screw *b*, as shown and described.

2. The detachable heel calks, fitted to a recess in the under side of the shoe, and held in place by means of the projection E or E′ and screw *a*′, as shown and described.

74,621.—H. K. Smith, Norwich, Conn.—*Lathe Rest.*—February 18, 1868.—Two portions of the nut have a wedge form and one of them is adjusted by a temper screw to compensate for lost motion.

Claim.—The nut F, made in three parts, G, H, and I, arranged together with screws L and E, for operation, substantially as and for the purpose described.

74,622.—Joseph Smith, Schodack Center, N. Y.—*Medical Compound.*—February 18, 1868.—Liniment for treatment of rheumatism, &c. Composed of cider vinegar, 1 gall.; acetate of lead, 4 oz.; spirits of turpentine, 2 oz.; muriatic acid, 2 oz.; sulphuric acid, 2 oz.

Claim.—A medical compound, comprising the ingredients about in the proportions herein set forth.

74,623.—John J. Smokey, Natchez, Miss.—*Harness.*—February 18, 1868.—The reins pass through the hame rings, martingale, and gag loops, after which each rein divides: one branch connecting with its fellow upon the other side, through the check hook, and the branch passing through the back band.

Claim.—The driving reins A, when arranged and combined with a harness, substantially as and for the purpose described.

74,624.—George A. Smythe, Reading, Pa.—*Calculating Scale Beam.*—February 18, 1868.—The weight ring slides on the beam, and is numbered from 10 to 100, indicating the price. The beam is marked in lines divided vertically, to indicate by numbers in proximity to those on the weight the value of the article.

Claim.—The arrangement and combination of the slide B, clasping around the whole beam, marked and notched as represented in Fig. 1 and Fig. 2, together with the shape of the slide and the ounce line, marked 16 on slide, showing the fractional parts of a pound, and an ounce on the beam, and the amount in money.

74,625.—J. Michael Stark, Buffalo, N. Y.—*Beer Faucet.*—February 18, 1868.—The valve is at the bottom of a cylindrical piece, and the liquid passes upward and downward in the annular space surrounding the cylinder, the upward current turning

around the upper edge of the cylinder, descending therein, and issuing through a contracted nozzle at the cylinder-bottom.

Claim.—The combined cylinder and valve B C, provided with the feeding and discharge holes R Q, the plunger F G, and ring K, all constructed and arranged to operate within the body of the faucet, substantially as described.

74,626.—C. E. STELLER, Chicago, Ill.—*Harrow.*—February 18, 1868.—The teeth are made of such size as to turn in the holes, which have a box at top and a metallic plate at the rear side beneath. A metallic cap prevents the introduction of dirt from above.

Claim.—1. The combination of supports J and teeth H, substantially as and for the purpose herein specified.

2. The combinatiou of teeth H, collars K, and caps I, substantially as and for the purpose set forth.

3. The round teeth H, arranged to operate in enlarged holes L, substantially as described.

4. The rod C, secured by staples P P, in combination with joint D, arranged substantially as and for the purpose set forth.

5. The rods E E in combination with rod C and joint D, arranged to operate as and for the purpose described.

74,627.—H. A. STIDGER, Carrollton, Ohio.—*Bee Hive.*—February 18, 1868.—The bottom boards are inclined, and slide into position. The lower bottom board has a strip of cloth at its lower edge, to prevent the climbing of the worm. Ventilation is regulated by these sliding bottoms and a register opening in the hive top.

Claim.—1. The combination of the ventilating openings A E with the sliding bottom board F and hinged cover *h*, substantially as and for the purposes set forth.

2. The movable glass frames D, in combination with the doors *b b* and sliding bottom board G, substantially as and for the purposes set forth.

3. The strip of cloth g^2 on the under side of the lower end of the bottom board G, in combination with the foot g^1 of the bee hive, substantially as and for the purposes set forth.

74,628.—MIRUM SULZBACHER, New York, N. Y.—*Bureau Bedstead.*—February 18, 1868.—The lower portion of the bureau is extensible, and drawn out upon rollers to form a bedstead.

Claim.—A bureau bedstead, containing three extension pieces *a b c*, with grooves, dowels, and transverse slats *a′ b′ c′*; said extension pieces, when pushed in, being inclosed in a case A, with folding and sliding doors *f*, all as shown and described.

74,629.—S. C. TAYLOR, Toledo, Ohio.—*Dental Instrument.*—February 18, 1868.

Claim.—1. In combination with the mallet and the trip motion, a permanent and a hinged lever, so that the user may hold the instrument and operate the mallet at the same time, and by one and the same hand, substantially as described.

2. In combination with a pivoted lever and toe piece and "crotchet," a rod and hook, for catching, drawing down, and releasing said toe piece, substantially as described.

3. In combination with the mallet and a spring in a plugging instrument, the sliding dog or catch and the teeth, for the purpose of compressing, graduating, or regulating the action of the spring upon the mallet without changing the extent of motion of the lever E, substantially as described.

74,630.—WILLIAM H. THOMAS, Sacramento, Cal.—*Water Heater for Baths, Tubs, &c.*—February 18, 1868.—The furnace stands in a water tank, and its fire space is traversed by a coil of pipe fed at the lower end from a closed reservoir, into the upper part of which the steam and heated water discharge.

Claim.—A steam coil heating furnace, submerged in water and supplied with air from the top, and provided with a tank E, and deflector *h*, all constructed and arranged substantially as herein shown and described.

74,631.—STILLMAN and WESLEY THORPE, Turner, Me.—*Car Coupling.*—February 18, 1868.—The weighted bolt holds down the inner end of the link which is inserted beneath it when the cars are to be coupled. The entering link drives back the slide and allows the fall of the coupling pin.

Claim.—The combination and arrangement of the sliding back *d*, slotted arm *y*, and pin *x*, with the coupling pin *k*, in connection with the weighted bolt *g* and the link *m*, as and for the purposes set forth.

74,632.—ISAAC P. TICE, New York, N. Y.—*Wind Mill.*—February 18, 1868.—Independent wind boards are arranged to reciprocate alternately under the control of shutters which act automatically to admit the wind to or to shut it off from the boards in succession, so that they will cause the rotation of a compound crank shaft to which they are connected.

Claim.—The combination with the many-cranked driving shaft G, or other suitable driving mechanism, of the reciprocating wind boards A B C, differently pitched or set for successive action in like directions, intermediately to each other, and controlled by valves or shutters *d*, substantially as specified.

74,633.—ISAAC P. TICE, New York, N. Y.—*Milk Rack.*—February 18, 1868.

Claim.—The arrangement of the collars or bearings *b* and collars *b′* on the stationary shaft B, with relation to and in combination with the revolving shelves or stands C, substantially as shown and described, for the purpose specified.

74,634.—LEONARD TILTON, Brooklyn, N. Y.—*Machine for Bundling Kindling Wood.*—February 18, 1868.—The pieces of wood are taken from the splitting machine by the feed wheel, and a bunch of the latter presented to the cutting-edged pressure cylinder, and forced through by a plunger. The trimmings of the pressure cylinder are returned automatically to the feed wheel.

Claim.—1. The feed wheel or rim C, placed between the plate A and rim B, constructed and arranged to operate in the manner substantially as and for the purpose set forth.

2. The bundling tube J and plunger I, arranged in relation with the wood receptacle to operate substantially in the manner as and for the purpose specified.

3. The clearer L, arranged in relation with the bundling tube J, and operated from the cross heads F′ F″, in the manner substantially as and for the purpose set forth.

4. The combination of the cam Q, levers R T′, slide S, with pawl T attached, and the counterpoise U, all constructed and arranged to operate the feed wheel, substantially as set forth.

5. The three cross heads F F′ F″, arranged, in connection with the hooks K K and pins *e′*, to operate and give the proper or desired movements to the bundling tube, plunger, and clearer, substantially as shown and described.

74,635.—JOSIAH TISDALE, South Dedham, Mass.—*Peat Machine.*—February 18, 1868.—The peat is cut by the curved blades upon the spiral, and is driven by the latter through the tapering spout.

Claim.—The arrangement as well as the combination of the curved blades or shares with the screw propeller and its box, the whole being to operate together substantially as hereinbefore explained.

74,636.—A. W. TODD, Chicago, Ill.—*Frame for Supporting and Moving Cloth to be Creased.*—February 18, 1868.—The free end of the cloth which hangs over the table is weighted, and the cloth drawn over the rollers and the metallic rib. The cloth is creased upon the rib by the pressure of the grooved roller.

Claim.—The combination and arrangement of crank O, ratchet wheel P, pawl R, end pieces B B, bar D, rollers C and A, points *h h*, and feather edge *g*, for supporting and moving the material to be creased, as described.

74,637.—JOHN VANDERCAR, Brooklyn, N. Y., assignor to THADDEUS B. BEECHER, New Haven, Conn. — *Boot Blacking Apparatus.* — February 18, 1868.—The device is fitted as a foot stool. Its upper part is hinged to the base, and on being thrown back discloses the hinged foot rest and the necessary instruments.

Claim.—Connecting the foot rest of a boot-blacking apparatus or device to its standard legs or supports by a ball socket joint, substantially as herein specified.

74,638.—JAMES VAUGHN and JOHN MCGEE, Galena, Ill.—*Pump.*—February 18, 1868.—The cylinders are headless and have a valved diaphragm at midlength. They slide upon the valved plungers. The stems of the latter are tubular, and fixed to the frame.

Claim.—The arrangement of the movable cylinders A, pivoted at B in the yokes D at each end of the horizontal rocking beam C, and fitting over the pistons G, immovably fixed in the framing at each end of the cylinders, all constructed as described, whereby the cylinders are operated by the rocking beam C, and kept in vertical line upon said pistons by the pins B in the yoke D, as herein set forth, for the purpose specified.

74,639.—JAMES J. WAGENHORST, Philadelphia, Pa., assignor to himself, C. H. ZINK, and W. R. WEAND, same place.—*Till Alarm and Lock.*—February 18, 1868.—When the till is closed the outer bolts which rest on the tumblers are raised above the upper surface of the frame, while the central bolts which rest upon the other tumblers extend within the frame and in front of the cross-piece at the rear of the same. If, while the parts are in this position, an unauthorized person undertakes to open the till the rear cross-piece is brought in contact with the central bolts, which will prevent its further movement, while the drawer moves forward until the flange is brought against the lug, which prevents further movement of the till. If the till be now moved back the alarm is sounded.

Claim.—1. The combination of the tumblers D and their projections *e* with levers E, on each of which are cams *f* and *f'*, all substantially as specified.

2. The spring slide L, its striker *p*, and adjustable block *q*, in combination with the lug *t*, the sliding frame G, its projection *s*, and the recess *r*, in the case A, all substantially as and for the purpose specified.

3. The spring slide L and its striker *p*, in combination with an alarm bell M.

74,640.—CHARLES E. WAHLGREN, Knoxville, Ill. —*Washing Machine.*—February 18, 1868.—The device is used with one hand, and in connection with a common wash board. The reservoir is filled by the valve port, and has perforations which allow the passage of the water to the clothes beneath.

Claim.—1. The reservoir B, in combination with the fluted ribs or rollers F of a washing board or machine, substantially as herein described.

2. The wheels H H, or their equivalent, in combination with the reservoir B and fluted ribs or rollers F, substantially as herein described.

74,641.—THOMAS WALLWORTH, Newton Heath, Great Britain.—*Computing Apparatus.*—February 18, 1868; antedated February 14, 1868.—The numbered disk is between two fixed plates, each of which has a radial slot with numbers on the margin. The faces of the plates are numbered at the edge. The disk is turned by a pointer, and when the pointer is turned to a multiplicand at the edge of the plate, the product of that with another multiplicand on the edge of the slot is shown upon the disk in conjunction with the latter number.

Claim.—A plate *b*, with an opening *c*, and with graduations at its edges and at the edges of the opening, in combination with a graduated revolving disk, having figures arranged in radial rows, and with a pointer secured to and turning with the disk, the whole being constructed, arranged and operating substantially as described.

74,642.—JOSEPH WALTON, Delavan, Wis.—*Wagon Brake.*—February 18, 1868.—The brake bar is removably attached to the box, and the hind axle and hounds have longitudinal motion on the reach, to "brake" the wagon when descending a hill, the rear end of the box being sustained by rollers secured to the bolster. When the box is to be dumped, a pin connecting the hounds with the reach is drawn out, and the fore wheels and box backed sufficiently for this purpose.

Claim—1. The brake *m*, hung to box A by hooks V, in combination with reach B, substantially as set forth.

2. The combination of guides S S, plate H, pin I, spring J, and rollers, substantially as described.

74,643.—JOSEPH WARREN, Lodi, Ohio.—*Corn Sheller.*—February 18, 1868.—The hopper is made sufficiently large to readily receive an ear of corn, which is pressed against the shelling wheel by the spring attached to the angular side.

Claim.—The hopper D, as constructed with octagonal sides D', spring E, in combination with the case A, for the purpose set forth.

74,644.—WILLIAM G. WATSON, Paterson, N. J. —*Silk Cleaner.*—February 18, 1868.—For cleaning silk while being wound on the bobbin. The silk is drawn between the knives to shear off the loose fibers.

Claim.—1. The horizontal frame A, provided with a curved guide A, post D, flange *b*, and stand *a*, all constructed and arranged substantially as and for the purpose set forth.

2. In combination with the above, the fixed knife B, and adjustable knife C, when said knives B and C are horizontally arranged and reversible, substantially as and for the purpose set forth.

3. In combination with the frame A and knife C, the adjusting screws *d d*, substantially as set forth.

4. The silk cleaner, constructed substantially as described, and consisting of the frame having curved guides A, post D, stand *a*, and flange *b*, fixed knife B, adjustable knife C, and screws *d c*, all arranged as set forth.

74,645.—R. A. WEBSTER, Sandisfield, Mass.—*Inner Sole.*—February 18, 1868.

Claim.—As a new article of manufacture, an inner sole, composed of two strips of wood A C, secured together by means of the gutta-percha strip B, heated, and placed between them, as herein shown and described for the purpose specified.

74,646.—BENJAMIN G. WELCH, Danville, Pa.—*Gang Punch.*—February 18, 1868.—The device is intended especially for punching and cutting fish plates.

Claim.—The construction and arrangement of the dies *c' c'* of a gang punch, disconnected or separated from each other by suitable spaces *c' c''*, in their bed plate C D, substantially as described and set forth, for the purpose specified.

74,647.—ISAAC H. WEST and TERTIUS L. CAMP, Evans, N. Y.—*Culinary Boiler.*—February 18, 1868. —Air is admitted into the steam chamber through a grated register near the bottom. The compartments at the ends are to contain decoctions of coffee and tea. The tea and ground coffee are contained in removable gauze receptacles in their respective chambers.

Claim.—1. The employment, in a closed steaming chamber, of an air passage near the bottom of said chamber, for admitting air beneath the body of steam, and a slide or register for gauging the flow of air, the whole arranged as described, and operating in the manner and for the purpose set forth.

2. In combination with the central steaming chamber A, arranged as above described, the inclosed end-receptacles B B, operating in the manner and for the purpose herein set forth.

74,648.—A. J. WHITE, Ballston Spa, N. Y.—*Oil Burning Apparatus.*—February 18, 1868.—The stop-cock is so arranged, that when the reservoir is in its lower position, it is in communication with the supply pipe, and when the reservoir is raised the oil flows out into the lamp receptacle.

Claim.—The combination of a wick tube *a*, and

pipe *b*, with a movable reservoir *e*, attached to a hollow stem cock, the whole arranged so as to operate substantially as set forth.

74,649.—Edward P. Whitney, Stamford, Coun.—*Carriage Curtain Fastener.*—February 18, 1868.

Claim.—A fastener for the aprons and curtains of carriages, composed of the parts A and B, the former provided with the eyes *e e'*, and the latter with the head *d* and offset *e*, and both provided with loops *a*, and otherwise constructed and operated substantially as herein specified.

74,650.—A. S. Whittemore, Willimantic, Conn.—*Grain Thresher.*—February 18, 1868.—The sheaves are passed over a wire bed, which allows the escape of grain as it is threshed out by the pivoted flails above.

Claim.—1. The longitudinal wires *a*, forming the bottom of a frame of a threshing machine, when said wires are attached at each end to screws *a'*, whereby the tension of the wires may be regulated, substantially as described.

2. In combination with the above, the shaft B, bearing arms *e* and pivoted flails *e'*, the pulley C, belt *d*, and drive wheels D^1 *d'*, all constructed, arranged, and operating as set forth.

3. The threshing machine, constructed as described, and consisting of a frame A, having wire bottom *a*, screws *a'*, shaft B, arms *e*, flails *e'*, pulley C, drive wheels D *d'*, and belt *d*, all arranged and operating as described.

74,651.—Daniel Wilber, Collins Center, N. Y.—*Combined Seed Sower and Field Roller.*—February 18, 1868.—The seed slide is reciprocated by a crank upon a shaft, to which is splined a cog wheel engaging a gear upon the roller end.

Claim.—1. The slide C, having notches or cavities e^1 e^2, for the purpose, and substantially as described.

2. The combination, with the slide C, of the shaft D, crank d^1, pitman d^2, bevel gearing E F, and field roller A, all arranged and operating in the manner and for the purpose substantially as set forth.

3. The combination of the bevel pinion F, placed loose upon the shaft D, the feather *f'*, and pin *g*, or its equivalent, all arranged and operating substantially as and for the purpose described.

74,652.—John, Daniel, and John H. Wilde, Washington, Iowa.—*Cornstalk Cutter Preparatory to Plowing*—February 18, 1868.—The rotating cutter cyliuder carries a series of hoes, which cut off the stalks at the surface of the ground.

Claim.—1. The arrangement of the main frame with the cutter cylinder and tongue and the wheel frame, as herein recited.

2. Combining with the main frame and the wheel frame the treadle frame, as and for the purposes herein set forth.

74,653.—Isaiah M. Williams, Blanchester, Ohio, assignor to himself and Calvin P. Baldwin.—*Ditching Machine.*—February 18, 1868.—The fore end of the excavator frame is connected to the supporting frame by a vertically adjustable clevis, and its central part is supported by a bail perforated at its top for a bolt, which traverses a cross bar on the main frame and receives a winch nut, by whose rotation the depth of ditch is regulated. The excavator has radial, transverse, removable spades, and between the spades are plates of a chain connected by links which encircle the spades. The plates form the bottoms of the dirt cavities, and are separated from the excavator at one part of the revolution to discharge the earth onto a chute board, from which it may be deposited to the right or left.

Claim.—1. The provision in a ditching machine of the endless band H *h* and drum I, operating substantially as herein described, for emptying the elevating wheel of the excavated earth.

2. Constructing the dirt elevating wheel of a ditching machine in two sections D D', and providing them with radial spades G, whose bases *g* are dovetailed into the rims E E' of the wheel, and the whole secured together by bolts *e*, substantially as herein described.

3. The screw N *n*, winch O, nut *o*, stirrups P *p p'*, and yokes R R', arranged and operating as and for the purpose specified.

4. In combination with the elevating wheel D D', constructed as described, the fixed and parallel cutters C C', as and for the purpose specified.

5. In combination with the elevating wheel D D', endless band H *h*, and drum I, the shovel S, for the object set forth.

6. In combination with the elevating wheel D D', endless band H *h*, and drum I, the slotted standard J J', groove *j*, box *i*, and wedge K, arranged and operating substantially as and for the object explained.

7. In combination with the main frame A and vibratory platform B, the perforated clevis Y, pin *e*, and plate A', for the object stated.

74,654.—F. Wolf, Philadelphia, Pa.—*Apparatus for Vignetting Photographic Negatives.*—February 18, 1868; antedated February 5, 1868.—The edge of the aperture is formed of mica. The frame is adjustable in distance from the camera.

Claim.—The screen C, provided with a suitable hole, the edge of which is made of a suitable transparent or semi-transparent material, in combination with supporting arms D, and with a photographic camera A, substantially as and for the purpose set forth.

74,655.—H. B. Worth, Chicago, Ill., assignor to himself, William H. Chapin, and A. L. Creamer.—*Ventilator.*—February 18, 1868.—The issuing current of air and smoke is deflected outward by the cone, and impinges upon the obliquely-set plates of the fan cap, causing it to revolve.

Claim.—1. The combination of the inverted cone J with the shaft B and revolving fan cap G, substantially as herein shown and described, and for the purpose set forth.

2. In combination with the above, the propelling fans I, mounted on rods H, attached to the revolving fan cap G and hub g^2 on shaft B, substantially as and for the purpose set forth.

74,656.—Jearum Atkins, Mokena, Ill.—*Safety Valve.*—February 18, 1868.—The lever has bearing upon an angular pin across the head of the valve stem. The lever is vertically slotted at the fulcrum, and has an upward extension therefrom, whose upper end has an angular cross bar, having a knife edge, bearing in a link, whose upper end has a similar bearing. The spring stem has a mortise embracing the curved end of the lever, and an anti-friction roller traversing its upper edge. It is held in position by a spring catch, which enters one of a series of notches beneath the lever. The lower end of the spring cylinder has adjustable connection to the rocking bar.

Claim.—1. The construction of the safety-valve lever C, or its equivalent, with its outer portion curved, and its combination with the mortised spindle B, roller *f*, and spring catch *h*, substantially as specified.

2. In combination with a spring balance D, the rocking bar *k*, screw *i*, and nut *m*, as described and set forth.

3. The arrangement of the lever C, bent to form an angle with the link S, standard P, and pins *n*, *t*, and *u*, substantially as described.

4. The combination of the rolling fulcrum *f* with the safety-valve lever C, substantially as shown and described.

74,657.—Joseph H Berrett, New York, N. Y.—*Hand Stamp.*—February 18, 1868.—The ordinary spring hand stamp has cutters applied, so that the revenue stamp shall have the letters impressed thereon and be simultaneously canceled by cutting.

Claim.—A stamp and canceling device, constructed as described, consisting of the vertical arbor F, bearing the cutters G, working through the tubular arbor B and annular stamp C, whereby the knob H and its collar upon the arbor F operate the arbor B and stamp C, as herein shown and described.

74,658.—W. J. and Henry L. Biddle, New Madison, Ohio.—*Animal Trap.*—February 18, 1868.

—The trap has two tilting platforms, either of which is tripped by the rat in drawing upon the bait.

Claim.—The combination of the tilting platform D with the pivoted bar *g*, arranged for holding the bait and latch *e*, fastened to the same, substantially as described, and for the purpose set forth.

74,659.—EDWIN BROCKWAY, Haverstraw, N. Y.—*Boiler Feeder.*—February 18, 1868.—The water vessels are attached to a tubular rock shaft, and are alternately put in communication with the water tank and the boiler, the filled vessel acting by gravity to raise the empty one and to change the valves.

Claim.—1. The arrangement of the connecting devices *a*, *b*, and E, as shown and described.

2. The guard K, as shown and described, on pipe H, to keep scum from entering steam pipe.

74,660.—J. H. BROWN, Hudson, Wis.—*Bed Bottom.*—February 18, 1868.—The removable pins span across the space between the notched bars and sustain the slats through the medium of the rubber loops.

Claim.—The construction of boxes B, of notched bars *a a*, and a removable cover *b*, in combination with separately removable pins *c*, elastic suspension loops *g*, and slats C, all arranged substantially as described.

74,661.—WILLIAM BROWN, West Cambridge, Mass.—*Curtain Fixture.*—February 18, 1868; antedated February 6, 1868.—The shade passes through the longitudinal slot in the fixed shell and is coiled around the longitudinally bisected roller. A spiral spring bears against one of the roller journals, to hold the roller in position.

Claim.—1. The split roller *a*, with or without a tongue and groove, for securing the upper end of the shade, substantially as described, in combination with the case or shell D, as and for the purpose specified.

2. The combination of the split roller *a*, the nuts or disks *c c'*, and the brackets B B', arranged and operating substantially as described.

3. The combination of the split roller *a*, the shell D, and the cornice E, constructed, arranged, and operating substantially as described.

74,662.—HARRISON T. BUFF, Franklin, Ind.—*Rotary Steam Engine.*—February 18, 1868.—The pistons slide radially in a hub, and are thrust outward by spring arms, attached to the main shaft. When the pistons pass the reversing valve block the steam passes through them and makes a counter pressure on their inner sides, to overcome outside pressure of steam which opposes their outward movement.

Claim.—1. The self-adjusting valves V and V', with their grooves, arranged substantially as herein set forth.

2. The arrangements of the rotary head, valves, and springs, as herein set forth.

3. The arrangement of the steam and escape pipes, as herein described.

74,663.—HENRY BULLARD, Middletown, Conn.—*Sirup Pitcher.*—February 18, 1868.—The cut-off slide has vertical movement, and is operated by a spring lever. It is intended to prevent drip.

Claim.—The arrangement of the slide or cut-off *a* upon the spout B, independent of the cover, and in combination with a lever and spring, as a means of operating the said slide, substantially as herein set forth.

74,664.—CORNELIUS K. BURKHOLDER, York Springs, Pa.—*Fly Net.*—February 18, 1868.—The ribs on each side of the middle rib meet in front of the forehead. The thongs are passed vertically from rib to rib, and horizontally along the rib to the next hole; passing outward through the first and inward through the last hole.

Claim.—The ribs, constructed and perforated as shown, and laced in the manner and for the purpose set forth.

74,665.—C. S. BURTON, Seneca County, Ohio.—*Staging.*—February 18, 1868.—The staging rises between guide posts, the elevating power being a winch, ropes, and pulleys.

Claim.—The combination of the grooved standards A A, platform K, and bench M, windlass and cords H H, all constructed and operating as specified.

74,666.—STEPHEN COLLINS, Preston, Wis.—*Turning Down and Burying Stalks, Weeds, &c.*—February 18, 1868.—The trash is caught by the arms and raked in so as to be covered by the furrow slice.

Claim.—The arms C C' C'' and E and brace D, attached to the plow beam, substantially as and for the purpose set forth.

74,667.—BENJAMIN D. COMPTON, Dowagiac, Mich.—*Water Wheel.*—February 18, 1868.—The wheel is immersed in horizontal position in a stream of water. The buckets are raised by the force of the water upon one side of the wheel and depressed on the other side.

Claim.—1. The disk A having a series of triangular or V-shaped hinged buckets D, and secured to a disk C around a vertical shaft B by the braces *d d*, in the manner substantially as and for the purposes specified.

2. In combination with the hinged buckets D and disk A, beveled as described, the latch *f*, constructed as specified, and used as and for the purposes set forth.

74,668.—JAMES CONNER, Richmond, Ind.—*Wood Bending Machine.*—February 18, 1868.—The former is grooved on its convex side, and has a stirrup embracing the end of the plow handle; at the other end of the former is a projection which is engaged by a slip link upon the handle, when the handle and former are together removed from the machine.

Claim.—1. The former D when provided with stirrup S, and operating substantially as set forth, and for the purpose described.

2. The pivoted head block G, arranged and operating substantially as set forth and for the purpose specified.

74,669.—HANNAH CONWAY, Dayton, Ohio.—*Hospital Bed.*—February 18, 1868.—The canvas is stretched on a frame at the ordinary height of a bed, and the mattress is upon a vertically adjustable frame. The latter frame has rollers under which the adjusting straps are passed. The straps are attached to the cross bar of the foot posts, and passing beneath the bed frame are coiled on a roller journaled transversely in the head posts. The roller is turned by a winch and held by a ratchet wheel and pawl. The canvas has a hole through which a wound may be dressed or other duties attended to when the mattress is lowered. The pillow may be raised on straps emanating from near the middle of the canvas, and coiled around a roller between the head posts.

Claim.—The combination of the fixed canvas frame B and bed E, operated by the axle G underneath frame B, and the movable pillow C with the axle G', and the permanent frame under the bed E, all as herein set forth.

74,670.—E. E. DAILEY, W. H. JOHNSON, and C. C. DUBOIS, Brooklyn, N. Y.—*Lamp.*—February 18, 1868.—The wick tube passes through a chamber communicating through large apertures with the open air for the purpose of keeping the tube cool.

Claim.—The cooling chamber *a*, air supply chamber *b*, formed by the perforated flange *e*, ring *g*, transparent cylinder *h*, and locking cap *i*, all arranged, constructed, and combined as described.

74,671.—OTIS DEAN, Richmond, Va., assignor to ROBERT W. YOUNG, same place.—*Inkstand.*—February 18, 1868.—The raising of the lid elevates the dipper to the opening.

Claim.—The rigid arm D' attached to the dipper C, which is connected to the lid by a rod D, so as to operate in the manner and for the purpose set forth.

74,672.—THOMAS B. DEFOREST and THOMAS S. GILBERT, Birmingham, Conn.—*Spring for Hooped Skirts.*—February 18, 1868.—One or more wires are inclosed in a broad strip of tape which is sized and pressed so as give the appearance of a broad spring. The springs are attached to the vertical tapes by

rivets traversing the said tapes and the web beside the spring.

Claim.—A skirt hoop formed by inclosing one or more wires within a covering, which not only envelops and protects the wire, but forms an edge A or connection B, substantially as and for the purpose specified.

74,673.—Daniel L. Dickson, Durham, Ill.—*Harrow.*—February 18, 1868.—The teeth of the open, rotating cylinder are cleared by a rotating roller which may have teeth for that purpose.

Claim.—The combination of the frame A with cylinder J, with teeth *a a* and clearer K in front of said cylinder, the whole arranged and operating as specified.

74,674.—John H. Doughty, New York, N. Y.—*Blacking Brush.*—February 18, 1868.—The dauber is attached to the handle frame by a central bolt, and may be turned to bring a fresh portion into wear. The metallic scraper is attached by the same bolt. The handle frame is cut away so as to form a hold over the main brush.

Claim.—1. The double hold fasts or handles *a b*, provided with a platform *e*, which is held horizontally away from the handle *b* by a prolongation of the same, arranged substantially as described.

2. The arrangement of the dauber *f* and scraper *h* on the platform *e*, by means of the bolt *i* and nut *j*, substantially as and for the purpose described.

74,675.—William J. Emens, Louisville, Ky.—*Spring Bed Bottom.*—February 18, 1868.—The ends of the slats are supported on forked hooks which engage elastic loops on a lower frame.

Claim.—The combination of the forked hook E and the slat F, the gum ring D, the movable cross piece A, and the parallel strips B and C, when constructed, arranged, and operating in the manner set forth.

74,676.—George Esterly, Whitewater, Wis.—*Harvester.*—February 18, 1868.—The long fingers pass over the ordinary fingers, and are inclined down so as to raise lodged grain. The dropping frame is hinged to the side of the platform so as to discharge the grain out of the course of the machine in the next round, and is tripped by the operator.

Claim.—1. The combination of long fingers or teeth *d*, which are not jointed, with a cutting apparatus, consisting of a rolling finger beam, short fingers, and a sickle, and which is adjustable bodily, so as to raise and lower the height of cut, and also adjustable in such a manner that the front ends of both sets of fingers can have their angle of presentation to the grain changed and fixed to work at a given height, all substantially as described.

2. The application to a hinged platform E, of a dropper, F, which latter is supported at its rear end, so that it can be tilted backward at pleasure, substantially as described.

3. Connecting the beam J to the main draught frame A by means of flexible or hinged arms *m*, or their equivalent, in combination with the draught chain *r* and forward truck K, substantially as and for the purposes described.

4. The combination of a hinged, slatted dropper F, with a platform E, whether the latter be hinged or fixed rigidly to the finger bar, such dropper being arranged substantially as described.

5. The combination of the devices *f f'*, or their equivalents, for adjusting the grain end of the finger beam in the path of a vertical circle, with the device d^2, or its equivalent, for adjusting in like manner the inner or heel end of the finger beam, substantially as described.

6. The arrangement of the belt tightener upon the hinged beam J, said tightener and said beam operating together, substantially as described.

74,677.—Perry Finley, Memphis, Tenn.—*Shaft and Pole Coupling.*—February 18, 1868.—The coupling bolt passes through a rectangular thimble, which is retained in a recess of the thill iron by a sliding bolt, which is held in place by a strap passing through a slot in the end of the bolt and connected to the clip.

Claim.—The coupling E with the groove L and staples G G G, the square thimble F, the slide D with the mortise H, the strap I, and buckle M, the fixed bolt, arranged substantially for the purposes herein set forth.

74,678.—John Frank, Webster City, Iowa.—*Cultivator.*—February 18, 1868.—The standards are vertically adjustable in blocks which have horizontal oscillating adjustment on the beams.

Claim.—1. The adjustable blocks C, constructed and operating substantially as described.

2. The cultivator as it stands, with its various parts and devices combined, arranged, and operating substantially as and for the purposes herein specified.

74,679.—Richard Gaines and Melchi Scott, Fairfield, Iowa.—*Plow Mold Board.*—February 18, 1868.—The glass is secured upon the surface of the mold board by the marginal flange and the headed studs.

Claim.—1. The metallic plow mold board A, provided with V-shaped groove along the edges, and studs or buttons B B on its concave surface, in combination with glass cast over said surface in its molten state, substantially as herein set forth and specified.

2. The protuberances or knobs C C, arranged as described, for the purpose of securing the mold board to the plow, substantially as set forth, in combination with the above described mold board.

74,680.—G. W. C. Gamble, Millersburg, Iowa.—*Medical Compound.*—February 18, 1868.—For treatment of cancer. Ashes of red oak bark, 20 lbs.; ashes of bitter sweet root, 5 lbs.; green poke root, mashed, 5 lbs. The above is leached and the ley boiled down to a salve.

Claim.—A cure for cancer, composed of the ingredients set forth, when prepared in the manner substantially as described.

74,681.—Almeron Graves, Roscoe, Ill.—*Apparatus for Handling Animals in Slaughtering.*—February 18, 1868.—The rotating frame is supported on a standard braced to the base frame by guy rods. The standard supports an adjustable, compound lever by which the animal may be raised.

Claim.—The application of the lever C D E, the upright B, the revolving apparatus represented by H H H H H H, supports I I I I I I, and the revolving caps E E, in apparatus for handling animals in slaughtering.

74,682.—Z. G. Greenleaf, Bath, Me.—*Bait and Vegetable Cutter.*—February 18, 1868.—The truncate, conical, rotating cutter has spiral series of knives which overlap the knives projecting inwardly from the concave.

Claim.—The combination of the cutting blades provided with screw shanks, with the hollow cylindrical case B, and central shaft D, arranged as and for the purposes herein described.

74,683.—George W. S. Hall, Baltimore, Md.—*Exercising Apparatus.*—February 18, 1868.—The hand bar is supported on an adjustable cord passing over a spring. The frame has two spring boards near the floor.

Claim.—The combined arrangement of the horizontal bar E, adjustable suspension rope F, and spring H, as and for the purposes set forth.

74,684.—J. P. Hall, Wallingford, Conn.—*Razor Strop.*—February 18, 1868.—The case has a strap and a drawer which may contain a razor.

Claim.—The arrangement of the drawer B, within the case A, when the said case A is constructed for the reception of the strop C, in a case within the principal case A, substantially as herein set forth, as a new article of manufacture.

74,685.—B. G. H. Hathaway, Rock Stream, N. Y.—*Harvester.*—February 18, 1868.—Improvement on his patent of May 28, 1867. The clutch upon the turning axle, by which motion is communicated to the cutter mechanism, is operated by a yoke, whose stem traverses the spherical case, and is attached to

a lever pivoted to the hub of the case. A bell crank lever, pivoted to the said lever, has a catch arm engaging the case when the cutter mechanism is in operation. The shoe and tongue are attached to the tubular extension of the case. The shoe rests on a wheel and is hinged to wrists upon the braces. The end of the finger bar is rounded, and has a notch to receive the point extending from a spring fastened to the side of the shoe. This point holds the bar in place; but may be detached by a lever and cord, when the cutter bar may be swung around, in a horizontal plane, against the wheel.

Claim.—1. The arrangement of the sliding clutch G, yoke G^1, lever G^2, bell crank G^3, stem G^4, spring G^5, and spherical case D, substantially as described.

2. The combination of a shoe so attached as to oscillate laterally, and a finger bar so hinged thereto that the shoe remaining stationary, the finger bar may be folded back in a horizontal plane, to stand parallel with the line of draught, substantially as described.

3. The combination of the shoe O, hinged finger bar N, spring P, or its equivalent, and lever Q, substantially as set forth.

74,686.—JACOB HEATHERINGTON, Bellair, Ohio.—*Extension Coal Chute.*—February 18, 1868.—The chute is connected to the plank and is adjustable outward and downward therewith. The outer end of the chute is supported by block tackle.

Claim.—The combination of the extension plank or rod H, chute G, rollers *h h r r*, and extension beam J, the whole constructed and operating substantially as and for the purpose specified.

74,687.—JOHN HIDDEN, Lawrence, Kan.—*Wind Wheel.*—February 18, 1868.—The wheel is horizontal and the wing shafts have chain wheels, by which, in connection with the chain, the wings are turned to catch the wind when on one side of the shaft, and to stand "edge on" at the other side.

Claim.—The combination of the adjustable deflector I with the vane F, drum E, wings and spindles D and *a*, wheels G G′, and chains *c* and *d*, substantially as described.

74,688.—GEORGE W. HILDRETH, Lockport, N. Y.—*School Desk.*—February 18, 1868.—The desk cover has a central, upwardly-opening joint which enables it to be compactly folded to gain access to the receptacle, or to furnish rests of different grades.

Claim.—The joint *o*, in combination with the ordinary joint *s*, for the purpose of raising the central portion of the desk lid, to form a book rack of the desk top or lid, as herein specified and shown.

74,689.—EDGAR HITT, Katonah, N. Y.—*Carriage.*—February 18, 1868.—The clamp is secured to the spring bar and has a socket to receive the end of the body loop. A conical ferrule fits over the ends of the jointed sides of the clamp and secures them together.

Claim.—1. The clamp C, provided with a socket *a*, in combination with the spring bar A and body loop B, substantially as and for the purpose set forth.

2. The square head *d*, at the end of the body loop, to fit into a corresponding socket in the clamp C, substantially as and for the purpose described.

3. The projections or lips *c*, on the inner surfaces of the clamp, to fit into notches *d* on the spring bar A, substantially as and for the purpose set forth.

74,690.—LUTHER HOWE, Alamo, Mich.—*Fence for Collecting Rain Water for Stock.*—February 18, 1868.—The cap has inwardly inclined boards and a central metallic gutter which keeps the fence dry and serves to collect water.

Claim.—The rain collecting boards A and rain gutters B in connection and combination with a farm fence, for collecting and conveying rain water to artificial or natural reservoirs, substantially as and for the purpose herein specified.

74,691.—JOHN HUGHES, Newark, N. J.—*Harness Pad.*—February 18, 1868.—The iron frame has a rabbet groove to receive a welt of leather to which the bottom and cover are attached. The frame is slotted for traverse of the terret shanks. The braces enter cavities of the check hook and prevent the loosening of the hook after it is screwed in.

Claim.—1. In combination with the iron frame A, the socket for the nut H, the strips B B, and flexible piece F, constructed as herein described, and for the purpose specified.

2. The braces K K, or their equivalents, for the purpose specified.

3. The binding N, stitched to the bottom C, before it is put to the frame A, and the form P in the binding, and the mode of securing the bottom and form to the frame.

4. The frame A, with the slots E E and grooves for the strips B B, and holes V V, in the manner and for the purposes specified.

74,692.—E. D. IVES, New Haven, Conn.—*Picture Knob.*—February 18, 1868.—A bar of heated glass is wound on the heated rotating screw socket, and then molded into shape by pressure.

Claim.—1. Forming and attaching knobs of glass or similar material to screws or nails, substantially in the manner herein set forth.

2. The combination of the threaded nail B and socket C, when the said socket has formed thereon a knob or head of glass or similar material, and when the said glass or similar material is formed and attached thereon, in the manner and by the process herein set forth.

74,693.—JAMES M. JAY, Canton, Ohio.—*Machine for Cutting Glaziers' Points.*—February 18, 1868.—The metallic sheet is fed to the rotary cutters and the points cut off in two or more rows for each rotation of the main shaft.

Claim.—1. The arrangement and combination of the rotary cutters M N, M N, on the shafts D and H, when operating in connection with each other through the gear wheels F G, for the purpose of cutting glaziers' points, or any brads or nails which may be cut from sheet metal, substantially in the manner herein specified.

2. The arrangement and combination of the cam I, feed lever U, with pawl V, ratchet wheel T, catch *c*, and feed rollers P Q, when used in combination with the rotary cutters M N, M N, substantially in the manner and for the purpose herein specified.

74,694.—GEORGE L. JENCKS, Florence, Mass., assignor to the FLORENCE SEWING MACHINE CO.—*Sewing Machine.*—February 18, 1868.

Claim.—1. The manner of combining and arranging both the interlacing hook and shuttle, constructed as described, upon the concave side of the curved needle, so that the loop of the needle thread will be presented to the hook and shuttle from the curved side of the needle, and carried thence directly to the rear of the needle and around the shuttle, substantially as shown and described.

2. So combining and arranging the said hook and shuttle, and the eye-pointed needle, as described, with the independent mechanism set forth for taking up the loop of the needle thread after it has been carried around the shuttle, as described, that the said loop may be taken up and the stitch completed at one and the same cycle of operation of the machine, substantially as described.

3. The take-up mechanism, substantially as described, in combination with the sewing mechanism, constructed and operating substantially as set forth.

4. The circular shuttle, constructed substantially as described, with a beveled edge, and in combination therewith a delivery notch and a spring presser, arranged substantially as described, for the purpose of producing the requisite tension of the shuttle thread as it is delivered, substantially as described.

5. Mounting or holding the shuttle upon a stationary pedestal or its equivalent, as described, and controlling the operation of the shuttle by means of a tilting bar or finger, or its equivalent, arranged to operate therewith, substantially as and for the purpose specified.

6. The interlacing hook, in combination with the beveled edged shuttle, constructed and operating as described, to catch and carry the loop of needle thread around said shuttle, substantially in the manner described.

7. So combining the recess *c*, in which the needle

vibrates, and the bridge ring, and the interlacing hook, and shuttle, constructed and arranged substantially as described, that the lower thread of the loop will be caught by the hook and carried in a direct line beneath the shuttle, while the upper thread of said loop is carried against the beveled shuttle edge, and over the shuttle, substantially in the manner and for the purpose specified.

8. The construction and mode of hanging and adjusting the needle arm and the presser arm by means of the screw stud and screw sleeve, in combination, substantially as described.

9. The mode of securing the needle *n*, at the end of the needle arm, by means of the screw bolt and washer, constructed substantially as described.

74,695.—George A. Jones, New York, N. Y.—*Train for Lamps.*—February 18, 1868.—Improvement on the patent of F. B. de Karavenan, February 10, 1863.

Claim.—1. In a train or mechanism designed for use in lamps, the application and use of the open or lantern pinion and its arbor, constructed substantially as and for the purposes set forth.

2. In such mechanism the combination of a single thread, flat top, solid cut screw, with a square-toothed wheel, arranged and operating substantially as described.

3. The air tube, constructed from a single piece of metal, substantially as and for the purposes set forth.

4. In combination with the endless screw *d*, attaching its lower support or bridge *c'* to the side plate of the mechanism, substantially as and for the purpose set forth.

5. The construction of the jewel plates, having a concave conical jewel seat, and confined to the supporting plates by a single screw, substantially as and for the purposes set forth.

6. A mechanical movement for lamps, its several parts constructed and arranged and operating substantially as described.

74,696.—Joel F. Keeler, Pittsburg, Pa.—*Platform Scale.*—February 18, 1868.—The platform rests upon diagonal, secondary levers whose free ends are hung to a series of longitudinal levers having usual connection to the beam.

Claim.—Constructing long platform scales with a series of diagonal main or platform levers, when such levers are connected with a series of four or more secondary levers, which secondary levers rest nearly or quite on the same horizontal plane with each other, substantially in the manner and for the purposes described.

74,697.—William Kenyon, Jr., Steubenville, Ohio, assignor to himself and Henry K. Kenyon.—*Pipe Tongs.*—February 18, 1868.—The jaw is pivoted so eccentrically in relation to the face of the ratchet cam that it is applicable to pipes of widely varying size.

Claim.—The combination of the bifurcated movable jaw *d*, with the eccentric cam head *a*, at the end of the handle of a pipe wrench, constructed and arranged substantially as hereinbefore described.

74,698.—John D. Kirkpatrick, Urbana, Ohio, assignor to himself and B. A. Rose, same place.—*Filtering Burning Fluid.*—February 18, 1868.

Claim.—1. Filtering burning fluids consecutively through separate layers of lime and wood ashes, elm bark, charcoal, and sand, each ingredient being placed on flannel, in the bottom of the filtering vessels, substantially as and for the purposes set forth.

2. The filtering apparatus, consisting of the bottom A, frame B, vessels *a b c d*, with perforated bottoms *a' b' c' d'*, and false bottom F, and reservoir G, provided with stop-cock E, substantially as and for the purposes described.

74,699.—Gottlieb Koenig and George Otto, Plymouth, Mich.—*Potato Digger.*—February 18, 1868.—The potatoes are raised by the rotating double rake and thrown upon the grate.

Claim.—The combination of the traction wheels A A, the gear wheels B B, the pinions C C, the shaft D, the crank axle E, the revolving teeth F F F F F, the rack G, the arms H H, the roller I, the seat J, the lever K, the catch L, the spring M, with a suitable frame, when arranged substantially as and for the purpose described.

74,700.—Isaac Lamplugh, Peoria, Ill.—*Punching Apparatus.*—February 18, 1868.—The punch is moved by systems of levers. One of the systems embraces the other, and enables the application of greater power on the punch.

Claim.—The improved punching apparatus, consisting of the several devices, constructed, combined, and arranged in the manner and for the purposes herein set forth.

74,701.—W. H. Laubach, Philadelphia, Pa., assignor to himself and George H. Mellen, Alexandria, Va.—*Machine for Grinding Cutters of Mowing Machines, &c.*—February 18, 1868.—The cutter bar is clamped to the base plate, being guided to position by the angular projection on the adjustable bed piece, and the grindstone operates on the teeth as they are serially brought into position. The grindstone frame has oscillation in a vertical plane, and has longitudinal movement.

Claim.—1. The adjustable bed piece B, constructed as described, and applied to a grinding machine as and for the purpose specified.

2. The bed piece B, provided with slot *m* and screw *m'*, in combination with the clamp *r* and screws *r' r'*, as and for the purpose set forth.

3. The post *d*, provided with the slot *k'* and arm d^2, in combination with the set screws *k* and *c*, and the rotating shaft *b*, substantially as described.

4. The grindstone *i*, in combination with the rotating and sliding shaft *b*, as and for the purpose described.

5. The adjustable bed piece B, in combination with the clamp *r*, post *d*, grindstone *i*, and rotating and sliding shaft *b*, as and for the purpose specified.

74,702.—James B. Lefferson, New York, N. Y.—*Bung.*—February 18, 1868.—The metallic bung is divided longitudinally, and the turning of one part on the other acts upon the knives to force them into the wood.

Claim.—The shaft B, provided with cog teeth *e e*, in combination with the knives D D, provided with recesses, as described, said knives being arranged to operate between the bung A and case *a'*, as and for the purposes specified.

74,703.—C. Lent, Washington, D. C.—*Hay and Cotton Press.*—February 18, 1868.—A belt engages the grooved periphery of the nut which actuates the vertically sliding screw shaft attached to the follower.

Claim.—The arrangement of the press box, as constructed with the shaft G, provided with follow block H and cross head J, nut E, cross tie D, plate *a*, and guide pieces I I, the several parts being connected and used substantially as and for the purpose set forth.

74,704.—Gilbert M. Levette, Indianapolis, Ind.—*Combined Clock and Advertiser.*—February 18, 1868.—A series of advertising cards are connected together to form an endless belt which has intermittent movement behind a transparent pane in the case, by mechanism connected to that of the clock.

Claim.—1. The disk M and pins N, on the shaft of the escapement wheel of the time-keeping movement, for controlling and regulating the action of the advertising mechanism, substantially as and for the purpose set forth.

2. The pawl O, on any suitable part of the advertising mechanism, in combination with the disk M and pins N, as and for the purpose set forth.

3. The rods L, or their equivalents, attached to the advertising band B, as and for the purpose set forth.

4. The catch K and flexible arm I, attached to the reciprocating rod F, arranged and operating as and for the purpose set forth.

5. The rods L, in combination with spring catch P and catch K, arranged and operating substantially as set forth.

74,705.—James Macferran, Philadelphia, Pa., assignor to himself and Samuel Macferran, same

place.—*Blacking Case and Closet.*—February 18, 1868.

Claim.—1. The sectional folding lid C, provided with a foot rest, and combined with the stationary part B of the cover of the box, substantially in the manner above described, and for the purpose specified.

2. The slide D, when combined with the stationary and folding parts B and C of the cover of the box, substantially as and for the purpose set forth.

3. The combination of the hinged part A, containing the boot blacking apparatus, with the lower part A', composing the water closet, furnished with the perforated division F and door J, substantially as described and for the purpose set forth.

74,706.—G. B. Massey, New York, N. Y.—*Low-water Detector for Steam Generators.*—February 18, 1868.—The water runs out of the movable vessel when the water in the steam generator has fallen below the proper level, and the said vessel is then raised by the weighted lever and the whistle valve opened.

Claim.—1. The movable vessel G, connected with a steam boiler, or other vessel in which steam is generated, and with the oscillating lever or sway bar E, substantially as and for the purposes shown and described.

2. The lever or sway bar E, supported from a variable fulcrum or center, and connected with and operating upon the vessel G, substantially as set forth, for the purposes specified.

74,707.—David S. McNamara, Troy, N. Y.—*Shoe.*—February 18, 1868.—Elastic strips are inserted back of the lace holes, and in the center of the vamp.

Claim.—A shoe, provided with the elastic strips *d d* and *c*, as herein specified and for the purpose set forth.

74,708.—J. W. Milroy, J. Vaughn, and J. Turley, Galveston, Ind.—*Soda Fountain.*—February 18, 1868.—The pump cylinder is surrounded by an annular ice chamber, and that by a charcoal chamber.

Claim.—The construction and arrangement of the fountain A, lid G, cylinder C, in combination with the pump cylinder D, as arranged with the valve box *c* and discharge tube C and valves *d d*, substantially in the manner and for the purpose as herein described and shown.

74,709.—N. C. Mitchell, Caledonia, Ohio.—*Bee Hive.*—February 18, 1868.—The frames are hinged to the back of the hive, and may be raised from the hinges to remove the honey, or turned aside to discover moths. Beside the bee entrance are two entrances to the moth trap beneath, which is separated from the hive by the gauze bottom of the latter, and communicates through tubes with a chamber in front, which receives light through a gauze grating.

Claim.—1. Hinging the frames K K to the moth box, and over the screen I, in such a manner that the offal will pass into said box, and the frames may be drawn out of the hive, substantially as and for the purpose set forth.

2. The moth box D, constructed in the manner described, with three openings, one for bees, and two for millers, when used with the movable comb frames and the hive A, as and for the purpose set forth.

74,710.—Josephus Moore, Bushnell, Ill.—*Corn Planter.*—February 18, 1868.—The seed shaft is operated by a hand winch or by chain connection to the axle. The spout has a valve plate which catches the seed and holds it near the mouth of the spout ready to be immediately dropped into the ground when the valve is retracted by a pin on the seed shaft.

Claim.—1. The arrangement of the shaft D with the seed hoppers F F, covers G G, valve N, discharge spout O, and runners P, constructed and operating in the manner and for the purpose set forth.

2. The arrangement of the plate W, shaft M, wheel L, collar J, and bevel wheel K with the shaft D, as and for the purpose set forth.

74,711.—William H. Moore, Blooming Grove, Ind.—*Corn Planter.*—February 18, 1868.—The seed is carried from the hoppers by an endless perforated belt, driven by a pulley upon a shaft, having a pinion which may be shifted to engage a spur wheel on one of the ground wheel hubs. The seed frame is strap-jointed to the axle, and may be raised by a lever connected to it by a chain and held by a ratchet.

Claim.—1. The arrangement, in a corn planter, of the seed-dropping device, consisting of the elements O, *o*, P, *q q*, R, *r*, and S, substantially as and for the purpose set forth.

2. The pivoted frame H, I I' I'' I''', K K' K'' K''', *k*, arranged to be raised from the ground by means of chain Y, lever 1, and ratchet 3, substantially as stated.

74,712.—William Morganstern, Philadelphia, Pa., assignor to Ernst Von Jeinsen, New York, N. Y.—*Breech-Loading Fire-Arm.*—February 18, 1868.—The breech block enters a recess when the gun is charged, and the pin upon its firing block impinges against the back plate of the metallic cartridge. The hammer is wholly inclosed, and its upper end moves in a recess of the breech block. The firing block has a spring arm at its rear end, which has a block at its rear engaged by the hammer when cocking, to retract the firing pin from the cartridge, and allow the easy throwing out of the block. The breech block turns on a side hinge.

Claim.—1. The angular point *o* in the interior of the breech block, in combination with the hammer *d*, substantially as described.

2. The spring block *q*, in combination with the hammer *d*, substantially as described.

3. The hollow curves *m n*, before and behind the angular point *o*, substantially as described.

4. The hooked arm *g*, forming part of the sere, and operated by it, said arm being arranged to work in a recess formed in the receiver *b*, and by means of its hook to engage the breech block on its rear side, substantially as described.

5. Locking the breech block before firing by the combined action of the hammer and the projector O, and also locking it after firing by the combined action of the hammer and the straight side of said block forward of the hollowed part *m*, substantially as described.

74,713.—G. R. Nebinger, Lewisberry, Pa., assignor to himself and William A. Middleton, same place.—*Clothes Line Clamp.*—February 18, 1868.—The cord is pinched between the wedge-formed block and the incline between the jaws.

Claim.—The block B, having a horizontal groove in its center whereby two flanges are formed, which have each a vertical slot *x* on their inner sides, when used in combination with the wedge-shaped block C, provided with trunnions *e e*, which work in said slots, as and for the purposes specified.

74,714.—Thomas Netherwood and J. P. Babcock, Westerly, R. I.—*Spinning Jack.*—February 18, 1868; antedated February 7, 1868.—When the carriage runs in, the pin strikes the curved arm and throws the belt on the loose pulley, simultaneously moving the horizontal rod forward, where it is held by the latch and weight. When the carriage runs out, the descent of the rod operated through the knee board releases the latch, and the horizontal rod is carried back by the weight, thereby moving the belt partially onto the working pulley and assisting the winding of the yarn.

Claim.—1. The arrangement of the shaft I with pendant arm *f* and curved cam E, weight F, rod *g*, and spring rod *i*, for operating the shipper board G, in the manner substantially as specified.

2. The arrangement of the rods d^1 d^2, pin *d*, and knee board B, on the car A, in combination with the latch *a* and rod D, in the manner and for the purposes set forth.

74,715.—Walter B. Noyes, Dorchester, N. H.—*Clothes Drier.*—February 18, 1868.—The ends of the arms are held between the two horizontal wheels, pins in the upper wheel entering holes in the ends of the arms. The wheels may be supported by the bracket plate, or by a standard passing through the hole in the lower wheel and secured by the set screw.

Claim.—1. The wheel A, furnished with slot *c* and

opening *e*, in the manner and for the purpose substantially as set forth.

2. The wheel A in combination with wheel *g*, when constructed and arranged substantially as described.

3. The wheels A and *g*, and arms *f f*, in combination with slide *m*, the whole constructed and operating as described.

74,716.—Oliver Perry and Clark Perry, Ortonville, Mich.—*Gate.*—February 18, 1868.—Each bar is pivoted to the hinge post and to the upright, and the upper bar is extended behind the post and weighted, so that on the depression of the spring catch the gate is thrown up. The latch may be depressed by a cord carried along a bar reaching up and down the road. The gate may be closed by a cord running over a pulley to its weighted end.

Claim.— The combination of the gate, as constructed, stationary arms C, D, and E, and cords K L, all operating as set forth.

74,717.—Elijah S. Pierce, Hartford, Conn.—*Apparatus for Conveying Screw Blanks.*—February 18, 1868.—The swinging arm forces back the spring slide from the mouth of the feeding trough, and receives a blank in its slotted end. It carries the blank to the gripping lever, and the blank is held by the toggle formed by the arm and lever while any operation is performed upon it. On the return movement the blank is engaged by the spring pawl and is thrown off.

Claim.—1. The swinging arm B in combination with the griping lever C, when the same are constructed, operated, and governed in the manner described.

2. The combination of the slide I, the arm B, and the spring H, or its equivalent, when used in the manner and for the purpose herein specified.

3. The subject matter of the first claim, in combination with the feeding trough A, substantially as described.

4. The combination of the feeding trough A, the slide I, and the conveying arm B, substantially as described.

5. The combination of the feeding trough A, the conveying arm B, the griping lever C, and the pawl E, substantially as described.

6. The combination of the feeding trough A, the slide I, the arm B, the lever C, and the pawl E, substantially as described.

74,718.—Isaac Pierson, Hartford, Conn.—*Window Sash Fastener.*—February 18, 1868.

Claim.—A window fastener, consisting of one piece of metal, of such a form that one part enters the upper sash and secures the sashes from being slipped past each other, and the other part turns over to one side and hooks into the lower sash, substantially as described, to prevent the first mentioned part from being withdrawn.

74,719.—Henry Pooley, Henry Pooley, Jr., Thomas Roberts, and Louis Luc, Liverpool, England.—*Grain Weighing Machine.*—February 18, 1868.

Claim.—1. The construction and use of twin scales placed side by side, when operated by devices substantially in the manner and for the purpose hereinbefore described and set forth.

2. The combination of the swivelling inclined spout into which the grain or other material to be weighed falls from the store or hopper, and the stationary double spout which guides the grain or material to be weighed into the scales, substantially as shown and described.

3. The alternative mode of accomplishing the same purposes by means of the rocking double-throated feed spout, fitted underneath a hopper, substantially in the manner and for the purposes hereinbefore set forth.

4. The inverted T-lever and its balanced catches on the end of the rocking shaft, which directs and controls the momentum of the apparatus originated by the loaded scales, in the manner and for the purposes hereinbefore described and set forth.

5. The construction and use of the rocking shaft and its appendages, as the means of distributing the continuous flow of grain or other material to the scales, and for the other purposes hereinbefore described and set forth.

6. The construction and use of the double-action tumbling hammer, for disengaging each scale alternately after it has received the full load, and also the peculiar locking apparatus connected therewith, and the mode of tilting the scales, as hereinbefore described and set forth.

7. The arrangement and combination of the several parts, forming together the double self-acting and self-registering apparatus for weighing a continuous flow of grain or other material, all as hereinbefore described and set forth.

74,720.—E. L. Pratt, Boston, Mass.—*Pen.*—February 18, 1868.—The curved, longitudinally corrugated and perforated plate has a loop for attachment to an ordinary pen.

Claim.—As a new article of manufacture, a fountain or reservoir, designed for use in combination with a pen, when made with a perforation, *c*, a band, *a*, and corrugations 1 2 3, all arranged substantially as and for the purpose described.

74,721.—B. F. Ream, Ada, Ohio.—*Shovel Plow and Cultivator.*—February 18, 1868.—The side beams are connected to the central beam by a transverse bar, and are either or both removable.

Claim.—The gauge beam E, constructed substantially as described, in combination with the beams A and *a*, guide bar G, shovels or plows C C′, or any of them, and coulter D, substantially as and for the purposes set forth.

74,722.—Ira A. Richards, Brookfield, Mass.—*Butter Dish.*—February 18, 1868.

Claim.—The cap E, hinged at a point, *d*, above the center of the bearing, and said cap provided with a nose *g*, so as to spring down over the point *f*, and secure the trunnion of the cover in its bearing, substantially as set forth.

74,723.—Edward Semple, Chicago, Ill.—*Trunk.*—February 18, 1868.—The angle plates are attached to the vertical corners of the lid and body, and bear the lock and hasp. They have also an engaging lug and loop.

Claim.—The angle pieces A, provided with the loops *a*, in combination with the angle pieces C, provided with the lugs *b*, when arranged for operation in connection with a trunk or similar article, substantially as described.

74,724.—James M. Seymour, Newark, N. J.—*Spacing and Boring Machine.*—February 18, 1868.—The pitman rod has collars, which act on a bell crank, and the oscillation of the bell crank causes the reciprocation of the pawl slide, moving the carriage a certain distance each time the borer is raised.

Claim.—1. The combination of the bell crank *s* for moving the slide *x* and the adjustable stops *n n* and *i*, so arranged that the action of said crank shall move the slide as soon as the bit is raised out of the wood, when operated substantially in the manner set forth.

2. The arrangement of the fence *y*, slide *x*, and removable notched stick *p*, and reciprocating pawl *u*, constructed and operated substantially as and for the purpose set forth.

74,725.—Walter Shepperman, Pittsburg, Pa.—*Clamp for Trussing Cylinders of Staves.*—February 18, 1868.—The cord passes beneath rollers in the cross-head, and its ends are attached to the screw block. The clamp is operated by turning the screw.

Claim.—The cross-head A, provided with rollers *e e*, in combination with screw C, block D, and cord *g*, substantially in the manner herein set forth and described.

74,726.—Edwin F. Sherman, Chicopee, Mass.—*Corn Sheller.*—February 18, 1868.

Claim.—1. The combination of a shelling cylinder, having ridges placed obliquely, as described, with the adjustable toothed bonnet, the whole arranged and operating substantially as set forth.

2. The flanges *k k*, in combination with the obliquely-placed ridges of a corn sheller, substantially as and for the purpose set forth.

3. Reversing the position of each alternate lay of ridges on the cylinder of a corn sheller, substantially as and for the purposes set forth.

4. The V-shaped ridges, placed on the cylinder of a corn sheller in such a manner that in each separate lay their V-points shall approach the center of the periphery of the cylinder, while the V-arms diverge from the center in opposite directions, substantially as and for the purposes described.

74,727.—Lyman C. Session, Neenah, Wis.—*Binding Guide for Sewing Machines.*—February 18, 1868.—The base plate is attached to the table by a set screw, which passes through its slot and those of the jaws. The edge of the plate is turned upward rectangularly, and has a V-notch, through which passes the end of the upper jaw. The upper jaw lies on the base plate, and is also turned up rectangularly, extended forward horizontally, and the side of the extension is turned down vertically, to enter the V-notch of the base plate. The lower jaw is similar to the upper, with the exception of the horizontal extension and down-turned lip. The jaws move in unison, to suit various widths of binding, and have diagonal grooves in the ends, to guide the material.

Claim.—A binding guide, consisting of the pieces A B C and set screw E, all constructed, arranged, and operating as and for the purpose set forth.

74,728.—Oscar C. Squyer, Penn Yan, N. Y.—*Pencil Sharpener.*—February 18, 1868.—The socket has a screw thread at the upper end, and may remain upon the pencil.

Claim.—The screw C, in combination with the pencil sharpener, substantially as and for the purpose set forth.

74,729.—Stephen W. Standart, Bellevue, Ohio.—*Plow.*—February 18, 1868.—The adjustable moldboard is hinged at the rear end of the fixed moldboard, and serves to move sideways the earth thrown up by the latter. The rear end of the beam is turned downward and extended horizontally, forming a foundation for the seat and a land side, to take the lateral strain. The depth is regulated by a roller upon a vertical, adjustable bar, situated behind the share.

Claim.—The arrangement of the land-side bar D, movable moldboard E, provided with metal knife at its bottom, bars F, bar H, and roller, operated by the lever I, the whole combined and used with the plow beam, in the manner and for the purpose set forth.

74,730.—William H. Stevenson, Auburn, N. Y.—*Machine for Grinding the Cutter of Harvesting Machines.*—February 18, 1868.—The cutter bar is clamped to the oscillating frame and presented by the movement of the latter to the grindstone.

Claim.—1. The combination, substantially as described, of the U-shaped frame A and the V-shaped bearings D D′ with the grindstone, mounted on the overhanging shaft, for the purposes set forth.

2. The oscillating clamping frame or holding rack H, operating substantially as described.

3. The combination, substantially as described, with the oscillating clamp bar, of the adjustable supports L *l*, for the purpose set forth.

4. The combination, substantially as described, of a grindstone, mounted on one end of an overhanging shaft, with a vertically, laterally, and longitudinally adjustable swinging clamping bar, for the purposes set forth.

5. The combination, substantially as described, of the clamping bar H, adjustable clamps K, radius bars, and set screws *l*, for the purpose set forth.

6. The U-shaped frame A, constructed as described.

74,731.—William H. Stevenson, Auburn, N. Y.—*Machine for Grinding the Cutter of Harvesting Machines.*—February 18, 1868.

Claim.—1. The grindstone, constructed as described, with one part of its periphery beveled and the other part parallel to the axis of rotation, and having an annular groove in that side next the parallel surface, for the purposes set forth.

2. The combination, substantially as described, of the bench A, the overhanging detachable frame or bed B, the stone, and the spindle E, for the purposes set forth.

3. The combination, substantially as described, of the stone, the spindle, and the oscillating rack bar or clamp frame, whereby I am enabled to grind the knives with their points down.

74,732.—Nicholas Tripp, Niagara Falls, N. Y.—*Vibrating Lever Power.*—February 18, 1868.—The pendulums and the mechanism connected therewith are interposed between the motor and machinery and serve to regulate the speed.

Claim.—The duplicate sets of pendulum levers C C, weighted at *a*, the duplicate fly plates I I, armed with balls *h h*, and connected by arms *i i* and boxes *l l* with the double crank shaft K, the adjusting ball *s*, and the double-acting levers D D, receiving motion by cog segments *b c*, and transmitting motion to the one crank shaft F, the whole constructed and arranged as described, and operating in the manner and for the purpose herein set forth.

74,733.—A. Van Camp, Washington, D. C.—*Preserving Eggs.*—February 18, 1868.—Unslacked lime, 10 lbs., and salt, 8 lbs., are mixed with water, 20 gallons. The eggs remain in the above 20 days. The following ingredients are mixed with a small quantity of water: chloride of calcium, ¼ lb; phosphoric acid, ½ lb.; bleaching powder, 1 lb.; nitrate of potash, ½ lb.; and added to the liquid containing the eggs. The eggs remain in the latter liquid 30 days.

Claim.—1. The process herein described for preserving eggs.

2. The use of chloride of calcium or its equivalent, for the purpose of preserving eggs.

3. Phosphoric acid as material for preserving eggs.

4. The combination of the ingredients herein mentioned for preserving eggs.

74,734.—Francis J. Vittum, Newburyport, Mass., assignor to W. N. Ely, Stratford, Conn.—*Leather Splitting Machine.*—February 18, 1868.—The leather is split by a band knife, which is first coiled upon one roller, and after reversing the motion is coiled upon the other.

Claim.—1. The long belt knife, cutting either way, substantially as described.

2. The knife coiled on drums, and operating either way, substantially as described.

3. The compound roller, with spindle, spiral spring, and sectional rings, substantially as described.

4. The compound roller, as described, in combination with a rubber roller, substantially as described.

5. The compound roller, as described, in combination with a splitting knife, substantially as described.

6. The cam or projection on the back of the knife, substantially as and for the purpose described.

7. Arranging and operating the knife by means substantially as described.

74,735.—H. N. Waters, Hartford, Conn., assignor to himself and Newton Case, same place.—*Feed Water Heater of Steam Generators.*—February 18, 1868.—The steam is exhausted upward into the reservoir and impinges against the deflector plate. Beneath the deflector plate is the perforated pipe through which the cold feed water is thrown in fine jets. A float connected with a valve regulates the flow of water through the feed pipe. The water is pumped from the reservoir to the boiler, being taken from sufficient elevation to leave the sediment undisturbed.

Claim.—1. The device I J, for the purpose of preventing the water in the reservoir from being drawn down to the level of the orifice of the feed pipe, substantially as herein specified.

2. The combination of the devices A, B, C, D, E, F, G, H, I, and J, for the purposes of a heater for steam boilers, substantially as specified.

3. The combination of the devices C, D, E, and F, substantially as herein described.

74,736.—Edmund G. Wayman, Louisville, Ky., assignor to Robert V. Snodgrass, same place.—

Preparing Hemp and Flax Fiber for the Manufacture of Dusters, &c.—February 18, 1868.—Well-cleaned flax or hemp is cut in lengths of 14 inches, and is immersed in a solution composed of sal soda, ½ lb.; lard, 1 lb.; water, 10 gallons, and raised to 110° Fahr. It is then allowed to dry and then immersed in a solution of alum, 1 lb.; water, 1 gall. It is then dyed. One half pound forms an office duster.

Claim.—The preparation and application of hemp and flax fiber in the production of a duster, the preparation and manufacture to take place as herein described, or any other substantially the same, and which will produce the intended effect or the same results.

74,737.—JOSEF WERNDL, Steyer, Austria.—*Breech-Loading Fire-Arm.*—February 18, 1868.—The breech block turns on a fixed axis, and has a recessed part to allow passage to the cartridge. When the recessed part is turned down the breech is closed. The block is operated by a thumb piece.

Claim.—1. The oscillating cylindrical breech block, provided with a recess or groove for admitting the cartridge into the chamber of the barrel, and moved forward by an oblique or spiral shoulder on its base pin, when constructed and operating substantially as described.

2. The combination of the barrel *a*, the hollow cylinder *b*, the locking cylinder *c*, the firing pin *f*, the groove *g*, the ejecting lever *h p*, the axis *k*, with its squared end, the spring *s*, and the sliding breech block *l*, with its inclined surface *m*, the whole being constructed and arranged substantially as described, for the purpose of a breech-loading fire arm.

74,738.—JAMES T. WHIPPLE, Chicago, Ill.—*Pump for Deep Wells.*—February 18, 1868.—The valves are contained in a cylinder which slides within the pipe. The ring packing is expanded between the two shoulders, which are made to approach by screwing the upper part of the valve cylinder upon its base.

Claim.—Cylinder B, provided with valves *e* and *e''*, when so constructed as to be capable of being adjusted to any given point within the main pipe, in combination with ring D, disk C, and provided with packing L, whereby a water-tight joint may be obtained between the cylinder and the sides of the main pipe, substantially as and for the purpose set forth.

74,739.—L. W. WOLFE, Jacksonville, Ill.—*Mortising Machine.*—February 18, 1868.—The mortise frame is connected to the sliding saw frame by a lever and connecting rod, and receives its vertical reciprocation therefrom.

Claim.—The sliding saw frame K, having arms I I, as specified, whereby motion is communicated to the mortiser N through the connecting rod P and lever O, all constructed and operating as specified.

74,740.—C. A. WALWORTH, Utica, N. Y.—*Device for Teaching Commercial Transactions.*—February 18, 1868.—The box has divisions into which the student's papers are placed according to their proper destination.

Claim.—The drawer or apparatus, substantially such as herein described, for the purpose of teaching and practically illustrating commercial transactions, as described.

74,741.—GEORGE W. WOOD, Richmond, Ind., assignor to himself and JAMES W. SALTER, same place.—*Color Printing Press.*—February 18, 1868.—Improvement on his patent of June 13, 1867. Segmental plates are substituted for the sectoral plates; the plates being connected to and adjustable on longitudinal projections on a central prismatic roller.

Claim.—1. The adjustable segmental plates A, for transferring the ink from the distributing to the type rollers, attached to a center B, and used in combination with intermediate adjustable reglets, or their equivalents, substantially in the manner set forth.

2. The combination of the distributing rollers, the segmental plates A, and the type rollers, substantially as set forth.

3. The combination of the rollers I and K and their adjustable boxes F F^2, substantially as and for the purpose set forth.

4. So arranging the rollers I and K, and the plates A, that while the work of distribution on the rollers goes on continuously, the roller I shall, by the oscillation of its bearings, be brought in contact only with its appropriate set of transferring plates, and be removed while the other sets are passing, substantially as set forth.

74,742.—SETH W. BAKER, Providence, R. I.—*Horse Blanket.*—February 25, 1868.—About number 5½ single ply is used for the filling, and from "20" to "22" three-ply for the warps. The yarn is beamed in sets of two or more distinct warps, and the several sets of warp are interwoven into plain cloth by continuous shoots of the filling, the loose intertwining of which forms interstitial cells.

Claim.—A horse blanket, manufactured or made up of the fabric herein described, as a new article of manufacture.

74,743.—JABEZ BAYSTON, Chicago, Ill.—*Revolving Hair Brush.*—February 25, 1868.—The frame has a curved portion resting against the person of the operator, and an elastic loop passing around his neck. The brush is rotated by gearing. It is intended for barbers' use.

Claim.—The combination of the frame A B D, the cylindrical brush E, and the gearing for operating the same, and the elastic support J, arranged and operating substantially as and for the purposes specified and shown.

74,744.—JOSEPH B. BENNETT, Brooklyn, N. Y.—*Rotary Engine.*—February 25, 1868.—The pistons admit of radial movement in the annulus within the rim of the eccentric wheel, and are kept in contact with the concave surface of the cylinder by springs beneath their inner ends. The said annulus is concentric with the cylinder, and the pistons slide through radial apertures in the rim of the wheel.

Claim.—The arrangement of the springs around the wheels D, with the pistons E E and cylinder A, substantially as and for the purposes specified.

74,745.—JAMES M. BENT, Wayland, Mass.—*Shoe Nail.*—February 25, 1868.—The head is made conical, so as to countersink into the leather.

Claim.—The cut shoe nail, with conical head and tapering and parallel sides, as described.

74,746.—ALBERT BINGHAM, Newtonville, Mass.—*Knob Latch for Doors.*—February 25, 1868; antedated February 7, 1868.—The spindle passes through the skeleton frame of the spring latch, and has a sleeve whose segmental projection engages shoulders of the latch, and withdraws the same on turning of the spindle in either direction.

Claim.—The combination and arrangement of the latch, having link B and armed end C, the removable tumbler D, and spring S, when the parts are constructed and operating substantially as described.

74,747.—SAMUEL F. BOUTON and NATHAN P. AMES, Chicago, Ill.—*Spring Bed Bottom.*—February 25, 1868.—The spring is so bent as to give it a rectangular bearing upon the upper slat.

Claim.—The combination of the arms *d* and *e*, formed upon the coil of the spring D, as shown, and a socket *c*, applied or secured to the slat C, in the manner and for the purposes specified.

74,748.—HENRY H. BUTLER, Troy, Mich.—*Farm Gate.*—February 25, 1868.—The upper bar of the gate runs on rollers, journaled in pendants of an upper bar running on rollers in the skeleton posts through which the gate passes. The arrangement allows the gate to slide a distance equal to its length.

Claim.—1. The horizontal sliding bar D, when constructed and operating substantially as and for the purpose set forth.

2. The combination of the above with the rollers between the double posts E and F, the hangers B C with their rollers, and the gate A, when arranged, constructed, and operating substantially as and for the purposes described.

74,749.—Ela Calley, Franklin, N. H.—*Attaching Circular Saws to their Mandrels.*—February 25, 1868.—The saw has a nut attached thereto which screws upon the mandrel.

Claim.—The arrangement of the separate nut C and its confining screws *b b*, shaft A, the male screw *c*, and the shoulder *a*, applied to such shaft in the manner and for the purpose substantially as specified.

74,750.—S. E. and Isaac Y. Chubbuck, Roxbury, Mass., assignors to themselves and S. E. Chubbuck, Jr.—*Piston.*—February 25, 1868.—The ring sections are guided to a radial centrifugal course by lugs upon each side of the arms, projecting radially from the hub. The sections are jointed together so as to admit of expansion by the pressure of the wedge blocks, actuated by the spiral springs, and sliding in the open-sided radial grooves.

Claim.—1. The peculiar construction of the ring sections H, substantially as described and shown.

2. The open-sided radial grooves *f f*, in combination with the spring wedge K, substantially as described.

3. The lugs *u*, in combination with the arms *c*, to support those sections which work in a vertical or approximately vertical position, substantially as described.

74,751.—Edwin E. Clark, Ann Arbor, Mich.—*Sewing Machine.*—February 25, 1868.—The needle is curved nearly in the arc of a circle, and its point passes within the spiral end of the looper. The looper is upon a shaft which has rotary reciprocation by a spur wheel and vertically reciprocating rack. The shaft has a screw thread which turns in a screw socket, and gives a longitudinal reciprocation simultaneously with its oscillatory motion.

Claim.—1. The slotted plate C, constructed substantially as described and for the purpose set forth.

2. The needle holder E, constructed substantially as described, in combination with the slotted guiding plate C, as and for the purpose set forth.

3. The curved eye-pointed needle F, operating in the arc of a circle, the center of movement of which corresponds with the plane of the movement of the cloth, and operated by means substantially as described.

4. The looper W, constructed and operated substantially as described.

5. The combination of looper W and curved eye-pointed needle F, when constructed and operating together as and for the purpose set forth.

74,752.—Amos Cutter, Chelsea, Mass.—*Paint Brush.*—February 25, 1868.—The socket for reception of the bristles is bisected longitudinally, its sections being hinged together at the top. After introduction of the bristles the sections are forced together by a slip-ring, and the conical-headed bolt is forced axially through the mass of bristles from the upper end, and the handle screwed on.

Claim.—The screw rod *g*, when permanently secured on the handle, and forced downwardly by the female screw in the handle *f*, in connection with the cylinder *a*, as and for the purposes described.

74,753.—E. A. DeCamp, St. Louis, Mo.—*Coal Stove.*—February 25, 1868; antedated January 24, 1868.—The common round heating stove has a horizontally extended top, and has deflecting plates and pot holes. The chimney is in the center of the top plate.

Claim.—1. The annular cooking top C^1 C^2, in combination with the stove A, substantially as described and set forth.

2. The diaphragms B and C^3, when combined with the disks C^1 and C^2, substantially as described and set forth.

74,754.—Elias S. Easterday, Nokomis, Ill.—*Sulky Cultivator.*—February 25, 1868.—The plow frame has vertical movement in a metallic frame, which slides on a transverse bar attached to the wheel frame. The plows and guide frame have lateral movement by the foot levers.

Claim.—1. Extending the plow beams D forward to form the tongue of the machine, substantially as herein shown and described and for the purpose set forth.

2. The iron frames O, adjustably secured to each other, and sliding laterally upon a rod or equivalent slide attached to the axle B, in combination with the plow beams D, substantially as herein shown and described and for the purposes set forth.

3. The combination of the foot levers Q with the plow beams D, and with the slotted irons or frames O, substantially as herein shown and described and for the purpose set forth.

4. Adjustably securing the plows M to the standards K by means of sockets N, substantially in the manner herein shown and described and for the purpose set forth.

5. The combination of the pivoted levers E, chain F, and pulley G, with the plow beams D and with the bars c^1, connecting the forward ends of the bars C, substantially as herein shown and described and for the purpose set forth.

74,755.—John Farrell, Pittsburg, Pa.—*Manufacture of Tin-lined Lead Pipe.*—February 25, 1868.—A portion of tin is first cast in the bottom of the chamber. The plunger then descends and the tin is formed into a tube around the mandrel. The sheath is then placed over the tin tube and the lead is cast outside of it; then the sheath is withdrawn, and power applied to expel the metals through the die.

Claim.—1. The die *e'* in a plunger *e*, in combination with a cylinder *a* and mandrel *d*, in a machine for making tin-lined lead pipe, constructed and operated substantially in the manner and for the purposes hereinbefore set forth.

2. The method hereinbefore described of constructing a compound ingot of tin and lead, in the manufacture of tin-lined lead pipe.

3. The use of a flange *i* attached to the tin part of a compound ingot of lead and tin, for the purposes and in the manner substantially as above set forth.

4. In the production of a compound tin and lead ingot by the method hereinbefore described, the use of a cover *g* for protecting the tin pipe or tin ingot from the heat of the molten lead, substantially as and for the purposes hereinbefore set forth.

74,756.—George W. Flowers, Jacob C. and Daniel W. Happersett, Urbana, Ohio.—*Burning Fluid.*—February 25, 1868.—Composed of chloride of sodium, 1, and caustic lime, 2 parts. Color with iodine, and mix sufficient gasoline to distill. Then to the distillate, 1, add gasoline, 5 parts.

Claim.—The fluid prepared of the materials and substances as herein described.

74,757.—A. V. Hill, Limestone, N. Y.—*Work Trimmer for Boots and Shoes.*—February 25, 1868; antedated February 12, 1868.—The knife is prevented by the guard from cutting the "upper" when trimming the sole.

Claim.—1. The guard *c*, when applied to a work trimmer, in manner and for the purposes substantially as described.

2. The blade B, fitted adjustably into a head A by the shank *b*, as herein set forth, and for the purposes substantially as described.

74,758.—David K. Hoxsie, Providence, R. I.—*Implement for Making Eyelets.*—February 25, 1868.—By a continuous motion of the punches the circular disk is formed into an eyelet; the metal around the central perforation being spread outward to form the flaring part.

Claim.—1. The movable forming punch, No. 1, constructed with a cylindrical shape or former *e*, a shoulder *i*, a beveled end *a*, and a center cavity *t*, when combined with mechanism so as to operate substantially as described, for the purpose specified.

2. The stationary die, No. 2, constructed with a circular entrance *n*, a conical drawing cavity *s*, a throat *x*, and an expanding cavity *r*, at the rear, when combined with mechanism, so as to operate substantially as and for the purpose specified.

3. The movable cutting punch, No. 3, constructed in a tubular form, with a beveled surface *g*, and a concentric cutting edge *c*, when combined with mechanism, such as herein described, so as to operate substantially as and for the purpose specified.

4. The method, herein described, of forming an eyelet by first converting a planchet or disk of metal into a tube with a closed end, and then cutting out the closed end, and expanding this severed edge of the tube, to form the flange, by means substantially as described.

5. So combining a drawing punch and an open drawing die, constructed substantially as described, that the planchet of metal from which the eyelet is to be made will enter in at the front end of the die, and, passing through, be delivered completely formed into an eyelet at the rear end of the die, substantially as described.

74,759.—SAMUEL HUFFMAN, Westfield, Ill.—*Animal Trap.*—February 25, 1868.—The cylinder has a gauze-covered chamber containing bait, and is contained in one division of the cubical box. The box and cylinder are perforated completely through in the direction of the length of the cylinder. The cylinder is hung so that on the entrance of a rat, it rotates sufficiently to close the holes in the end and bring the hole in the side in conjunction with a hole leading into the inner chamber. When the rat enters the inner chamber the cylinder rolls back, shutting off communication.

Claim.—1. The pivoted chamber B, turning on its axis, furnished with two opposite openings *c c*, and the lateral opening D, as and for the purpose specified, or equivalent.

2. In combination with revolving chamber B, the auxiliary balls, as described.

74,760.—BARTON H. JENKS, Bridesburg, Pa.—*Breech-Loading Fire-Arm.*—February 25, 1868.—The breech block is slotted longitudinally at its rear end to receive the locking catch, which has an upwardly projecting arm by which the block is moved. The cartridge extractor is pivoted to the breech block, and has a slide passing into a cavity beneath the barrel. The backward movement of the breech block forces back the hammer into cock.

Claim.—1. Combining a vibrating slotted breech piece D, a vibrating locking-latch E, and a hammer F, in such manner that these parts are confined between the cheeks B of the frame, and the hammer is on the outside of the breech piece, substantially as described.

2. Arranging the tumbler G between the cheeks of the vibrating breech piece D, and affixing the hammer to one end of the tubular bearing of said tumbler, substantially as described.

3. So combining a vibrating hammer F, which is arranged outside of a vibrating breech piece, and between the frame cheeks B, that said hammer can be full cocked or half cocked without moving the breech piece, substantially as described.

4. Providing for cocking a hammer, which is arranged outside of and pivoted to the axis *c* of a vibrating breech piece, in the act of drawing back the latter by means of an extension *b'*, or its equivalent, substantially as described.

5. The relative arrangement of the breech piece D, locking portion E, tumbler G, and trigger H, the same being constructed and operating substantially as set forth.

74,761.—DANIEL W. JOHNSON, Bloomsburg, Pa.—*Whiffletree.*—February 25, 1868.—The button is held in position to secure the traces by longitudinally sliding catch rods, which may be simultaneously retracted by a chain attached to bell-crank levers pivoted to their ends.

Claim.—A whiffletree, having spring A, slide B, levers H and M, chains K, and button C, constructed, combined, and arranged substantially as specified.

74,762.—W. W. LEECH, Pittsburg, Pa., assignor to himself and GEORGE COUTANT, same place.—*Animal Trap.*—February 25, 1868.—The striking bars are held by upward extensions of a bent lever, whose depending arm enters a cavity in the trip lever. The trip lever has a spur engaging a spur on the bait lever, so that when the bait plate is depressed, the trap will be sprung; the striking bar being carried down upon the animal by the spiral springs.

Claim.—The curved or bent and coiled wires *e e'*, one or more, single or double, in combination with the baiting and tripping devices, constructed and arranged substantially as and for the purposes set forth.

74,763.—MARY MERRILL, Marengo, Ill.—*Knife and Fork Scourer.*—February 25, 1868.—The case has a cap, which is removed for the introduction of water which flows through the annular space and the small perforations onto the cork or rubber.

Claim.—The combination of the box A, the inner casing E, the sieves B and C, and the cork or rubber D, as and for the purposes specified.

74,764.—LEWIS MOSES, New York, assignor to himself and JAMES C. WALTER, Harlem, N. Y.—*Manufacture of Buttons.*—February 25, 1868; antedated February 7, 1868.—The eye of the button is secured in the socket by cement made of liquid glass and powdered mineral matter.

Claim.—1. The cement, consisting of liquid glass and finely powdered mineral matter, substantially as described, for the purpose specified.

2. The plate B, containing the cement filled into the circular recess in the button A, and subjected to heat, as herein set forth, for the purpose specified.

74,765.—M. NYE and A. J. KNISELY, Chicago, Ill.—*Brick Machine.*—February 25, 1868.—The empty molds are thrust beneath the plungers by a system of levers operating through a rock shaft, whose arms carry a roller coming in contact with the molds. This movement of the empty molds forces the filled molds out, and should a stone obstruct the movement, the fulcrum of the first lever moves so as to render inoperative the stroke of the crank upon it. The fulcrum is held in position by a weight or spring, which yields as stated. The "valves" beneath which the filled molds pass are kept down by springs, and are raised to allow the passage of smaller stones.

Claim.—1. The combination of the movable fulcrum F, connecting levers E, M, and N, with rolling shaft P, chain R, and weight S, substantially as and for the purpose shown.

2. In combination with the movable fulcrum F, the connecting rod G, lever H, chain I, weight *y*, and rod *j*, substantially as and for the purpose shown.

3. Combining the adjustable pivoted springs *f* with the hinged valves *g*, substantially as and for the purpose herein shown and described.

74,766.—ERASMUS OSBURN, Rome Center, Mich.—*Milk and Provision Rack.*—February 25, 1868.—The uprights are surrounded by the rectangular pans, which prevent the ascent of rats and mice, and may contain some liquid to prevent the passage of insects.

Claim.—The construction of a rack, as hereinbefore described, with perpendicular posts A, transverse bars or feet B, horizontal bars C, cap E, and rectangular pans F, when arranged and operating substantially as and for the purposes described.

74,767.—GEORGE PAINE, Washington, Ohio.—*Sheep Holder and Fleece Folder Combined.*—February 25, 1868.—The table has vertical adjustment by the standard. The sides are hinged to fold in the sides of the fleece, which is extended upon the table and rolled upon the slitted apron. The free end of the apron is then brought over the fleece and made fast, and the apron tightened by winding upon the roller. The slits in the apron give access for applying the twine ties.

Claim.—The herein described sheep table, consisting of the top B, sides C, leaves D, adjusting standard F, and box E, all constructed and arranged to operate in combination with the apron H and roller I, in the manner and for the purpose substantially as set forth.

74,768.—WILLIAM M. PALMER, Middlebush, N. J.—*Water Elevator.*—February 25, 1868.—The buckets are alternately raised and lowered by the continued revolution of the winch in one direction.

Claim.—1. The ropes F, cylinders G, collars G^1, roller H^2, oscillating levers H, and lever I, combined so as to operate substantially as set forth.

2. The bucket A, swinging on the arm D, and

provided with the spring hook K, arranged to operate substantially as set forth.

3. The arrangement of the slides C, arm D, buckets A, bail E, and hook K, substantially as set forth.

4. In combination with the cylinders G and collars G^1, the oscillating arms H, substantially as described.

5. In combination with the ways B′ and slide C, the lever I, arranged to operate substantially in the manner and for the purpose set forth.

74,769.—ISAAC PARDEE, Vineland, N. J.—*Concrete Brick Machine.*—February 25, 1868; antedated February 10, 1868.—The box being filled with the materials for the concrete block, the cover is slipped on, and the box drawn down by the lever, which turns the shaft upon which the press chain is coiled. When the block is ready for removal the box cover is slipped off and the box depressed, leaving the block suspended upon the fixed follower.

Claim.—1. The arrangement of the levers F and J, when the same are connected with the sliding box D, in the manner set forth.

2. The sliding box D, in combination with the uprights B, plate C, pin *b*, lever F, chain K, shaft I, and lever J, all made and operating substantially as and for the purpose herein shown and described.

3. The box D, when provided with a core E, in combination with the sliding plate L, that has grooves *e*, and fits over strips *f*, as set forth.

4. The hinged platform O, in combination with the box N and box D, all made and operating substantially as and for the purpose described.

5. The springs *d*, when arranged as set forth, for the purpose of keeping the box D up, as set forth.

74,770.—AMOS PORTER, Charlestown, Mass., assignor to himself and N. S. PAYNE, same place.—*Coal Hod and Screen.*—February 25, 1868.—The two perforated sections of the hod may be clamped with their edges together by the frame, which is placed on standards and rotated by a winch.

Claim.—1. The combined hod or ash pan and sifter, when it is made of two parts so constructed as that one half fits into or upon the other half, and the bored holes of the sifting bottoms are so arranged as not to come opposite to each other when one pan is put into the other, thus fitting the parts to act as a hod or ash pan, all substantially as described.

2. The rotating holder or sifting frame to hold the two parts of the hod sifter together, in combination with the hod sifter, when all are constructed and used substantially as described.

3. The stationary holder or hod frame, when constructed with bails or handles, in combination with the two containing vessels or pans, when bored in the bottoms, all substantially as described.

4. The general construction and arrangement of the whole device, when made and used substantially as described.

74,771.—WILLIAM READ, Jr., Boston, Mass.—*Cord Retainer for Pictures and Mirrors.*—February 25, 1868; antedated October 10, 1867.—The notched end of the flexible plate engages the cord, which is passed through the eye to whose side the plate is attached.

Claim.—The frame *a*, provided with a projecting end or point *c*, in combination with an elastic plate *b*, as and for the purpose specified.

74,772.—ALFRED and WILLIAM SHEDLOCK, New York, N. Y.—*Mechanical Donkey.*—February 25, 1868.—The legs are driven by connection to cranks actuated by clock work within the abdominal cavity, and a spring is released from a flange upon a wheel at each rotation of the latter. The spring operates to unseat the rider by a pin which passes through the donkey's back and impinges against the seat of the said rider. The feet of the animal have ratchet plates insuring the effectiveness of the backward movement of the legs for propulsion.

Claim.—1. The combination of the cam wheel K, made as described, with the spring M, having a notched detent plate N attached thereto, for the purposes hereinbefore described.

2. In combination with the reacting spring M and a walking donkey, the independent or adjustable rider Q, for the purposes hereinbefore set forth.

3. In combination with the feet of a walking donkey, the claw-teethed shoes S, or equivalent devices therefor, for the purposes hereinbefore set forth.

74,773.—W. B. SNOW, Chicago, Ill.—*Sleeping Car Berth.*—February 25, 1868.—The counter-balance cords attached to the free side of the berth are connected to spiral springs.

Claim.—The coiled springs L inclosed in boxes between the floors of the car in combination with pulleys *m n*, cords G, and berths E, arranged substantially as set forth.

74,774.—A. W. STRAUB, Philadelphia, Pa.—*Portable Grinding Mill.*—February 25, 1868.—The frame is made in a single piece of cast iron to prevent any derangement by rough handling in transportation.

Claim.—Securing firmly down together upon the frame A B, cast in one piece, as shown and described, the detachable curb *d′*, coping ring *b″*, and hopper stool F, by means of four nutted screw bolts a^5, a^5, a^5, a^5, substantially as and for the purpose herein described.

74,775.—C. F. TAYLOR, Vassalboro, Me.—*Cultivator.*—February 25, 1868.—The bar of the A-shaped frame is connected with the apex by a center piece and the flaring shovels thrown inward.

Claim.—The A-shaped cultivator A with its center piece *a* and cross-piece *a′*, in combination with the teeth *b*, so arranged as to throw the earth inward, as and for the purpose described.

74,776.—J. W. THORN, Courtland, Ala., assignor to himself and CHARLES W. MATTHEWS.—*Cotton Cleaner.*—February 25, 1868.—The feeding drum has a series of cavities formed by longitudinal partitions extending tangentially from the central shaft. The drum has intermitting rotation by which the cavities are brought in communication with the feed board and by a further rotation with the cleaning chamber.

Claim.—1. Feeding drum F A, catch lever L C T, ratchet C R, and lug *l g*, the whole combined and constructed and operating in the manner and for the purpose above set forth and described.

2. Lever L′, catch C K, door D, and weight W, the whole combined in the manner and for the purpose above set forth and described.

3. The combination of the drum F A, its catch lever L C T, and ratchet C R, and door D, lever L′, and catch C K, and weight W, with a cotton beating and cleaning machine, the whole constructed and operated in the manner and for the purpose above set forth and described.

74,777.—WILLIAM H. WATSON, New York, N. Y.—*Machine for Sheeting and Pressing Tobacco.*—February 25, 1868.—The tobacco is carried between the endless metallic belts and passes between the cutter roller and grooved roller. The side belts run on horizontal pulleys, and serve to limit the side extension of the sheet.

Claim.—1. The combination of two or more metallic endless belts, constructed substantially as described, for the purpose specified.

2. The combination of the side belts with the same, for the purpose specified.

3. Slitting or cutting the tobacco while under pressure, substantially as shown.

4. Adjusting the cylinders D and D^2, substantially as shown, for the purposes indicated.

74,778.—J. W. WELLER, Cleveland, Ohio.—*Fluid Meter.*—February 25, 1868.—The measuring casks are mounted on the opposite ends of a tilting frame, and each one is connected by flexible pipes to the tank and receiver. The filling of either cask causes its end of the frame to tilt down, which throws over the ball and operates the faucets through the lever and chain to close communication between the filled cask and the tank, and to open communication between the latter and the empty cask, simultaneously changing the communications with the receiver.

The number of movements made by the frame is registered.

1. The casks C C′, as arranged in combination with the vibrating box A, in the manner and for the purpose substantially as set forth.

2. The faucets D D′ and E E′, handles G, and chain F in combination with the casks C C′, levers H, and box A, when arranged and operated in the manner and for the purpose set forth.

3. The supplementary box A′, adjusting screws P, and ball B′ in combination with a vibrating box A, for the purpose and in the manner as described.

4. The registering apparatus, consisting of the gearing R′, dial *f*, hands *c d*, and lever Q, when arranged and operated in combination with the box A, in the manner as and for the purpose set forth.

5. The vibrating box A, in combination with the ball I and levers H H′, substantially as and for the purpose set forth.

74,779.—Isaac M. Wells, Jeffersonville, Ohio.—*Burglar Alarm.*—February 25, 1868.—The segmental match lighter is upon the head of the key, and is arranged to light the match and then to present its flattened side to the lamp. The mechanism is tripped by a tipping post, as in his patent of June 11, 1867. A quick fuze from the match fires the pistol.

Claim.—1. The rotary match lighter C applied to a burglar alarm, and operating by a complete revolution, substantially in the manner and for the purpose described.

2. The combination of the match lighter C with the key E, substantially as and for the purpose described.

3. The match holder B *b* mounted in the box A A′, and arranged and operating substantially as described.

4. The combination with the match holder B *b* of the fuze N, as and for the purpose set forth.

74,780.—Abram Westbrook and Stephen O. Doan, Leona, Pa.—*Detaching Check Rein.*—February 25, 1868.—The cord is attached to a ring upon the check rein, and by it the said ring may be thrown backward to release it from the check hook.

Claim.—1. A cord attached to the check rein and extending back and confined in one of the driving reins, substantially for the purpose described.

2. The combination of a check rein with a cord for detaching and attaching the same, substantially as specified.

74,781.—Anton Wetzel, Cincinnati, Ohio.—*Permutation Lock.*—February 25, 1868.—The arbor of the tumblers is at right angles with the knob spindle, and the latter carries a miter wheel engaging a similar wheel on the outer tumbler wheel. The combination is discovered by the introduction of a pin into the back plate of the lock when the door is open. The said pin impinges upon the inclined head of a pin and forces it through the slots of the tumbler wheels as they are brought into line by turning the knob. The combination is shown by the position of the index finger when the pin enters each slot.

Claim.—1. In combination with the tumbler D, the miter wheels G H, by which the gated disks F F′ F″ F‴ F⁗ are situated and operated at right angles to the operating handle I of the lock, as described and for the purpose specified.

2. The inclined headed bolt K K, pin L, spring O, and disks P *p p′*, arranged and operating in the manner and for the purpose set forth.

74,782.—Levi H. Whitney, Vallejo, Cal.—*Fire Lighter.*—February 25, 1868.—The tubular burner is coupled to the oil-containing tube and felt packing is placed below the wick to prevent undue flow of oil.

Claim.—As an article of manufacture, a fire lighter, constructed of the parts arranged substantially as described.

74,783.—John N. Wunderlich, Philadelphia, Pa.—*Traveler's Trunk.*—February 25, 1868.—The legs are folded beneath the trunk, and when opened out raise the latter so high that its front when let down will answer as a desk.

Claim.—1. The book rack made by the combination of the horizontal shelves *n n* and folding legs E, when arranged beneath a traveling trunk, in the manner shown and described.

2. The trunk A B, opening as shown, when so combined with the folding legs E that the cover a^4 forms a bureau table and the falling front C a writing desk, substantially as shown and described.

3. The combination of the under-mentioned parts when so arranged in a traveling trunk as to form a toilet mirror, b^3, table a^4, writing desk C, and book rack *n*, in the manner shown and described.

74,784.—W. F. Abbott, Marengo, Ill.—*Measuring and Tallying Attachment to Thresking Machines.*—February 25, 1868.—The grain from the threshing machine is elevated and dropped into the bifurcated pipe which communicates with the measuring hoppers through ducts having gates to close communication. The grain is allowed to run into and from each of the hoppers alternately, and the changes are indicated by the pointer upon the double ratchet bar which is actuated by the pawls upon the sliding bar. The latter has movement each time the exit gates are moved.

Claim.—1. The elevator box A, pulleys F F, belt *m*, and buckets *g* in combination with the bifurcated spout C C′, doors D D, measuring chambers M, and doors N N, all constructed, arranged, and operating substantially as set forth.

2. The combination of the pivoted doors D, pivoted lever *d*, and plate *d′* with the bifurcated spout C C′ and measuring chambers M, substantially as and for the purposes set forth.

3. The combination of the sliding bar *a*, pivoted pawls *l*, doors N, having projections *i*, double ratchet bar *h*, springs *q*, pointer *s*, and register *k*, substantially as described and represented.

4. In combination with the above, the key *w*, substantially as described and for the purpose specified.

5. The doors D, substantially as shown and described, in combination with the bifurcated spout C and measuring chambers M for the purpose of alternately opening and closing said spout, all as set forth.

6. The projections *i* in combination with the discharge door N of a grain measuring chamber, substantially as shown and for the purposes specified.

7. The bar *a* and its pawls *l* in combination with the ratchet bar *h* and projections *i*, or other equivalent device, substantially as shown and described and for the purpose set forth.

8. The ratchet bar *h* in combination with the tally scale of the case *k*, substantially as shown and described, for the purpose of tallying grain, all as set forth.

74,785.—A. Q. Allis, Dayton, Ohio.—*Machine for Boring Post Holes.*—February 25, 1868.—The post with the mechanism attached turns on the platform, and is secured by a spring pin which traverses an arm extending backward from the post and enters the platform. A portion of the auger stem is square, and slides in the hub of its motive bevel wheel. The half nut is brought in contact with the screw-threaded part of the stem to cause simultaneous vertical and rotary movement. The earth is carried into the cylindrical shell by the auger.

Claim.—1. The half nut *o′* and the method of engaging and detaching the same from the boring bar, substantially as and for the purposes described.

2. The tube E in combination with the auger D, substantially as described for the purposes set forth.

3. A post hole boring machine so constructed as to swing round on the platform, substantially as and for the purposes described.

74,786.—Emeline T. Annis, Mount Morris, N. Y.—*Pillow Support.*—February 25, 1868.—The plate is cushioned on the upper side and is adjusted in inclination by the supporting bracket, which has a screw rod passing through an eye at the upper edge of the plate and carrying an adjusting thumb nut.

Claim.—The pillow A formed on the plate B, the bracket C, the rod E, and the nut *g*, arranged, combined, and operating substantially as shown and described for the purposes set forth.

74,787.—Cornelius Anthony, Schenectady, N. Y., assignor to C. L. Sanford, George B. Near,

and JAMES TROVER, same place.—*Tea Kettle.*—February 25, 1868.—The lug rises from the top of the kettle and has a recess to receive the key. The bale passes through openings in the lugs and key, and the latter keeps the lid from falling down into contact with the kettle, while it permits a certain range of motion.

Claim.—1. The key or wedge B, in combination with recess C and bail D, and swinging cover of a tea kettle, substantially as shown and described.

2. The lug or ear A of a tea kettle when made with a recess C, and used substantially as and for the purpose shown and described.

74,788.—M. A. AVERY, Groton, N. Y.—*Butt Hinge.*—February 25, 1868.—The hinge is reversible and the plates may be disconnected by raising the door.

Claim.—The right and left butt hinge, having the screw holes countersunk upon each side when its leaf A is provided with an opening between the socket *a* and abutment *d*, for the application of the eye *c* of the leaf B, as herein shown and described.

74,789.—JONATHAN BANGS, South Dennis, Mass.—*Belaying Cleat.*—February 25, 1868.—The cord is passed around the horn of the lever and its free end pinched beneath the said lever, which is depressed by the strain of the cord upon the horn.

Claim.—The cleat, constructed as described, consisting of the lever A, having upon its upper side the hook H, and pivoted between the ears *a* of the plate C, all operating as described, whereby the tension of the rope upon the hook H forces the long arm K upon the rope beneath it in the groove of the plate C, securely clamping said rope in position, as herein shown and described.

74,790.—P. F. BINDEWALD, Strongsville, Ohio.—*Washing Machine.*—February 25, 1868.—The beaters are attached to levers which have reciprocal oscillation, being connected to the oppositely projecting arms of a rock shaft, actuated by the hand lever. The bottom of the box is inclined downward to the end, against which the beaters operate.

Claim.—The combination and arrangement of the lever I, shaft B, arms C, connecting bars D, pivoted levers E, arms G, and beaters H, constructed as described, with each other and with the box or tub A, substantially as herein shown and described, and for the purpose set forth.

74,791.—GUSTAV BISCHOF, Jr., Swansea, Great Britain, assignor to himself and JOHN L. KIDWELL, Georgetown, D. C.—*Preparing Finely-divided Iron, and the Separation of Copper, Silver, and other Metals from their Solutions.*—February 25, 1868.—Any of the oxides of iron are pulverized and mixed with pulverized coal, coke, charcoal, or other carbonaceous matter, in proportion of 100 parts of the former to 20 parts of the latter. The mixture is then heated sufficiently to reduce the oxide to a metallic state. The material is then discharged, through a hole in the furnace floor, into an air-tight receiver, in which it is kept from contact with the air until cold. The pulverized iron thus prepared is used to precipitate copper from its solution by taking up the acid. The solution is then drawn off and fresh cupreous solution added. This is continued until the iron powder is dissolved. The last trace of iron is removed by adding dilute wash waters from the process of lixiviating the copper from ores. If a small excess of copper remain, a portion of finely-sifted iron powder may be added to the solution. The solution should be stirred during the process, and this may be done by conducting the operation in rotating wooden casks, supported on gudgeons. The copper may be melted into ingots, or be used in its finely-divided state, to precipitate silver from its solutions.

Claim.—1. The preparation of finely-divided metallic iron, in the manner and by the process substantially as described.

2. The combination and arrangement of the receiver F with the furnace, for deoxidizing the ore or oxides of iron, and securing the product from the oxidizing effects of the atmosphere, as set forth.

3. The precipitation of metallic copper from its solutions, by the use of finely-divided iron, prepared as described, and in the manner set forth.

4. The use of the finely-divided metallic iron, produced in the manner set forth, for the manufacture of steel and for other manufacturing purposes.

5. The use of finely-divided metallic copper, produced in the manner set forth, for separating silver from its solutions.

74,792.—JAMES BRAHN, Jersey City, N. J.—*Shoe for Car Brakes.*—February 25, 1868.—The plate has flanges embracing the brake bar, and segmental-edged projections at the upper and lower ends of its concave face. The shoe has sockets, to receive the vertical projections of the plate, upon which it is put with a turn, and is held in a vertical position by the flange of the wheel.

Claim.—1. The shoe B, cast with sockets *c*, in combination with the plate A, formed with projections *b a*, substantially as described, for the purpose specified.

2. In combination with the above, the rubber strip C, arranged substantially as and for the purpose set forth.

74,793.—A. W. BROWNE, Brooklyn, N. Y.—*Lamp Burner.*—February 25, 1868.—The two flat wicks are pressed between the lifting wheels and guided by the conoidal deflector into the annular wick tube, in which they form semi-annular sections. The openings, which conduct air through the hollow stays, to feed the inside of the flame, are covered with wire gauze, to prevent the communication of fire to the gases between the jacket and the tube.

Claim.—1. The combination of the tube B and tube or wick deflector C, constructed and arranged as herein described, and adapted for the employment of two flat wicks, which are thereby spread and curved, and made to produce a circular flame, substantially as set forth.

2. In combination with the elements covered by the first clause, the shafts F F^1, toothed wheels *f*, and disk or operating device F^2, arranged and employed substantially as and for the purpose set forth.

3. The gauze G, in combination with the slotted wick deflector or tube C, as and for the purposes set forth.

74,794.—E. W. BULLARD, Barre, Mass., assignor to himself and J. W. JENKINS, same place.—*Horse Rake.*—February 25, 1868.—The vertical pins on the lower side of the clearer bars prevent the hay from accumulating against the axle, and also from being thrown against the axle when the rake is raised to discharge.

Claim.—1. The combination, with a rake, whose teeth are capable of being tilted or elevated in order to discharge the hay, of the stationary clearers F and vertical fingers G, operating in connection with the rake, substantially in the manner and for the purposes herein shown and set forth.

2. The combination, with the axle and the rake teeth and thills, hinged to the axle, as described, of the horizontal fingers F and short vertical fingers G, substantially in the manner and for the purposes shown and set forth.

74,795.—R. A. CARSON and W. T. PETER, Brinsburg, Ky.—*Cattle Pricker.*—February 25, 1868.—The band is placed upon the fore leg, above the knee, and its pendant points prick the animal when it attempts to lie down.

Claim.—1. An apparatus for preventing cattle from lying down or jumping, substantially as shown and described.

2. The strap *a*, in combination with the pricking points *e'*, substantially as shown and described, and for the purposes set forth.

74,796.—C. H. CARVER, Taunton, Mass.—*Churn.*—February 25, 1868.—The dasher head is spiral in form, and the sides of the cream vessel have spiral ribs. The dasher staff turns in bearings in a frame, which is clamped by a screw to the cross-bar of the stand frame.

Claim.—1. The combination of the screw dasher E, constructed as described, with the churn B, having two or more inclined ribs or flanges *b* attached

to its inner surface, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the clamp H, constructed substantially as herein shown and described; that is to say, with jaws h^1, bearings h^2, and arm h^3, with the dasher shaft F and crank wheel I, as and for the purpose set forth.

74,797.—D. M. Cole, Elgin, Ill.—*Cheese Box.*—February 25, 1868.—The box is made of a thin veneering of wood covered by several thicknesses of paper. The layers are firmly compressed together, being secured by a solution of glue, white lead, and alum.

Claim.—1. The combination of the outer and inner case E and A, constructed substantially as and for the purpose specified.

2. Connecting the cover and bottom to the rim and sides of a paper box by means of strips of textile substance, 1 2 3 4, more or less, substantially as and for the purpose set forth.

74,798.—Albert Comey, Cuyahoga Falls, Ohio.—*Clothes Line Holder.*—February 25, 1868.—The line is held between the serrated roller and segmental cam.

Claim.—The plate B, with swinging cam C, arranged in such manner as to operate by its own weight from either side, and flanged serrated roller D, when combined as and for the purpose set forth.

74,799.—John Commins, Charlestown, Mass.—*Treating Mineral Phosphates for the Manufacture of Fertilizers.*—February 25, 1868.—The mineral is heated to a red heat and plunged into a solution of common salt.

Claim.—Uniting phosphatic minerals or earths with a solution of common salt, (chloride of sodium,) and water, while hot, as and for the purpose herein described.

74,800.—Samuel E. Condon, Williamsburg, N. Y.—*Curling Iron.*—February 25, 1868.—The heater is held in the cylindrical case by a spring catch on the latter, which engages a collar on the former.

Claim.—The curling iron A, when secured in the metal case C by means of the catch F upon the case, fitting over the flange G upon the handle B, as herein shown and described.

74,801.—Samuel E. Condon, Brooklyn, N. Y.—*Dust Pan.*—February 25, 1868.—The lip and hinged cover form an incline, up which the dust is swept, to be received in the pan. The lid is held in this position by a catch, till the sweepings are to be discharged.

Claim.—1. The hinged cover D, applied to the dust pan A, and arranged in connection with the inclined flange C, when a space is left between the hinge of the cover and the rear end of the pan A, and when combined with the automatic coupling, all constructed, arranged, and operating as and for the purpose described.

2. The automatic or self-acting coupling, composed of the pivoted rod E, secured to the bottom of the pan with a hook *f* at one end and a weight *h* at the opposite end, and the staple *e* attached to the under side of the lid or cover D, substantially as and for the purpose specified.

74,802.—W. C. Cook, Appleton, Wis.—*Running Gear for Wheeled Vehicles.*—February 25, 1868.—Both bolsters are pivoted to the axles. The rear hounds of the fore axle are pivoted to the reach and have a segmental guide bar embraced by a staple at the fore end of the reach.

Claim.—1. The combination of the reach E with the hounds C C of the front axle A, the bearing plates *a a* at the rear of the hounds, the pivoted rear axle B, and the segment bar *e*, with the front end of the reach connected to it by a staple *b*, all arranged substantially in the manner as and for the purpose set forth.

2. The construction of metal stakes G, secured to the bolsters, each by a single bolt *f*, arranged and applied substantially as shown and described.

74,803.—William S. Cooper, Philadelphia, Pa.—*Globe Valve.*—February 25, 1868.—The valve is upon the square stem which slides in the central guide piece. The latter has an annular recess receiving a collar upon the stem. The stem has a screw-threaded end entering a socket in the valve piece. A cap is screwed on above the collar.

Claim.—1. The combination of the central guide piece G, cap B, and body A, substantially as herein set forth.

2. The arrangement of the spindle S, central guide piece G, square shank X of the valve V, with the cap B and body A, substantially upon the principle as herein set forth.

74,804.—Edward M. Davis, Pittsburg, Pa., assignor to himself, J. B. Clark, and J. A. Hunter, same place.—*Securing Labels on Glassware.*—February 25, 1868.—The metallic label is placed in the mold and the glass blown against it.

Claim.—1. The process for countersinking a metallic substance in glassware, in manner and for the purposes substantially as described.

2. The combination of the metallic substances B and C with the glassware A, in manner and for the purposes herein set forth and described.

74,805.—Paul Dennis, Schuylerville, N. Y., assignor to himself and George Leggette, same place.—*Gate Hinge.*—February 25, 1868.—The swivel piece turns in the bracket and has upward guides for the top bar of the gate. The said bar runs on an anti-friction roller journaled in the guides.

Claim.—The construction of the gate hinge, consisting of the forked portion D, having a socket in which the pintle C of the box B fits, said box carrying above the pintle, in the grooved guides *b*, the roller A, as herein described, for the purpose specified.

74,806.—Francis E. Droll, St. Charles, Mo.—*Channeling Tool.*—February 25, 1868.—The cutters are adjustably secured by thumb screws to a longitudinal and inclined surface, respectively. The spring guide is adjustable by a temper screw.

Claim.—1. The side bar B, as united with main bar A, for the use and purpose as specified and herein set forth.

2. Adjusting my smaller knife D to the small or side bar B by means of the screws, independently of any other part of my machine, for the use and purpose as specified and hereinbefore set forth.

3. The spring E, as constructed, so that it may be moved up or down in main bar as a guide, for the use and purpose as specified and herein set forth.

4. The entire combination of the knives, spring, and bars, with the mode of adjusting the knives and spring, for the use and purpose as specified and herein set forth.

74,807.—S. W. Durham, Ipava, Ill.—*Strap Fastener.*—February 25, 1868.—The strap and its replicated end are passed through the loops of a plate and the said end is detained by a tongue.

Claim.—The strap fastener, constructed as described, consisting of the plate B, having upon one of its sides the loops C D, the latter bearing the tongue E, whose inner end fits within the strap between the loops C D, as herein shown and described.

74,808.—Green Fenton, Streetsboro, Ohio,—*Sheep Shearing and Tagging Table.*—February 25, 1868.—The sheep is placed upon the slat-topped table, and its neck is laid over the block, its head being held down by the pivoted strap. The legs are passed beneath the hinged yokes. The supplementary top gives means for holding the animal upon its back, between the sides, while tagging.

Claim.—1. The bottom C, consisting of the sides D, yokes F, and straps E, as arranged, in combination with the table B and adjustable neck block G, for the purpose set forth.

2. The sliding supplementary top I, sides J, pillow K, and extension legs A, all constructed and arranged in the manner and for the purpose specified.

74,809.—James H. Flagg, Perkinsville, Vt.—*Frame for Carriage Tops.*—February 25, 1868.—The

ends of the middle bow enter sockets in the ends of the seat, and the front and rear bow are jointed to the middle one. The bows are jointed in the middle to occupy small space when put away.

Claim.—The carriage-top frame, consisting of two or more bows of metal or other suitable material, the side bows being hung on an internal one, and the whole jointed in the middle, in manner and for the purposes substantially as above set forth and described.

74,810.—MATHIAS D. FOGEL, Alpha, Ohio.—*Bee Hive.*—February 25, 1868.—A wire screen is placed in front of the entrance in cold weather to keep the bees from wandering. On each side of the entrance are blocks beneath which the millers pass into a dark chamber which has communication with a light chamber above it. The latter may be removed and the millers destroyed. The blocks may be drawn out to clean the dark chamber. The hive top is sloping, and the foul air escapes through a register beneath its upper end.

Claim.—The within-described hive, when its several parts, exclusive of the trough, are constructed, combined, and arranged as set forth.

74,811.—ALBERT A. FREEMAN and SAMUEL FORD, Philadelphia, Pa.—*Track Cleaner.*—February 25, 1868.—The brushes are rotated by gearing connection to the axles, and are made of radials of whole rattan inserted in a hub.

Claim.—1. Bed plate B P, bearings 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10, shafts T, T′, T″, and T‴, brooms C B, C B′, C B″, and C B‴, shafts S and S′, beveled wheels V, V′, V″, and V‴, geared wheels G, G′, G″, and G‴, all constructed, combined, and operating in the manner and for the purpose above set forth and described.

2. The combination and arrangement of the screws S C and S C′ with the car frame, so as to give the proper dip to brooms C B, C B′, C B″, and C B‴, as above set forth and described.

3. A track cleaner, composed of the above-described parts, constructed, arranged, and operating in the manner and for the purpose above set forth and described.

74,812.—JOHN C. FRY, Sidney, Ohio.—*Bed Bottom.*—February 25, 1868.—The loops of the rails and slats are connected by flat rubber rings which may be disconnected from the slat loops by passing through the opening at the center.

Claim.—1. The loop *b b*, constructed as described, consisting of the wires E E, open at their outer ends, and applied to the slat D, by inserting their opposite ends from the under side through the holes in the end of the slats, and bending them down upon the top of said slats toward each other, where they are again bent and inserted in the top of the slats, as herein shown and described.

2. The single metallic strip C, secured to the end or side rails A by the strip B, and bent to form loops *a*, whose sides pass through the strip B, and whose inner ends rest against the inner side of said strip, as herein described for the purpose specified.

3. Having the hoops *b b* open in or near their centre, as and for the purposes set forth.

4. The combination of the loops *a*, strip B, loops *b*, with central opening, elastic rings F, as herein described for the purpose specified.

74,813.—ANDREW FULLER and LOUIS P. REICHERT, Buffalo, N. Y.—*Refrigerator.*—February 25, 1868.—The air is propelled by a rotary fan actuated by clock work, and passes through the ice chamber and into the main chamber. The warm air from the upper part of the main chamber is carried out through the charcoal chamber.

Claim.—The combination of the fan wheel C, sliding grate M, the tubes O, P, and Q, and charcoal chamber J, arranged substantially as and for the purposes described.

74,814.—MERRITT B. FULLER, Sandborn, N. Y.—*Hay Raker and Loader.*—February 25, 1868.—The machine trails behind the wagon. The drum is rotated by contact with the ground and moves the elevating band.

Claim.—1. The driving roller B, provided with rows of curved teeth *b b*, and intermediate teeth *s*, which rest on the ground and support the roller, in combination with the rake *c c*, or equivalent, and endless carrier C, operating substantially in the manner and for the purpose set forth.

2. The guide blocks *i i*, combined and arranged with the rows of teeth *b b* and the slats *g g* of the carrier, for retaining the latter in place and prevent slipping, substantially as specified.

3. The guide board J, constructed and arranged and operating in the manner and for the purpose specified.

74,815.—A. C. FUNSTON, Philadelphia, Pa.—*Toy.*—February 25, 1868.—The glass is electrically excited, agitating the figures beneath it.

Claim.—A toy, consisting of a case having a glass top, and containing figures or particles of paper or equivalent material, to which movements may be imparted, substantially as and for the purpose described.

74,816.—KINGSTON GODDARD, Richmond, N. Y.—*Thill Coupling.*—February 25, 1868.—The thill iron ends in a coiled spring, which is bolted to the clip.

Claim.—The spring C, secured at one end to the bottom of the clip D, and extending around the axle and clip, secured at its other end to the thill B, forming a spring coupling, as herein described for the purpose specified.

74,817.—KINGSTON GODDARD, Richmond, N. Y.—*Thill Coupling.*—February 25, 1868.—The rear end of the thill iron is formed so as to embrace the bridle bar of the clip, and can only be removed when the ends of the thills rest upon the ground.

Claim.—The bending or forming of the outer end of the thill iron, substantially as shown and described, so as to be capable of being fitted to the under side of the clip, in the manner as and for the purpose set forth.

74,818.—SAMUEL GREEN, New York, N. Y.—*Truss.*—February 25, 1868.—The pads are attached to light springs which are hinged to adjustable spring bars. The latter are attached to the hinge plate of the two main plates which rest against springs and keep the pads in place during the movements of the body. The girdle straps are attached to the ends of the main plates.

Claim.—The combination and arrangement of the main plates A A, hinged to the centre plate *a*, the stiff springs *c c*, the slotted adjustable plates B B with cross heads *g g*, the pads C C, and the light springs *h h*, substantially as and for the purpose described.

74,819.—JAMES GREENHALGH, Woonsocket, R. I.—*Harness Mechanism for Looms.*—February 25, 1868.—The slides are operated by rods connected to arms projecting in opposite directions from a rock shaft actuated by connection to a crank on the end of the main shaft. The links extend transversely and connect vertical arms of the jacks. The links are actuated by the slides through the medium of the hook bars which have one heavy end to engage the slide when not depressed at the other end by the radial pins of the cylinder. The hook bars have their end movement from the slides, and communicate it to the links by a tenon of the latter which enters a vertical mortise in the said bars. The pin cylinder, by which the light ends of the hook bars are depressed, is actuated by a pawl upon a sleeve connected by an arm to one of the adjustable operative rods of the slides. The jacks have segmental working faces, and are united to horizontal levers connected to the lower part of the harness and preserving its tautness.

Claim.—1. The links O and hooks R, constructed as described, when removably pivoted together by means of the notched pivot and slot *o′*, in combination with the slides L M, cylinder S, as herein described for the purpose specified.

2. The combination and arrangement of the arms F H I, adjustable connecting rods J K, sliding bars L M, links O, hooks R, cylinder S, pawl V, slotted

arm U, and upper jacks P, with each other, substantially as herein shown and described.

74,820.—Silas B. Harmon, Portland, Me.—*Carriage Thill.*—February 25, 1868.—A curved bar is jointed at two points to the ordinary thill iron, so as to strengthen the bent part. A loop at the lower end receives a safety strap to come in operation in case the coupling becomes detached.

Claim.—The thill brace *b*, when applied substantially as and for the purposes set forth.

74,821.—Daniel Hays and William Free, San Francisco, Cal.—*Fire Escape Ladder.*—February 25, 1868.—The ladder turns upon a shaft near its lower end, and is raised by a cord passing beneath a curved plate at its feet. The upper section is raised by an endless cord revolved by a windlass.

Claim.—The combination and arrangement of the curved and grooved arm *n* with hinged ladder *c'*, winding roller I, rope H', and platform B, substantially in the manner shown and described, for the purposes set forth.

74,822.—Richard H. Hilton, Newbern, N. C., assignor to Mitchell & Allen, same place.—*Machine for Cleaning Cotton.*—February 25, 1868.—The cotton passes from the gin into a case whose sides are perforated to allow the escape of dust. The cotton is carried from the case by the rollers at its lower end.

Claim.—The S-shaped perforated plate *b*, the perforated plate *d*, the side plates having perforations *a*, drawing rollers E E, and hinged screen D, all constructed and combined to operate as herein described for the purpose specified.

74,823.—J. W. Hinman, Berlin, Wis.—*Harness Pad Tree.*—February 25, 1868.—Loops unite the side pieces to the middle portion.

Claim.—A harness pad tree, having the two sides connected with a centre piece by joints or hinges, to render them flexible, substantially as and for the purpose herein described.

74,824.—E. W. Hitchings, Potsdam, N. Y.—*Grain Regulator.*—February 25, 1868.—The grain passes through a vertical rotating cylinder in which is a valve adjusted by the governor to regulate the flow of grain to the speed of the mill stone.

Claim.—1. The combination of the revolving cylinder A and stationary cylinder B, governor D, cross bar *b*, spindle *d*, piston E, and collar *q*, substantially as set forth, for the purpose specified.

2. In combination with the above, the distributing plate J, side pieces K, and screw S, said plate being attached to the revolving cylinder A, substantially as shown and described.

3. The hopper M, substantially as shown and described, in combination with the cylinder B, revolving cylinder A, and piston E, all as set forth.

4. The guide H, or the equivalent thereof, substantially as shown and described, in combination with a piston E of a cylindrical grain regulator, all as and for the purpose set forth.

5. The adjustable feed collar *q*, substantially as shown and described, in combination with the cylinder B and piston E, all as and for the purpose set forth.

74,825.—Socrates Hubbard, Quincy, Ill.—*Toy Gun.*—February 25, 1868.—The slide is drawn forward by an elastic cord beneath the barrel, and is forced back, when loading, by a ramrod. The forward arm of the trigger has a spring beneath it, and a catch upon its upper side which engages the slide.

Claim.—1. Constructing the slide D of two heads *h h*, an intermediate slip *i*, and pendent projections *e f*, whereby lightness, with strength and durability, is obtained.

2. The stop G, constructed and applied to the gun to retain the missile therein when the barrel is inclined downward, substantially as set forth.

3. The combination of the elastic cord C, slide D, trigger E, and stop G, all arranged for joint operation, substantially in the manner as and for the purpose specified.

74,826.—William C. Hughes, Scio, Mich.—*Self Raising Flour.*—February 25, 1868.—Yeast cake, 1 lb., is mixed with wheat, 1 bushel, and ground to flour.

Claim.—The preparation of self raising flour in the manner herein described.

74,827.—August Humann, New York, N. Y.—*Button Hole Cutter.*—February 25, 1868.—One of the cutter plates is adjustable in direction nearly perpendicularly to the edge, and the other cutter is adjustable longitudinally to regulate the length of hole to be cut.

Claim.—The blade F, having a tooth *e*, formed at the rear end of its cutting edge, when said plate is laterally adjustable, in combination with the blade E, provided with a stud *b*, working in a slot in the shank C, and secured in position by the thumb screw *e*, all constructed, arranged, and operating as and for the purpose herein specified.

74,828.—C. A Jefferies and E. F. Olds, Dexter, Mich.—*Truss.*—February 25, 1868.—The pad is attached to the spring, and its central part is moved outward, or retracted, by a screw which is operated from the outside.

Claim.—1. The pad A, provided with a rigid central projection, as arranged in combination with the springs F and belt E, for the purpose and in the manner set forth.

2. The pad H, when constructed with a central adjustable projection or core *c*, adjusting screws I K, when arranged in combination with the cap J, plate G, and springs F, in the manner as and for the purpose substantially as set forth.

3. A pad, when constructed with a central air chamber L, ventilating holes *a*, and plate N, in combination with the screw O and spring F, when arranged in the manner as described and shown in Fig. 7.

4. The segment slide D', segmental plates E', and section or cap C', when arranged and pivoted to the section A', by an adjusting screw F', working in and operating a central core B', so that when the pad is turned around from one side to the other, the said central projection or core B' will always occupy the same direction from the centre of the belt, in the manner substantially as described and shown in the Figs. 8 and 9.

74,829.—James Jorey, Westville, Conn.—*Horse-shoe.*—February 25, 1868.—The calk has a Z-form and the unused edge projects upward by the inside edge of the shoe.

Claim.—A calk for a horse shoe provided with two edges, and constructed and applied to the shoe in such a manner that it may be detached and reversed and either edge adapted for use, as circumstances may require.

74,830.—Henry Kassing, New York, N. Y.—*Machine for Cutting Veneers.*—February 25, 1868.—The veneer is cut transversely by a knife on a reciprocating head. The block is fed forward by a screw shaft which carries a screw gear wheel actuated by rotation of the worm shaft.

Claim.—The worm shaft M, worm wheels N, screws M', and bar G, upon the inclined guide *d*, all constructed, arranged, and operating upon the laterally moving table H, as herein described for the purpose specified.

74,831.—O. A. Kenyon, McGregor, Iowa.—*Wagon Lock.*—February 25, 1868.—The inclined fulcrum slot at the lower end of the lever causes the elevation of the latter by a backward pressure, and release of the pawl from the ratchet.

Claim.—The slotted arm F of the lever L, in combination with the pivot a^3, pawl P, segment R, connecting rod *a*, and pivoted brake C, as herein described, for the purpose specified.

74,832.—Peter Kerr, Paisley, Great Britain.—*Machine for Polishing Thread.*—February 25, 1868.—The hank of thread is stretched on the tension rollers and polished by the lantern wheels whose bars are circumferentially grooved. The bars of one wheel pass between those of the other so as to cause the

thread to lap around a considerable part of the circumference of the bars and increase the friction upon it. The tension is regulated by weights.

Claim.—1. The machine for polishing thread, constructed and arranged substantially as herein described.

2. The construction and arrangement of the polishing apparatus herein described, in which the thread is polished by means of rollers having grooves or indentations, said rollers working up against the thread, one inside and the other outside the hank, substantially as herein shown and described.

74,833.—DANIEL KINDIG, Newville, Pa.—*Composition for Cleaning Millstones.*—February 25, 1868.—Used with a scrubbing brush, and composed of hot water, 1 gall.; borax, 2 oz.; sal prunella, 3 balls; sal soda, 1 lb. When grinding garlic wheat the stones are not taken up, but a ball of the sal prunella dropped through the eye twice a day.

Claim.—The aforegoing solution, prepared substantially as described for the purpose set forth.

74,834.—WILLIAM KLEMM and R. DITTRICH, Pittsburg, Pa.—*Bolt Making Machine.*—February 25, 1868.—The mechanism is operated by eccentrics upon the main shaft which turn in rectangular frames. The eccentrics impinge at one side against the keys which slide in from above, and may be withdrawn to stop the machine, the eccentrics then being inoperative.

Claim.—The keys H and I, or their equivalent, arranged in relation to the other parts of the machine, and operated substantially as described, and for the purpose set forth.

74,835.—EBENEZER E. LEWIS, Geneva, N. Y.—*Harvester.*—February 25, 1868.—The first swath is delivered behind the middle of the cutter bar, and by reversing the motion of the apron the second swath is delivered upon the former one.

Claim.—1. The reversible conveyer E, when used to deliver grain from a reaping machine behind the finger bar, substantially as specified.

2. A discharging apparatus for harvesters, which will deliver the second swath from a reaping machine directly upon or so near the first swath as to form a double swath or windrow convenient to be loaded upon a wagon.

74,836. — CHRISTOPHER LIDREN, Lafayette, Ind., assignor to himself and R. JACKSON, same place.—*Harvester Rake.*—February 25, 1868.—The grain falls on the metallic bars, is carried by the rake to the top of the main frame, falls into the hook jaws which are folded upon it, and is then bound by hand. The rake teeth are raised during their movement toward the main frame, and depressed in their backward movement, being raised at the outward end of the stroke. The rake is actuated by connection to a lever upon a rock shaft which has an arm connected by a socket-jointed connection rod to an adjustable crank pin upon an arm of a sleeve on the axle. The sleeve has ratchet clutch connection to a collar splined upon the axle and operated by a lever.

Claim.—1. The hinged platform B, in connection with the elastic metallic bars D, constructed, arranged, and applied in the manner substantially as and for the purpose herein set forth.

2. The reciprocating rake E, when operated from the wheel K of the main frame, through the medium of the jointed arms *h h'*, rock shaft I, link L, and the slotted arm J on the axle of wheel K, all arranged substantially as shown and described.

3. The carriage F, in which the rake head or rod *b* is fitted, in combination with the lever F', curved bar G, projection L, pin J, and the curved bar M, all arranged to operate or adjust the rake, substantially as set forth.

4. The hooks N N', arranged as shown, and operated from the rock shaft I, through the medium of the lever R, and the arm *m* on the rock shaft, all arranged substantially as specified.

74,837.—HENRY W. LOUDEN, Ephrata, Pa.—*Egg Beater.*—February 25, 1868.—The beaters are carried upon a central shaft and a sleeve upon the latter, and are so connected to gearing as to have opposite rotation.

Claim.—The arrangement of the double beaters D *d* C C', pipe or sleeve B, and spindle A, with the pinions *a b*, in combination with the box or cover K T, cogged gear and handle, substantially in the manner and for the purpose specified.

74,838.—GALUSHA MARANVILLE, Hampton, N. Y., assignor to D. A. WILSON and EBENEZER GOULD, Jr.—*Mechanism for Operating Stationary Machinery.*—February 25, 1868.—The main shaft is connected by a train of wheels with the other shafts, the intermediate gearing being proportioned and adapted to the duty and speed required.

Claim.—1. Transmitting, from one shaft B, by intermediate gear wheels and shafts C D E, motion to two revolving shafts F and H, and to one oscillating shaft G, all made and operating substantially as described, so that, from one driving shaft, three or more various machines may be operated, as set forth.

2. The manner of converting rotary into oscillating motion by connecting a short crank *l*, on the revolving shaft F, by means of a rod, *n*, with a long crank *m*, on the oscillating shaft G, substantially as herein shown and described.

74,839.—OLIVER H. MARSTON, Sandwich, N. H., and MOSES L. MORSE, Stoneham, Mass.—*Fastening Shoe Lacing.*—February 25, 1868.—The laces pass through two holes passing directly through the plate and are then turned sideways beneath the spring tongues.

Claim.—1. The base *a*, having openings *c*, for the lacings to pass through, and having the ends *d* bent upward at any convenient angle.

2. The spring *b*, having the edges *f*, which are parallel to the upturned edges *d* of the base, slightly bent downward.

3. The combination and arrangement of the base *a*, with the spring *b*, to operate together as specified.

74,840.—CHARLES MAURICE, New York, N.Y.—*Lithographic Press.*—February 25, 1868; antedated February 13, 1868.—The lithographic stone is vertically adjustable upon a frame which is made adjustable in extension to suit stones of different sizes. The pressure roller is journaled in a frame having a pendent, weighted rod.

Claim.—1. The case C, when arranged so that it can be adjusted for wider or narrower stones or blocks, substantially as herein shown and described.

2. The case C, when consisting of two pieces or halves, which are laterally adjustable on the frame A, and when combined with the up-and-down adjustable frame or plates H, all arranged and operating substantially as herein shown and described.

3. The roller D, when connected with the weighted frame E, and with the stone or block G, so that by rotary motions of the roller the latter will be moved over the stone; *i. e.*, it will come in contact with and press upon each part of the paper and stone, and will not be drawn over the same, thereby insuring neatness of workmanship.

4. The adjustable frames C and H, in combination with the roller D and weighted frame E, all made and operating substantially as and for the purpose herein shown and described.

74,841.—NORMAN MAXHAM, Hancock, Vt., assignor to himself and C. G. ROBBINS, same place.—*Hub and Axle.*—February 25, 1868.—The sand head is attached to the hub, and has two out-turned flanges to prevent the passage of earth around its end. The sand head is covered by a box attached to the axle, which box has a slot in its lower side to allow the dirt to fall out.

Claim.—The sand head D, in combination with the hub A and cover H and axle B, substantially as shown and described, and for the purposes set forth.

74,842.—WILLIAM MILLER, Chicopee, Mass., assignor to himself and JOHN BOYLE, Erie, Pa.—*Animal Trap.*—February 25, 1868.—The bait is hung to a hook projecting through the concave plate attached to the post. The hook is attached to the catch bar by which the fore end of the drop door is sustained.

A pull upon the bait trips the door. The back end of the door is weighted to render it resetting.

Claim.—The combination and arrangement of the weighted drop door B, loop or catch C, pivoted catch D, having a bait hook d', formed upon or attached to it, spring G, standard or post E, and curved guard plate F, with each other and with the top or cover A, substantially as herein shown and described, and for the purpose set forth.

71,843.—HENRY MITCHELL, Racine, Wis.—*Wagon Coupling.*—February 25, 1868.—The reach passes through the metallic socket plates which are attached to the rear bolster and axle and to the forward ends of the hounds respectively. The latter socket piece has side sockets for reception of the ends of the hounds.

Claim.—1. The method of coupling the reach C to the other running parts of a wagon or other wheeled vehicle by means of the front coupling A and the rear coupling B, constructed and attached substantially as shown and described.

2. The construction of the coupling box A, having the sides thereof bent inward, so as to form the sockets *a*, substantially as shown and described and for the purposes set forth.

3. The flanges *c* upon the rear coupling box B, in combination with the bolster E and the axle F, substantially as shown and described, and for the purposes set forth.

4. The manner of adjusting the length of the reach C to the length of the load, substantially as shown and described.

5. The forward coupling box A, with the reach C, and the hounds D, in combination with each other and with the rear coupling box B and the axle F and bolster E, substantially as shown and described, and for the purposes set forth.

74,844.—GEORGE PLACE, New York, N. Y.—*Snow Plow.*—February 25, 1868.—The snow is divided by the vertical knives, and its upper stratum removed by the upper plow in advance of the action of the lower plow.

Claim.—The combination and arrangement of the knives A A and B B in sections, when combined with one or more plows, attached to the truck frame, and with the frames E E E of the truck, in the manner and for the purpose therein described.

74,845.—ABRAHAM QUICK, WILLIAM S. OPIE, and A. J. FARRAND, Raritan, N. J.—*Harvester Rake.*—February 25, 1868.—The rake and reel revolve on a vertical axis over the shoe upon a standard bolted directly to the inner end of an axially-rocking hinged finger beam. The rake receives motion from the main axle, but is free from the irregular motions of the main frame.

Claim.—1. A standard for a revolving rake and reel, with its base bolted directly to the inner end of a finger beam, having a rocking or rolling axle above the plane of the cutters, between the finger beam and main frame, whereby the finger beam can rock axially, without disturbing its relation to the rake.

2. The combination, substantially as described, of a revolving reel and rake with a standard bolted directly to the inner end of an axially-rocking hinged finger beam, and without support on the main frame.

3. Mounting a rake and reel, revolving on a vertical axis, on a finger beam hinged to the main frame by three joints, substantially as described.

74,846.—THOMAS RATTENBURY, Detroit, Mich.—*Self-Acting Bolt.*—February 25, 1868.—The first closed of two folding doors has the bolt attached. The knob projects through an inclined slot, and is swung around by the closing of the second door, thus forcing down the bolt.

Claim.—1. The projection or thumb piece C, working in the slot E, by which the closing of the second door compels the bolt B to act.

2. The combination of the above described parts with the frame A, the spring D, and the stem F, when constructed to act automatically, substantially as described.

74,847.—J. H. REDFIELD and W. J. COX, Salem, Ind.—*Harvester.*—February 25, 1868.—The cutter teeth are edged only on their concave side, and the bar is connected to a crank at each end so as to operate with a draw cut. The cutter mechanism is vertically adjustable upon the pendent plate. The grain is carried by endless belts to the receptacle which is suspended on a rock shaft, by whose movement the grain is discharged.

Claim.—1. The cutter bar *i*, provided with the curved teeth *h*, having their concave edges forming the cutters, in combination with the crank pulleys *j* upon the vertical shafts *k*, gears *l*, shafts *m* m', bevel gears *n*, shaft *o*, pinion *p*, and gear wheel E upon the axle D, all arranged to operate as herein described, for the purpose specified.

2. The endless bands *q q*, when provided with the springs *bx*, in combination with the gavel receiver Ix, pinion *u*, curved segment *w*, shaft *wx*, and crank *ax*, all arranged and operating as described, for the purpose specified.

3. The application of springs or elastic plates *bx* to the endless bands *q*, for the purpose of discharging the cut grain into the grain receptacle, substantially as set forth.

4. The pendent plate I, when provided with the curved slots *f*, in combination with the set screw *e*, frame H, and bar A, all arranged and operating as described, for the purpose specified.

74,848.—C. H. RICE, Port Henry, N. Y.—*Boot Crimping Machine.*—February 25, 1868.—The boot trees are attached to a central shaft which carries them around in contact with the adjustable ribs, which are so bent as to crimp the leather upon the trees.

Claim.—The rotary boot trees C, in combination with the jaws or pressure plates D D' D'', Dx Dxx Dxxx, all being constructed and arranged to operate in the manner substantially as and for the purpose set forth.

74,849.—DAVID C. RICHARDSON, Lawrence, Mass.—*Car Ventilator.*—February 25, 1868.—The automatic shutters are connected together by a rod of sufficient length to hold one of the shutters open when the other is closed. On the passage of the car through the air the forward shutter is closed by the pressure of air upon it, and the rear one consequently opened; the foul air being drawn through the rear opening.

Claim.—The combination and arrangement of the self-adjusting folders *d e*, connected by the rod *j*, in the open-mouthed space between the weather plates *b c*, with the register plates *p p*, substantially as and for the purposes herein set forth.

74,850.—WILLIAM RIGG, London, England.—*Screw Cap for Oil Cans.*—February 25, 1868; patented in England February 6, 1867.—The "struck-up" cap has an inner and outer screw thread, the former of which engages the faucet. The outer flange is soldered to the can.

Claim.—1. The screw cap for oil cans, struck up from one piece of metal, and used as a seal, substantially as herein shown and described.

2. The combination of the faucet, having a cutter upon its screw-threaded end, with the struck-up metallic cap and seal, substantially as described, for the purpose specified.

74,851.—HOMER RIGGS, Oxford, Conn.—*Boot and Shoe Sole.*—February 25, 1868; antedated February 12, 1868.—The metallic toe and rear plates are so arranged that a concavo-convex metallic plate may be sprung in between them.

Claim.—The toe piece A and rear plate B, as constructed, and the manner of inserting the over sole E and securing it for wear, so that it can be sprung in or out, substantially as and for the purposes herein set forth.

74,852.—EPHRAIM P. ROGERS, Corning, N. Y., assignor to himself, R. W. PAYNE, and HIRAM PRITCHARD, same place.—*Governor.*—February 25, 1868.—The valve stem passes loosely through the tubular stem, through which motion is communicated to the balls by means of a miter wheel upon it. The ball arms raise the stem through the medium of the cross bar which is swivel jointed thereto. The weight

rests by means of its sliding stem upon the cross bar to regulate the action of the revolving balls.

Claim.—The governor, constructed as described, and consisting of the hollow slotted disk A, having tubular stem B and neck *n*, the weight K provided with stem *m*, valve stem C, swivel joint *f*, cross bar F, connections G, levers E and balls D, all arranged and operating as set forth.

74,853.—James Russell, Springfield, Mass.—*Card-Setting Machine.*—February 25, 1868.—The sheet of metal is clamped to the intermittingly sliding carriage which is operated by the gear. The motion of the gear is dependent on the form of the cam and number of stops in the ring. The sheet of metal receives a puncture at each pause. The sheet is then moved transversely, and another line of punctures made in the return movement. In revolving in one direction the stop comes on one side of the rod, and when the motion is reversed, upon the other side of the same.

Claim.—1. A reversible stop ring A, with its flanges *b b*, its slots *c e*, and its rolls *d d*, and groove *a*, constructed as herein described, and for the purposes specified.

2. In combination with the above, a pin or plunger I, worked by the cam K, as and for the purposes described.

74,854.—P. J. Severson, Knowersville, N. Y.—*Beehive.*—February 25, 1868.—The surplus honey frames are divided at midlength to give a greater surface for the bees to operate on. The top bar of these frames is carried across. The frames are separated by pendent perforated boards which limit the comb to the width of the frame.

Claim.—1. Separators E, when constructed with top bar G and pins H, substantially as and for the purpose described.

2. The double comb frames D, in combination with spaces *s s'* s'' and separators E, substantially as herein set forth.

3. Surplus honey box B, with its cap or cover C, and double comb frames D D, and separators E, when constructed in the manner and for the purpose as herein described.

74,855.—Morrill A. Shepard, Bridgeport, Ill.—*Pan Lifter.*—February 25, 1868.—The near side of the pan is embraced by a laterally extending rectangular loop, and its distant side by the hook upon the sliding rod.

Claim.—A pan lifter, consisting of the members A, *a a'*, B, C, and D, the whole being arranged and operating substantially as herein described and for the purpose set forth.

74,856.—Henry Shirey, Fond du Lac, Wis.—*Dumping Wagon.*—February 25, 1868.—The bottom boards have end loops, by which they may be drawn out endways when the supporting cross frames are turned down, which is done by the longitudinal movement of the side rod to which their "cams" are connected.

Claim.—1. The revolving supporters *d d d d*, cams *f*, bar *g*, lever *h*, fulcrum *k*, and brace *i*, constructed substantially as described and operating as set forth.

2. The bottom boards *b b*, loops *c c*, in combination with a body or wagon bed, when constructed and operating substantially in the manner and for the purposes set forth.

74,857.—Thomas P. Sink, Fairton, N. J., assignor to himself and J. F. Trenchard, Philadelphia, Pa.—*Oyster Dredging Machinery.*—February 25, 1868.—The dredge has bars which come in contact with the lower roller, and prevent the contact of the teeth with the side of the vessel. The upper roller assists the dredge teeth in passing the lower roller, and catching the teeth completely tilts the dredge. A hinged bar may be placed between the rollers to support the teeth when traversing the space between the rollers.

Claim.—1. The two rollers F and G, arranged on the deck or gunwale of the vessel, for the boarding and tilting of the dredger, substantially as described.

2. The combination, described, of the rollers F and G with the hinged bar W.

74,858.—George and Godfrey Smith, New York, N. Y.—*Boot and Shoe.*—February 25, 1868.—A portion of the surface of the "upper" is corrugated by the interposition of cords between the folds and a piece stitched beneath.

Claim.—The ornamenting of boots and shoes by stitching a piece of leather or other suitable material to the inner side of the upper in such a manner as to form pockets or grooves between the upper and the inner material, to inclose cords of any suitable material, by which prominences are given the outer or external surface of the upper, substantially as shown and described.

74,859.—Henry H. Smith, Wilmington, Del.—*Pocket for Billet Straps.*—February 25, 1868.—The metallic socket is sewed fast by the perforated flange around its edge.

Claim.—A pocket E, of metal, or its equivalent, and at the lower edge of which is a perforated flange, for the purpose specified.

74,860.—W. H. Smith and Joseph Steger, New York, N. Y.—*Car Brake.*—February 25, 1868.—The brake bars have anti-friction rollers, which receive the impact of spiral cams upon a shaft which is rotated by cords winding upon the hand shafts.

Claim.—The combination of the spring K, cams I I', constructed as described, ropes or chains *h*, and pulleys *g*, substantially as and for the purposes described.

74,861.—S. L. Stockstill and W. H. H. Scarff, Medway, Ohio.—*Clover Harvester.*—February 25, 1868.—The heads are engaged by the comb teeth, and are removed therefrom and into the receiver by the knife bar, which has reciprocation in direction of the length of the teeth, being raised in its forward movement.

Claim.—1. The suspended bed C, in combination with the thills J J, attached to the axle A and the shaft L, placed on the thills, with the segment M on said shaft, the arm O, hand lever P and pawl Q, all arranged substantially as and for the purpose set forth.

2. The comb teeth D, attached to the front end of the bottom *a* of the bed, in combination with the reciprocating bar G, operated substantially as shown and described, and provided with knives I I, which are provided with pendent pins *m*, to work in zigzag slots *n*, in one or more of the teeth D of the comb, to give said knives a reciprocating motion, as set forth.

74,862.—Henry M. Stow, San Francisco, Cal.—*Street Pavement.*—February 25, 1868.—The blocks are guided while being inserted by beveled planks, which are placed together to make a rectangular piece, and may be extracted one piece at a time.

Claim.—A pavement, composed of tiers of wedge-shaped wooden blocks, driven into a foundation bed of sand or earth, with spaces between said tiers packed with gravel, or sand and gravel, substantially as shown and described.

74,863.—Alvin Taplin, Somerville, Mass.—*Lamp.*—February 25, 1868.—The hinge between the annulus and the body of the burner allows the throwing back of the latter for introduction of the wick.

Claim.—An improved lamp burner, constructed with the annulus E to screw into the neck or cap of the oil reservoir D, and with the body A connected with the annulus by a hinge only, the whole being in order that the body, by means of the hinge and the annulus, may be connected with the reservoir or its cap, in manner as specified, and the body be movable relatively to such annulus, substantially as and for the purpose set forth.

74,864.—William A. Titus, Gloversville, N. Y.—*Bread and Vegetable Cutter.*—February 25, 1868.—One end of the knife is pivoted to the lever, and the other is guided by an inclined slot so as to give the knife a draw-cut.

Claim.—Arranging the plates B and D in combination with the lever F and knife E, all made and operating so that the knife will receive a slanting motion and the required pressure, substantially as set forth.

74,865.—Harriet Ruth Tracy, New York, N. Y.—*Crib Attachment for Bedsteads.*—February 25, 1868.—The crib slips beneath the slats of the bedstead, entering at an opening in one of the side rails, which is cut away to admit it.

Claim.—The bedstead, when cut away in the center of its side to receive the crib E, sliding beneath the bars *e* and between the transverse guide bars D, attached to the frame of the bedstead, the front end board of said crib enlarged to overlap the cut portion of the side of the bedstead, as herein set forth, for the purpose specified.

74,866.—Levi B. Tyng, Lowell, Mass.—*Skate.*—February 25, 1868.—The jaws of the stands embrace the runner, and have a screw traversing a vertical slot in the same. Rubber blocks are interposed between the top and runner, and serve to deaden the jar from rough ice.

Claim.—The combination and arrangement of the grooved stands *e e*, slots *d d*, screws or pins *n n*, spring seats *e e*, and springs *f f*, substantially as and for the purpose herein specified.

74,867.—Sigmund Ullman, New York, N. Y.—*Envelope.*—February 25, 1868.—The side flaps are folded together and secured by one central eyelet. The end flaps are secured by eyelets passing through the letter, and serving also to secure the ends of the fold of the side flaps.

Claim.—1. The envelope, formed with the end flanges or flaps F F and the folded and interlocking edges *m m*, substantially as and for the purpose specified.

2. The combination of the eyelets *n n*, and stamped or printed impressions *v v* around them, when constructed and employed substantially as and for the purposes specified.

74,868.—Charles Vogel, New York, N. Y.—*Trip Hammer.*—February 25, 1868.—The crosshead of the hammer stem is connected by side rods to the angular arms of the beam, by which it is operated. The block against which the operative cam impinges is made adjustable upon the beam, to regulate the length of stroke. The sliding pulley is moved along the main shaft, so that the cam block of the beam will, when the hammer is raised, come in contact with its periphery and arrest the fall of the hammer, when desired. The treadle operates on the tightener frame, to bring an idler pulley down upon the main belt to start the machine or to increase the traction of the belt.

Claim.—1. The bars or rods Q secured to the cross head P of the hammer stem K, when said rods are attached to the angular arms R upon the front end of the beam S, as herein shown and described.

2. The block U, provided with the cam-shaped end X, when adjusted upon the beam S by means of the slots V and screw bolts W, as herein described, for the purpose specified.

3. The arrangement of the sliding pulley A^4, or its equivalent, with the block U and with the operating beam of the hammer, substantially as described, for the purpose specified.

4. The tightener frame A^5, bearing in one end the driving pulley B^5, arranged with the connecting rods C^5, curved treadle D^5, and spring K^5, as herein described, for the purpose specified.

74,869.—Edward Wattis, Sr., Philadelphia, Pa.—*Pepper Caster Bottle.*—February 25, 1868.—The bottom is metallic, and has a sliding gate for the admission of pepper.

Claim.—The pepper caster bottle, having a slide C in its flat bottom, enabling the latter to be formed at the extreme lower end of the bottle, and increasing the capacity of the same, as herein shown and described.

74,870.—P. A. Whitney, Woodstock, Vt.—*Drill and Countersink.*—February 25, 1868.—The chuck is bisected to admit the drill, whose shank lies in grooves of the inner faces of the sections, and has vertical adjustment therein.

Claim.—1. An adjustable tool for the drilling and countersinking holes, composed of the countersink *e* in two parts, and a drill D between the same, adjusted by a key, or its equivalent, held between the segments A and B of the chuck by being screwed into a socket C, substantially as shown and described, and for the purposes set forth.

2. A chuck formed in segments, having two splines or channels *a* and *a'*, of different depths, in combination with any countersink *e*, and drill D, substantially as shown and described, and for the purposes set forth.

74,871.—I. M. Wilson, Seguin, Tex.—*Cosmetic.*—February 25, 1868.—Composed of soda, 1 lb.; potash, 1 lb.; chloride of lime, 2 lbs.; liquid ammonia, ¼ lb.; and distilled water, 2 galls.

Claim.—The composition of a cosmetic, substantially as herein described.

74,872.—E. E. Worden and H. Wilms, Brandon, Vt.—*Spring Bed Bottom.*—February 25, 1868.—The elliptical spring braces are riveted at the middle of the upper and lower pieces, and their ends are slotted, to allow them a limited motion on the attaching rivets.

Claim.—The stays C supporting the outer edges of the frames A B, the ends of the upper piece of the stay, slotted to slide upon pins in the lower frame, and connected at its center *f* to the upper frame, the lower piece of said stay secured at its center to the lower frame, and at its end to upper piece, all operating as described, for the purpose specified.

74,873.—George W. Worster, Bangor, Me.—*Culinary Steamer.*—February 25, 1868.—The steamers are set upon the cup-shaped receptacles, and the water is carried from the latter in small pipes having outer discharge. The steam pipes rise above the bottoms of the cups, and prevent the waste water from flowing back into the boiler.

Claim.—1. Combining with tank C a plurality of receptacles *b b b*, substantially in manner as described and shown.

2. Combining the receptacles *b b* with the tubes *a a*, so that the tubes prevent the return of the condensed steam to the tank, substantially in manner as and for the purposes specified.

3. Serrating the curbs or upper ends of tubes *a a*, as shown at *e e*, substantially as and for the purposes specified.

4. In connection with receptacles *b b*, a conductor *i*, substantially as described and shown.

5. Combining with tank C, provided with fixed receptacles *b b*, a removable receptacle *f*, substantially as described and shown.

6. The removable receptacle *f* formed to fit vessels of various sizes by its outward flare, and provided with the interior rim *g g*, substantially as and for the purposes specified.

74,874.—F. M. Abbott, Boston, Mass., and E. F. Fields, Lewiston, Me.—*Stripper for Carding Cylinders.*—February 25, 1868.—The shaft of the stripper is supported on sliding bearings, which are so operated by a shipper as to cause the stripper to be thrown forward to bring its teeth close to the teeth of the cylinder without engaging therewith. The feed of the lap is discontinued during the cleaning of the main cylinder.

Claim.—1. The mechanism, constructed and operating substantially as described, for moving and regulating the "stripper," as and for the purpose set forth.

2. In combination with a "stripper," supported in a sliding bearing, a feed connecting and disconecting mechanism, substantially as described, and for the purpose set forth.

74,875.—Hiram B. Avery, Bethel Township, Mich.—*Apparatus for Evaporating Sorghum Juice and Other Liquids.*—February 25, 1868.—The pan is placed on the steam chest, which has induction and eduction pipes furnished with stop cocks. Ascending from the eduction end are the safety valve, and air or steam escape pipes, the latter having a stop cock.

Claim.—The evaporator B, in combination with the steam chest A, when said chest is furnished with pipes *e*, *g*, *h*, and *m*, substantially as set forth.

74,876.—Henry A. Axtell, Westfield, Mass.—*Sofa Cradle*—February 25, 1868.—The rocking frame

has two uprights, which are turned over at the top, and have adjusting screws whose points rest upon the tops of uprights on the ends of the main frame. By turning up the adjusting screws the rocker frame descends upon the main frame, and one of its sides is turned over upon the top of the other side to form a sofa back. The movable side has attachments similar to a car-seat back.

Claim.—The combination of the swinging sofa cradle C, with the device for converting the cradle into a sofa, consisting of the adjustable screws *a a* and hinge E, constructed and arranged substantially as described.

74,877.—JOHN BAILLIE, Salem, Ohio.—*Lathe Tool Holder.*—February 25, 1868.—The shank of the tool is held between the bars, which are clamped by the set screw in the clasp.

Claim.—The holders C C, when used in combination with the slotted clasp B and thumb-screw D, substantially as and for the purpose herein set forth.

74,878.—HAYDN M. BAKER, New York, N. Y.—*Cleaning Cloths used by Bank Note Engravers.*—February 25, 1868.—The ink is removed from the cloths by the materials named, and the cloths being steamed and rinsed, the hydrocarbon is distilled and the water evaporated, leaving the printing ink to be reground.

Claim.—1. The use of coal tar, benzole, coal tar naptha, or refined coal tar light oils, for removing printers' ink from cloths or other fibre used by bank-note and other engravers.

2. The separation and recovery of the printers' ink and solvent by distillation, or any other method substantially the same.

74,879.—ROBERT M. BARTLETT, Storrs Township, Ohio.—*Plant Protector.*—February 25, 1868.—The conical protector has a register for ventilation, and is counterbalanced by a weight at the end of a cord passing over the pole so as to support it when elevated.

Claim—1. A plant protector, consisting of the following devices, to wit: A hood A, of any suitable shape, when used in connection with the pole B and suspending cord F, the whole being arranged and operating substantially as herein described and for the purpose set forth.

2. In combination with the elements A *a a' a''*, C C' C'', B, and F, the ventilator D and cap E *e e' e''*, as and for the purpose explained.

3. The conical hood A, having one or more lighted openings or "bull's-eyes" C, and adapted for suspension to a stick or pole, in the manner substantially as set forth.

74,880.—JOHN W. BEAN, Henry, Ill.—*Apparatus for Bending Metallic Plates.*—February 25, 1868.—The inner sides of the clamping plates are ribbed, to allow the passage of the hardening liquid to the steel plate, when both plate and clamp are immersed in the liquid.

Claim.—The improved apparatus for bending and tempering plow and similar plates, when constructed and arranged in its several parts substantially as described.

74,881.—THEODORE BEARDSLEY, Springfield, assignor to himself and J. DANA WYMAN, Fitchburg, Mass.—*Soldering Iron.*—February 25, 1868.—The combustion chamber is at the rear of the head, and has perforated sides to admit air. The burner has a valve seat at the end. The valve stem traverses the supply pipe, and is connected to a knob at the end of the handle.

Claim.—1. A soldering iron, in which the point is heated by a flame fed by a reservoir of fluid contained in the handle of the instrument.

2. The combination of the valve H, reservoir B, and head C, substantially as and for the purpose set forth.

74,882.—LAWSON B. BIDWELL, Hartford, Conn.—*Railroad Chair.*—February 25, 1868.—The chair has a broad bearing where it rests on the ties, and has lips which restrain the rail from lateral displacement.

Claim.—An improved railroad chair, constructed of plate iron, with a portion of the sides turned up at right angles to the bottom, in such a manner as to leave the bearing ends of the same width as the original plate, and to have the turned up portion curved out to the edges of the bearing ends, to increase their stiffness, substantially as specified.

74,883.—JOSEPH N. B. BOND, New York, N.Y.—*Boiler Feed Low Water Detector.*—February 25, 1868.—The buckling tube is at the height of the low water line, and is connected by pipes with the steam and water spaces. When the water falls below this level, the heated steam entering the buckling tube causes it to "buckle up," which movement opens the valve of the steam whistle. The stop cock is then opened, admitting steam into the water tank and allowing the outflow of water into the boiler. When the stop cock is closed the water from the reservoir enters the tank first through a conical nozzle, and after the steam in the tank has condensed, through a conical pipe, until the float in the tank, by rising, closes the cock in the supply pipe.

Claim.—1. The buckling tube B, operating the alarm whistle F by means of the arms D *f*, and connected with the boiler A, as shown, when arranged and operating as herein set forth and shown.

2. The float H, operating the valve *l*, in the conical nozzle of the supply pipe *i*, which is provided with the nozzle *n* and check valve *o*, in combination with the pipes *h p*, steam cock *j*, and buckling tube B, substantially as and for the purposes described.

74,884.—JOHN and WALTER BOWDEN, Brushwick, N. Y.—*Bellows.*—February 25, 1868.—The air chamber has a gravitating top connected by a flexible margin to the bottom of the upper chamber. The air passes through a side slot to the inlet valve in the bottom of the upper chamber. The object is to dispense with downwardly-opening valves and to provide an even blast.

Claim.—1. The arrangement and combination of the valves *e**, *s*, *i*, *m*, and *e*, relatively to and with the forcing chambers C and B, and air chamber A, substantially as set forth.

2. The cover *a* of the air chamber A, connected therewith by an annular flexible diaphragm, arranged for operation in connection with the forcing chambers B and C, substantially as specified.

3. The arrangement of the side slots *f** between the fixed and yielding covers of the air chamber A, for admission of air to the forcing chamber B, through valve *s*, substantially as shown and described.

74,885.—JEREMY BRADLEY, Owatonna, Minn.—*Plow.*—February 25, 1868.—The standard is clamped to the side of the beam by a clip similar to that frequently used in the attachment of colters.

Claim.—The combination and arrangement of the plow A, standard B, and clasp C, in the manner and for the purposes herein specified.

74,886.—A. C. BRIANT, Lafayette, Ind.—*Animal Trap.*—February 25, 1868.—The platforms are attached to a rock shaft which has an upward arm connected by a cord to a vertically sliding door; and the rat, stepping on the first platform to reach the bait, turns the rock shaft and shuts the door. In passing through the drop door into the inner compartment the rat steps upon the other platform and raises the door, thus resetting the trap.

Claim.—The combination of the box A, with its partition B, shaft H, having platforms I and J inserted directly into said shaft, door K, above platform J, and operated by the rod G and cord F, all constructed and used substantially as specified.

74,887.—MANLOVE BUTLER, Vernon, Ind.—*Animal Trap.*—February 25, 1868.—The wheel has four wings projecting at right angles from the central shaft; the animal jumping upon either wing causes the partial rotation of the wheel and is deposited in the dark chamber, from whence it escapes into the light chamber beneath a raising gate; the wheel returns to position, owing to one of its wings being loaded.

Claim.—An animal trap, constructed with the

parts A A′, B, C, and D, arranged as described, the oscillating wheel D being constructed with one loaded wing D′, so as to act by gravity only, substantially in the manner set forth.

74,888.—Cornelius Callaghon, Great Britain.—*Breech-Loading Fire-Arm.*—February 25, 1868.—The breech blocks swing outwardly for the introduction and removal of the shell, and both breech blocks, when closed, are locked to a central rib connecting the barrels to the rear part of the metallic frame. The locks are connected to the breech blocks.

Claim.—1. The combination with central rib, substantially such as described, of two breech blocks swinging outwardly therefrom.

2. The combination, with a removable frame, of the breech blocks, substantially as described, so that when the frame is removed from the stock and the blocks released from the rib the blocks are free to be removed from the frame, substantially as described.

74,889.—Charles R. Capps, Illiopolis, Ill.—*Animal Trap.*—February 25, 1868.—The platform is divided into sections which are hinged and supported on springs, each section forming the bottom of a separate chamber. The platform is suspended on a vertical shaft which is connected to a spiral spring that is wound up when the trap is set. Each jointed section of the platform has a stud which engages a projection on the base, and which is released therefrom by the falling of the section, owing to the weight of the rat, and allows the platform to make sufficient rotation to bring a fresh chamber to the side opening and the reception chamber to the aperture of communication with the wire cage above.

Claim.—The combination of the disk A, sections b b^1 b^2 b^3 b^4, platforms k k^1 k^2 k^3 k^4, with their studs and springs, as shown, projection o, spiral spring d, casing h, and cage R, of an animal trap, as and for the purpose specified.

74,890.—Charles F. Carr and Gilbert F. Holbrook, Norwich, N. Y.—*Boot and Shoe Last.*—February 25, 1868.—The bolt slides in the instep block and enters a socket in the main part of the last. The hook hole in the last is slightly above a similar hole in the bolt, and the introduction of the tapering end of the last hook draws up the bolt and disengages the instep block.

Claim.—The sliding bolt b, operated on as described and shown, and for the purposes as substantially set forth.

74,891.—Stephen Chamberlin, Boston, Mass.—*Tip Sled.*—February 25, 1868.—The box is supported on trunnions and on a front post, to which it is connected by a hook.

Claim.—In combination with the sled runners, a body so mounted as to tip, substantially as described.

74,892.—George T. Chapman, New York, N. Y.—*Horse Shoe.*—February 25, 1868.—The calks traverse vertical mortises in the shoe, and are retained by pins which traverse the shoe obliquely. The pin socket is made half in the side of the mortise and half in the tenon of the calk. The pin is clinched at the bottom face of the shoe.

Claim.—1. The continuous detachable calk B, combined with the part A, substantially as described.

2. The continuous detachable calk B and pin C, in combination with the part A, substantially as described.

74,893.—Lewis S. Chichester, Brooklyn, N. Y., assignor to himself, G. H. Nichols, and C. W. Mills, same place.—*Grain Drier.*—February 25, 1868.—The clear caloric current is mingled with air to regulate its temperature, and is passed in a horizontal direction around the grain as it descends through the series of hoppers. The course of the current is directed as desired by dampers.

Claim.—1. The vertical air flue a, in combination with the deflectors e, platforms c, and grain tables, platforms, or hoppers, substantially as and for the purposes set forth.

2. The sections g, having hopper-shaped openings, and placed together, substantially as and for the purposes set forth.

74,894.—Olney Churchill, Canton, Pa.—*Carriage Jack.*—February 25, 1868.—The lifting bar is connected to the lever by a strap passing over a roller at the top of upright. The end of the lever enters fulcrum holes in the upright.

Claim.—A lever jack, when constructed and operating substantially as shown and described.

74,895.—C. C. Cole, Phelps, N. Y.—*Combined Manure Fork and Hook.*—February 25, 1868.—The tines and scraper are attached to the opposite sides of the turning bar which constitutes the top bar of the head. This bar turns in a socket and has a collar which is slotted to receive the end of the spring bolt which holds the tines and scraper plate either nearly in line with or at a right angle to the staff.

Claim.—The special construction and arrangement of the divided socket C, provided with the corrugations or grooves b c, the spring pall l, and the circular bearing B, the whole combined with the changeable fork head A and scraper G, and operating in the manner and for the purpose herein set forth.

74,896.—William S. Cooper, Philadelphia, Pa.—*Valve for Water Closets.*—February 25, 1868.—The stem of the valve which closes communication between the induction and eduction pipes carries a down-turned cup valve which allows water to flow from the upper chamber when the valve stem is raised. The upper part of the valve stem has a spiral spring which forces the valve down upon its seat as soon as the water which was forced from the upper chamber is resupplied, and this is done through a small passage whose capacity is governed by an adjustable valve.

Claim.—A water-closet valve, comprising hollow piece B, annular space A R, and holes R′ and R, and h h, all constructed and operated in the manner and for the purpose above set forth and described.

74,897.—J. C. Covert, Newark, N. J.—*Snap Hook.*—February 25, 1868.—The end of the spring-bolt abuts upon that of the hook and prevents the disengagement of the trace which is hitched upon the latter.

Claim.—As an article of manufacture, providing the shank of the snap hook with a groove, into which is dropped the sliding bolt D and loose spring e, said groove being covered by means of the plate G, and the bridge I, which conceal, keep in place, and protect the spring and bolt, one end of the shank being so formed that it can be pivoted to a hold-back, the several parts being constructed and arranged as and for the purpose set forth.

74,898.—A. J. Crosby and O. W. Crow, Bluffton, Ind.—*Apparatus for Bleaching with Sulphur Fumes.*—February 25, 1868.—The box has doors for the introduction of the sulphur pots, and has joist bars with side pins for the suspension of the object.

Claim.—The box A, with the doors B B, vessel C, having a regulating slide D, and the bars E E, the whole combined, arranged, and used in the manner and for the purposes specified.

74,899.—D. H. Dotterer, Philadelphia, Pa.—*Apparatus for Heating and Ventilating Railway Cars.*—February 25, 1868.—The air is heated in a car specially devoted to that purpose, and from this car hot and cold air is distributed through the train.

Claim.—The within-described combination of furnace, boiler, air-heating chamber, and engine, with the fan-blower, or equivalent device, whereby a forcible current of heated or cold air is created and maintained through pipes which convey the air to and distribute it within the several cars of a railroad train, substantially in the manner described.

74,900.—E. H. Eberman, Lampeter Square, Pa.—*Railroad Rail Joint Splice.*—February 25, 1868.—The ends of the rails are dovetailed and are engaged by fish plates, each one having a double dovetail block extending half through the web of the rail.

Claim.—The construction of the flanged and double

dovetailed brace and filling or plugs B B′, *b b′*, used jointly or severally, in combination with the bolt C and nut D and dovetailed slot *a* cut in the rail, all arranged in the manner shown for the purpose specified.

74,901.—ALFRED B. ELY, Newton, Mass.—*Shoe Tip.*—February 25, 1868.—The fibrous substance is saturated with resin and molded into shape by heat and pressure.

Claim.—1. The use of resinous bodies, combined with fibrous material, and shaped by means of heat and pressure, substantially as described.

2. A shoe tip made of the foregoing substances, and formed into shape by means of suitable pressure, with or without heat, substantially as described.

3. A shoe tip made of felted or woven material saturated with resinous substances, or prepared rubber, which, when properly heated and pressed in molds, will assume the proper shape and acquire or possess the proper hardness and elasticity, substantially as described.

74,902.—LEVI S. ENOS, Almond, N. Y.—*Washing Machine.*—February 25, 1868.—The pounders slide on anti-friction rollers on the inclined bottom and are drawn up alternately by radial arms upon a rotary shaft. The arms impinge against anti-friction rollers.

Claim.—The pounders D D, as constructed and arranged, for receiving weights J J in combination with the friction rollers *a a*, vertical stationary board G having series of holes *i i i i*, and corrugated hinged lid or cover H, substantially as and for the purposes herein set forth.

74,903.—F. R. FERRIS, Dora, Ind.—*Water Wheel.*—February 25, 1868.—The gates are connected by a series of arms to a collar which surrounds the wheel shaft and are operated by a segmental rack on the rim; surrounding the upper end of the hub is a clutch collar upon which the former collar rests. The impinging surfaces of the collars have inclines so that by turning the lower collar the upper one and the gates are raised to enable their free movement.

Claim.—The collar H, in combination with the collar E, arms G, and gates L L, the same being used substantially as and for the purpose set forth.

74,904.—RUSSEL FRISBIE, Cromwell, Conn., assignor to J. and E. STEVENS & Co.—*Toy Pistol.*—February 25, 1868.—A small hole is made in the barrel immediately in front of the piston, to allow the filling of the barrel with air, if the mouth be stopped previously to withdrawing the piston.

Claim.—The toy gun, having its barrel provided with an orifice or vent *a*, arranged, in relation with the piston C, to operate substantially as and for the purpose specified.

74,905.—HERMAN FRITZ, Cleveland, Ohio.—*Electro Medical Battery.*—February 25, 1868.—In applying the prime current to the foot plates a wire is attached, extending from the insulated cover to the foot of the foot plate, forming the negative pole. The other cover is connected in the same manner to the other foot plate, forming the positive pole. If an interrupted current be desired, the screw post in the insulating cover is connected to the post connecting with the outer end of the prime coil. The screw post of the positive cover connects with the post connected to the coil of the magnet. The foot plates are connected to the posts connecting with the induction coils. If no electric current be desired through the foot plates the wires are removed therefrom and longer wires inserted when electrodes are required for different parts of the body.

Claim.—1. The battery case, when constructed in sections A B, in the manner as and for the purpose substantially as set forth.

2. The special manner of connecting the porous cups to the caps of cylinders, by means of the shoulder *c′*, metallic screw collar or rim *e*, and cap S, in the manner substantially as described.

3. The arrangement of the helices T T′, surrounding the cylinders D E and inclosing circular magnets V, when said magnets are so arranged that they may be raised or lowered within said helices by an adjusting screw *x*, for the purpose and in the manner described.

4. A case, constructed of metal or of any other suitable material, inclosing the prime and induction coils T T′ and *m′ m″*, for the purpose specified.

5. The foot plates B′, provided with the heel R′ and adjustable toe cap C′, as arranged in combination with the battery case, in the manner as and for the purpose set forth.

74,906.—WILLIAM J. FRYER, West Troy, N. Y., assignor to himself and JOHN P. WITBECK, same place.—*Stove Hearth.*—February 25, 1868.—The ashes are carried by the inclined plate to the ash drawer, sliding in the hearth frame. To prevent the dropping of ashes when the drawer is withdrawn the sliding replacing pan is put temporarily in its place.

Claim.—The open hearth plate C, projecting from and externally to the fire box of the stove, formed with flanges and slides, so as to carry, in combination with it, the ash pan or drawer D and replacing pan H, as described.

74,907.—J. W. GARDNER, Shelburne Falls, Mass.—*Manufacture of Solid Steel Knives.*—February 25, 1868.—The tang is formed of a bow of metal, forming one piece with the blade and shoulder.

Claim.—A solid wrought steel knife or fork, with a skeleton or open handle, and formed out of one piece of metal, substantially as described.

74,908.—MALVIN J. GASKILL, Pleasant Plain, Ohio.—*Fence.*—February 25, 1868.—The wires are stretched by bars passing through mortises in the posts, and longitudinally slotted, to receive tightening wedges.

Claim.—The holding of the wires firmly in their places upon the battens by means of clinches turned upon the ends of the wires and driven into the battens, substantially as set forth, and for the purposes specified.

74,909.—J. B. GATHRIGHT, Louisville, Ky.—*Tree for Side Saddles.*—February 25, 1868.—The cantle, pommel, and horn are attached to the side bars and strengthened by metallic strips.

Claim.—As an article of manufacture, a tree for a side saddle, combining in its construction the following elements, viz: The bars A A′, flattened cantle B, extension D D′, leather base E, and block F; said parts being respectively constructed and arranged in relation to the other parts of the tree, as herein described.

74,910.—H. S. GOLIGHTLY and C. S. TWITCHELL, New Haven, Conn.—*Folding Chair.*—February 25, 1868.—The chair is held in position for use when the hook beneath the seat is caught over the round which unites the posts at the back of the seat.

Claim.—1. A cross-legged folding chair, in which the back is hung upon pivots, or in an equivalent manner, so that it may move or swing independently of the seat and frame, to adjust itself to the back of the person occupying the chair, substantially as herein shown and described.

2. The combination with the back legs and the seat, whether rigid or flexible, of a folding chair, of the front legs and a back, pivoted or hung between the ends of said legs, which extend above the seat, so as to swing or move independently of the seat and legs, substantially in the manner and for the purposes herein shown and specified.

74,911.—WILLIAM GROVER, Holyoke, Mass.—*Counting Attachment for Thread-winding Machines.*—February 25, 1868.—The index finger is actuated by the motion of the traversing shaft of the winding machine. The reciprocating motion of the rod which operates the finger to detach the spool from the spindle also liberates the dial or index, so that it is free to be adjusted for the next registration.

Claim.—1. A releasing plate or tripper, in combination with the spool-removing mechanism of a thread-winding machine, as and for the purpose set forth.

2. The notched adjustable plate *b*, secured to the

vibrating arm, in combination with the traversing stud *a*, substantially as described.

3. The vibrating arm *b'* supporting the pawl *c*, springs *e* and e^1, and notched plate *b*, in combination with the revolving dial plate, detent *m*, and tension spring q^2, substantially as set forth.

4. The combination of the adjustable stop *s* and pin *q* with the revolving dial plate, or a revolving index, arranged and operating substantially as and for the purpose specified.

74,912.—Artemus N. Hadley, Richmond, Ind.—*Insole for Boots and Shoes.*—February 25, 1868.—The rubber counter grasps the heel and has a number of studs on its lower side, bearing upon the insole.

Claim.—1. The provision of the spur piece or counter B at the rear edge of an elastic insole, substantially as and for the purpose set forth.

2. The combination of the sole piece A, spur or counter B, and protuberances C, as and for the purpose set forth.

74,913.—Levi Heywood, Gardner, Mass.—*Rattan Machine.*—February 25, 1868.—The radial cutters are adjustable in distance from the end of the "quill."

Claim.—A central tube or "quill," provided with slots or openings, in combination with a series of adjustable cutters B, substantially as and for the purpose set forth.

74,914.—Robert Hitchcock and George A. Jones, New York, N. Y.—*Gearing for Lamp Train.*—February 25, 1868.—Improvement on the patents of F. B. de Karavenan, of February 11, 1863, and of George A. Jones, of November 10, 1863. The fan which supplies air to the burner is driven by gearing made of vulcanite.

Claim.—1. A gear wheel, constructed of hard rubber, or similar material, possessing sufficient hardness, with elasticity for gearing, for the purposes set forth.

2. The combination of gear wheels made of hard rubber or other material, uniting like hardness and elasticity, with metallic gearing in mechanical movements, for the purposes set forth.

3. The combination, in mechanical trains for supplying air to lamps, of the hard rubber gear *e* with the fan-wheel screw shaft, substantially as and for the purposes set forth.

74,915.—Simon Ingersoll, Mianus, Conn., assignor by mesne assignments to himself and Job Johnson.—*Gate Latch.*—February 25, 1868.—The latch has side inclines by which it is raised by the stop pin. The latter enters a central notch in the lower side of the latch.

Claim.—The gate lath e^1 e^2, suspended by the two fulcrum pins b^1 b^2, and moving between the plates D and E, substantially in the manner and for the purposes set forth.

74,916.—George B. Kirkham, New York, N. Y.—*Strap Holder.*—February 25, 1868.—The slide moves on inclined ribs which carry its corrugated surface into hard contact with the strap. The bent wire prevents the escape of the slide. The rectangular pin is passed through side holes in the frame, and has a wire spring in a cavity of its lower side, the spring holding the point of the strap.

Claim.—The body of the holder as adapted with the slide, the bent wire *b* and chain *c* at one end, and as adapted with the catch and spring at the other end, all as herein described.

74,917.—Charles Klein, Albany, N. Y.—*Folding Cradle.*—February 25, 1868.—The ends and bottom are hinged so as to fold to the sides, and the rockers are hinged to the legs so that the sides can be brought together into small compass.

Claim.—The sections B B, bottom C, rockers A A, and end pieces D D, when the several parts are hinged together, as specified, for the purposes set forth.

74,918.—Hugh Laird, Mechanicsburg, Pa.—*Tuyere.*—February 25, 1868.—The valve opens inwardly, and, while allowing air to pass to feed the fire when unused, closes when the blast is on, to prevent escape of air from the chamber.

Claim.—The combination of air chamber A, valve recess G, valve H, plug C, and lever D, arranged substantially as described.

74,919.—Alford Lamb, Jeffersonville, N. Y., assignor to himself, William H. Morse, and Mary E. Layman.—*Washing Machine.*—February 25, 1868.—The clothes are passed between the ribbed roller and a rubber rib upon a spring board secured to the tub bottom.

Claim.—The auxiliary spring bottom B, India-rubber strip C, and fluted roller D, all arranged substantially as and for the purpose described.

74,920.—James Lamb, Hubbardstown, Mass.—*Rocking Chair.*—February 25, 1868.—The top is connected to the base by springs, and in such manner as to allow a lateral as well as backward and forward oscillation.

Claim.—The arrangement as well as the combination of the middle or zigzag and the side or leaf springs with the chair seat and base, substantially as described, the whole being to operate as explained.

74,921.—G. W. Lawbaugh, Geneseo, Ill.—*Harness Pad Press.*—February 25, 1868.—The bottom leather of the pad is pressed into form between the plates, which are clamped together by screws.

Claim.—The combination of the bottom plate A, stirrup C, screws *d d*, top plate B, and screw F, constructed and arranged in the manner herein as shown and described, and for the purpose set forth.

74,922.—Ellis Luther, West Troy, N. Y.—*Horse Rake.*—February 25, 1868.—To tilt the rake the driver draws the tilting lever toward him, which raises the rear end of the cradle; the hook then engages the hooked lever and raises the rear part of the rake, while the cord disengages the dog from the lever and allows it to pass. The whole rake may be raised from the ground by the compound lever connected through a rock shaft, arm, and chain to the fore end of the cradle.

Claim.—1. The block G and cradle P in combination with each other and with the head of the rake, substantially as hereinbefore described and set forth.

2. The combination of the dog *b* and the hook *c* with the cradle P, substantially as hereinbefore described and set forth.

3. The combination of the spring *d* with the hook *c*, substantially as herein specified and set forth.

4. The combination of the arm N with the cradle P and the lever J, substantially as herein specified and set forth.

5. The combination of the cord T with the dog *b* and axle A, substantially as herein specified and described.

6. The lever J, the arm N, the cradle P, the hook *c*, the hooked lever *a*, and the spring *d*, all arranged and combined substantially as and for the purposes hereinbefore described and set forth.

7. The combination of the cradle P with the chain *o*, substantially as hereinbefore stated and set forth.

74,923.—Caroline L. Lutton, Philadelphia, Pa., administratrix of the estate of E. T. C. Lutton, deceased.—*Machine for Shearing Yarn.*—February 25, 1868.—Improvement on the patent of E. T. C. Lutton, December 18, 1866. The yarn is passed round the rod into the curved channel of the guide to the space below the projection to and through the tube and so to the bobbin. The space is just sufficient in width to allow the yarn, which is temporarily twisted by the revolving tube, to pass freely between the projections and the knife. The guide and plate are so adjusted that the yarn shall be in close proximity to the knife.

Claim.—1. The combination of the revolving blades *h*, the knife D, and a plate or projection *m*, between which and the knife the yarn is caused to traverse, all substantially as described.

2. The combination of the above with the guiding plate E and revolving tubular spindle H.

74,924.—William McCord, Sing Sing, N. Y.—*Horse Rake.*—February 25, 1868; antedated Feb-

ruary 14, 1868.—The radius arm projects forward from the pivoted lever upon which the rake head turns. The head is adjustable on the radius arm to balance the rake upon its axis.

Claim.—The radius arm *c*, made adjustable on the rake head C, and operating in combination with said rake head, substantially as and for the purpose set forth.

74,925.—William N. McInnis, Northumberland, Pa.—*Spring for Relay Magnets.*—February 25, 1868.—The spring is loosely coiled to give nice adjustment, and the tension is regulated by turning the shaft to which it is attached.

Claim.—The construction of the irregularly and loosely-coiled steel spring C, when attached to and combined with the winding axle B and the armature G, as herein described and for the purposes set forth.

74,926.—Alexander McLeod, Covington, Ky.—*Railway Switch Stand.*—February 25, 1868.—The switch bar is secured by the bolt, which enters one of a series of notches in its upper side and is secured in position by a padlock.

Claim.—The arrangement of stand A A′, *a a′*, target C C′, switch bar D, lever E, shot bolt F, *f f′*, pedal H, and spring G, or weight J, as and for the purpose set forth.

74,927.—John McMurtry, Lexington, Ky.—*Starting Cars.*—February 25, 1868.—The friction brake roller acts by the spur wheel to draw the rack beam longitudinally, storing power in the spiral spring, which is exerted in starting the car by means of the slots in the beam engaging the pins upon the disk, which in turn, by means of the double-headed pawl, engages the spur wheel upon the axle.

Claim.—1. The beam *c*, when provided with slots *d d*, and rack *b*, operating substantially as and for the purpose set forth.

2. The disk J, provided with pins *s s*, in combination with beam *c*, substantially as described.

3. The spring *e*, in combination with pins *t* and beam *c*, operating substantially as specified.

4. The cog wheel H and double-acting pawl *q*, in combination with disk J, arranged substantially as and for the purpose described.

5. The friction wheel *f f*, and pinions *n n*, in combination with beam *c*, operating substantially as set forth.

6. The brake *g*, provided with a slot and spring *m*, in combination with friction-wheels *f f* and pinions *n n*, as and for the purpose specified.

74,928.—Q. F. Messinger, Easton, Pa.—*Corn Harvester.*—February 25, 1868.—The corn is cut by an ordinary cutter and carried by the radial pins at the periphery of a horizontal wheel to a platform at the rear, where the stalks are arranged by an attendant. The floor of the platform consists of tilting boards which allow the descent of the stalks to form a shock when sufficient quantity has accumulated. The platform has a lateral movement to place the shock out of the horse track in the next round.

Claim.—1. The rotating wheel K, with its pins *i*, in combination with the cutters, the bar L, or its equivalent, and with a platform, so connected to the rear of the machine as to be adjustable laterally for the purpose described.

2. The platform R, consisting of a series of plates *n*, in combination with the devices herein described, or the equivalent of the same for operating the said plates, all substantially as and for the purpose specified.

3. The arrangement of the bent bar M and the wheel K, as and for the purpose set forth.

74,929.—Lewis Miller, Akron, Ohio.—*Harvester Rake.*—February 25, 1868.—The rake rotates in a horizontal plane, being mounted on a post erected upon the platform. The end of the rake arm is extended and retracted by a roller running between guide bars.

Claim.—The combination of two revolving telescopic arms, turning upon a center arranged on the platform at *a*, one of which carries a fork or rake, and is caused to slide on the other by means of a roller or guide traversing a cam-path or way D, formed by two raised marginal ledges *c e*, also on the platform, and surrounding the center *a*, substantially as and for the purpose described.

74,930.—Marcus Neumann, New York, V. F. Lassoe, Brooklyn, and C. W. Mac Cord, New York, N. Y.—*Steam Generator.*—February 25, 1868.—A thin current of water is passed down over heated plates, flowing alternately ontward and inward; the caloric current being deflected against the plates. A cold air chamber is interposed between the arch of the furnace and the superheater. The water is pumped into the heater, which has a perforated distributer over one of the heating vessels, and is drawn therefrom through a pipe, and forced through another pipe to a second distributer that discharges into the upper part of the generator. The steam generator communicates through a pipe with the lower side of the seat of an annular valve at whose upper side is a chamber communicating through the central opening of the valve with the superheater, so that on the pressure in the generator being in excess of that in the superheater the steam escapes through the valve ports.

Claim.—1. A steam generator, provided or fitted with vessels L, forming flue enlargements, arranged one above the other, and containing draught deflectors M, in combination with water courses or generator-dividing plates K, situated below the vessels L, and having escape outlets or openings *l*, in such manner as that water injected on to said vessels, or the upper one thereof, is converted into steam in its passage over them and the dividing plates, by the detour given to the smoke and heated gases beneath and over the deflectors, substantially as specified.

2. The combination of a sprinkler or feed-water distributer *t*, with the flue enlargements or vessels L, containing deflectors M, and water-courses or generator-dividing plates K, provided with escape outlets *l*, for operation together as herein set forth.

3. The combination, with the superheater F and arch E of the fire-box or chamber, of the cold-air passage *f*, arranged to communicate with the main or central flue, and controlled or supplied by suitable inlets from the outside, essentially as described.

4. The feed-water heater N, arranged essentially as specified, and fitted with one or more flue-enlargements or vessels L, containing deflectors M for operation in combination with a feed-water sprinkler *s*, or distributer, as herein set forth.

5. In combination with a steam generator and separate superheater, the automatic pressure regulator, interposed between the generator and superheater, and operating to supply the latter with steam on the pressure in the generator exceeding that in the superheater, as herein set forth.

74,931.—Halvor Olsen, San Francisco, Cal.—*Combination of Life-preserving and Swimming Apparatus.*—February 25, 1868.—The floats are strapped to the back and chest. The webbed frames are attached to gloves and sandals and have sufficient flexibility to open and partially close without joints.

Claim.—The combined use and application of the floats, and the extended ribbed and webbed gloves and sandals, constructed and attached to the user, in the manner and for the purpose herein described and represented.

74,932.—Jesse P. Outcalt, Lancaster, Pa.—*Ballot Box.*—February 25, 1868.—The box has two spiral passages through which the balls pass as they gravitate toward the crescent-shaped tumblers, which are operated by the spring triggers.

Claim.—1. The double spiral hopper, by which the balls are kept separate and conveyed to the tumblers in the manner described.

2. The crescent-shaped tumblers, by means of which the balls are taken separately from the hopper and deposited in the drawer, as set forth.

3. The spring H, in combination with the slide, and tumbler for retracting the same, as set forth.

74,933.—Isaac E. Palmer, Hackensack, N. J.—*Mosquito Canopy.*—February 25, 1868.—The frame is somewhat similar to that of an umbrella. The inner ends of the braces are pivoted to a fixed ring on the stem, and the inner ends of the ribs to a

sliding sleeve which is held down by a spring catch, when the ribs are extended.

Claim.—The operating cord and holding stem, secured to the braces D, and arranged to work through the tubular socket A of the ribs B, whereby the canopy may be expanded from the exterior thereof, substantially as herein shown and described.

74,934.—NELSON PALMER, Albany, N. Y.—*Horse Hay Fork.*—February 25, 1868.—The braces connect the handle to the tines, and the handle has a catch lever which engages a cross bar of the bail, and keeps the tines in their elevated position. The catch lever has a trip cord.

Claim.—1. The combination of the tines *a* and *a'*, the braces *d* and *d'*, and the handle *h*, when constructed and arranged substantially as and for the purpose set forth.

2. The combination of the tines *a* and *a'* and braces *d* and *d'*, the handle *h*, the catch *g*, and the roller *i*, when constructed and arranged substantially as and for the purpose set forth.

3. The catch *g*, constructed and pivoted as described, so as to be locked by the action of the roller *i* against the catch *g*, below its pivot, substantially as described.

4. The roller *i*, constructed as described, in combination with a catch, substantially as and for the purpose set forth.

74,935.—ALFRED PARAF, Boston, Mass.—*Separating Coloring Matter from Madder and Other Plants.*—February 25, 1868.—The powdered madder root is washed until the saccharine portion, (about 55 per cent.,) is removed. The remainder, after draining, is subjected to the action of cupric oxide with ammonia, by steeping in aqua ammonia in which copper turnings have been placed, in proportion of 1 lb. of the latter to 7 galls. of the former, for each pound of ligneous matter to be removed. The matter is stirred and ammonia added by passing a current of gaseous ammonia into the solution. The dissolved cellulose is removed by filtration and washing. The precipitate is mixed with alcohol, and a current of sulphuretted hydrogen passed through the mixture which forms the copper into an insoluble cupric sulphide, and the coloring matter is set free in the alcohol by evaporation or by addition of acetic acid. When used immediately for dyeing, the cellulose need not be removed.

Claim.—1. The compound process of liberating the coloring-matter of plants from the ligneous matter by the solution of the cellulose, and the separation of the coloring matter from the insoluble compounds formed during the said solution, substantially as before set forth.

2. The compound process of liberating the coloring matter of plants from the sugary and ligneous matters thereof by the removal of the sugary matter, the solution of the cellulose, and the separation of the coloring matter, substantially as before set forth.

74,936.—B. B. PERKINS, Chestertown, Md.—*Combined Boiler and Hot Air Register.*—February 25, 1868.—The boiler is placed in the hot-air flue immediately beneath the register, and serves to moisten the air by the steam escaping through the perforations of its top and adjustable cover.

Claim.—In connection with a boiler, arranged at the top or side of hot-air flues in houses, the combination and arrangement of the perforated boiler top with the perforated cover F, pivoted at *f*, the connecting rod H, and the register B, when the parts referred to are constructed and arranged substantially in the manner and for the purposes set forth.

74,937.—JULIUS PETSCH, Hanover, Prussia, and STEPHEN N. B. BUYNITZKY, St. Petersburg, Russia.—*Coffee Making Apparatus.*—February 25, 1868.—The communication between the chambers above and below the inclined diaphragm is through a tube reaching from a space beneath a gauze strainer in the upper chamber to near the bottom of the lower chamber. There is also communication through a small orifice near the top of the lower chamber for the escape of air when the water flows in. In use, the water is poured in and runs into the lower chamber. The ground coffee is placed in the upper chamber and the gas heater lighted. The steam forms in the upper part of the lower chamber and drives the water through the pipe into the upper chamber, which causes the pot to tilt back on its trunnions. This movement closes the gas cock and rings the bell. The condensation of the steam in the lower chamber draws the water again through the ground coffee. This tilts the pot into a vertical position.

Claim.—1. A coffee-making apparatus, constructed with the shell A, partition B, strainer D, and tube C, or the equivalent of these parts, to operate in the manner set forth, and provided with the minute vent-holes *c* through the partition B, substantially as and for the purpose set forth.

2. The coffee-making apparatus, constructed with a shell A, partition B, strainer D, and tube C, or the equivalent of these parts, in combination with the stand E, or its equivalent, to support the said apparatus upon trunnions, as and to the effect set forth.

3. The coffee-making apparatus, as set forth in the next preceding claim, in combination with a device to extinguish the heating-flame, substantially as set forth.

4. The signal-bell *n*, in connection with and operated by the coffee-making apparatus set forth in the second preceding claim, substantially as described.

74,938.—WILLIAM J. QUINN, Philadelphia, Pa., assignor to FURBUSH & GAGE, same place.—*Loom.*—February 25, 1868.—The threads of the quiescent shuttles which are above the operating shuttle pass over the opposite cross-pieces, and to the edge of the fabric, where they are not liable to be struck by the fingers and interfere with the stop motion should the thread of the operating shuttle break. The thread from the shuttles below the operating shuttle will pass over the rod beneath the cross pieces in the recess and to the edge of the fabric; the recess formed by the bending of the rod receives these threads when the lathe is carried forward, so that they will not strike the fingers and interfere with the action of the stop-motion.

Claim.—1. The combination with a drop-box of a series of self-adjusting plates or cross-pieces $o\ o^1\ o^2$, whereby the threads of the shuttles above that in operation are held above the fingers of the weft-fork, substantially as and for the purpose described.

2. The weft-fork, provided with a recess *x*, formed between the rod *m* and fingers *n*, as and for the purpose specified.

74,939.—JOHN RADDIN, Lynn, Mass.—*Car Wheel.*—February 25, 1868.—The web enters an annular groove in the sectional hub and is secured by bolts surrounded by rubber packing, which allows the web a limited movement.

Claim.—In combination with the web *a*, the sectional hub *c c'*, and the bolts *g*, constructed and arranged as shown and described, the elastic packing *h*, and the bolts, substantially as and for the purpose set forth.

74,940.—G. V. RAMBAUT, Petersburg, Va.—*Medical Compound or Bitters.*—February 25, 1868.—Composed of ginseng, 6 lbs.; orange peel, 3 lbs.; cardamom seed, 5 oz.; cloves, 4 oz.; cinnamon, 4 oz.; coriander seed, 4 oz.; Peruvian bark, 4 oz.; lavender flowers, 4 oz.; chamomile flowers, 4 oz.; orris root, 4 oz.; red sanders, 8 oz.; six fresh orange peels; juice from three oranges; essence of anise, one wine glass full; French coloring, 1 pint; simple sirup, 1 pint; alcohol, 5 galls.; Jamaica spirits, 5 galls.; and Cologne spirits, 35 galls.

Claim.—The compound made of the materials and substantially as herein described and for the purpose set forth.

74,941.—JOHN B. RAYNOR, Mazo Manie, Wis.—*Churn.*—February 25, 1868.—The cream is beaten in the upper box from which it escapes through a perforated bottom plate.

Claim.—The shaft C, provided with a series of straight arms H H, when arranged in combination with the box B, having a series of rods I I, in the manner and for the purposes set forth.

74,942.—Charles Richardson, Auburn, N. Y.—*Machine for Grinding Reaper Knives.*—February 25, 1868.—The saw is clamped to the adjustable bar at the top of the side frame. The stone has its periphery and a portion of its side faced for grinding. The grindstone standards are upon a horizontal disk which is adjustable upon the carriage. The latter has longitudinal adjustment on the slide bars of the main frame.

Claim.—1. Making the top-piece of the swing-frame H, to which the cutter is fastened when the knives are to be ground, adjustable, and using the same in combination with the adjustable grindstone, in the manner and for the purpose substantially as described.

2. Affixing the water-tank or reservoir P to one of the standards which support the grindstone, so that the same shall at all times hang directly under said stone, and using the same in combination with an adjustable grindstone hung upon a movable plate or disk, substantially as and for the purpose described.

74,943.—W. C. Robinson, Saltsburg, Pa.—*Churn.*—February 25, 1868.—The lower edge of the perforated, conical dasher is attached to a radial frame and has a horizontal disk at its apex.

Claim.—The dasher H, composed of the perforated hollow cone D, the frame F F, the cylinder E, and the disk G, as and for the purpose specified.

74,944.—Edmund F. Schreiner, St. Louis, Mo.—*Umbrella.*—February 25, 1868; antedated February 17, 1868.—The channel is formed of cloth, and is supported at each rib by a wire frame. The rain is conducted to one or more discharge openings.

Claim.—An umbrella provided with a channel or conductor, secured to its lower outside edge, substantially as described.

74,945.—Daniel Sherwood, Lowell, Mass., assignor to Woods. Sherwood & Co.—*Table Caster.*—February 25, 1868.—The caster is formed of wire-work.

Claim.—As a new and improved article of manufacture, a table caster, consisting of the parts *a*, *b*, *c*, &c., constructed substantially as described.

74,946.—John F. Siebenmann, Milwaukee, Wis.—*Artificial Wine.*—February 25, 1868.—Composed of water, 50 galls.; white sugar, 95 lbs.; tartaric acid, 3 lbs.; tamarinds, 6 lbs.; raisins, 6 lbs. Or, white sugar, 150 lbs.; tartaric acid, 2¼ lbs.; tamarinds, 6 lbs.; and raisins, 12 lbs.; yeast, 6 pints. The following may be added before the yeast: fresh-dried elder flowers, 1 oz.; crushed nutmegs, ½ oz.; cut mace, ¼ oz.; "Florentine iris root," ½ oz.; and vanilla 1 pod. It may be colored with fruit or "French color."

Claim.—The production of wine from the ingredients, and by the process, substantially as herein described.

74,947.—John E. Smith, Buffalo, N. Y.—*Meat Cutter.*—February 25, 1868.—The cutters have vertical reciprocation, impinging on the upper surface of the block, which is rotated by pawls actuated by eccentrics on the main shaft.

Claim.—1. The combination of the central shaft C, the cutting-knives E E, and the spring I, or its equivalent, substantially as and for the purposes herein described and set forth.

2. The double eccentrics T and U, the bars or spring catches W and X, or the equivalent thereof, and the levers U′ and T′, when constructed and arranged substantially as and for the purposes described.

74,948.—D. M. Smyth, Orange, N. J., assignor by mesne assignments to John T. Lary, New York, N. Y.—*Machine for Sewing Books.*—February 25, 1868.—The folded sheets are notched in the back as usual, and each sheet is opened out upon the table with the hooked ends of the needles passing through the notch holes. The thread is then passed by the traveling hook beneath the needle hooks. The sheet is then folded, the hooks carrying the thread through the holes. The vertically sliding side of the table is then depressed to bring the top of the sewn part even with the fixed portion of the table.

Claim.—1. The combination of the needles with hooks at one end and eyes at the other, the needle or its equivalent with an eye at the upper end, and the traveling-hook, the said combination having a mode of operation substantially as and for the purpose specified.

2. The needles with a hook at one end for retaining the interlacing thread, and an eye at the other for the locking threads, substantially as and for the purpose described.

74,949.—D. E. Somes, Washington, D. C.—*Washing Machine.*—February 25, 1868.—The clothes are placed in the slat-sided cylinder, and the water circulated by the paddle-wheel at the other end of the suds box. A stove beneath the metallic bottom gives means of heating. The cylinder and wheel are rotated by a winch upon the paddle-wheel shaft, and a chain connects the shafts.

Claim.—1. The wheel and cylinder, as described, when operated together, substantially as and for the purpose set forth.

2. The inclined floor of the box, in combination with the wheel and cylinder, substantially as and for the purpose set forth.

3. The combination of the box, wheel, and cylinder, with or without netting or gauze, as and for the purpose set forth.

4. The wheel or rock-shaft, with buckets, and the cylinder, with means for heating the suds or generating steam, substantially as and for the purpose set forth.

5. A washing machine, substantially as described, with means for heating the suds and generating steam, in combination with a safety-valve attached to said machine, substantially as and for the purpose set forth.

74,950.—Joseph Steger, New York, N. Y.—*Hose Coupling.*—February 25, 1868; antedated February 14, 1868.—The inclined teeth of the two parts of the coupling are engaged with each other by a twist which is maintained by a set screw.

Claim.—The teeth *a a*, *b b*, and set screw *c*, or its equivalent, in combination with the two half-couplings A B, constructed and operating substantially as and for the purpose set forth.

74,951.—W. J. Stowell, Baltimore, Md.—*Railway Switch.*—February 25, 1868.—Improvement on his patent of June 19, 1866.—One of the switch rails of the "turn out" is connected to one of the switch rails of the main track by a cross-tie, and the latter switch rail is connected to a lever by a rod passing horizontally through the stationary turn-out rail. The rod has a strong spring, serving to hold the switch rail of the main track in line and in close contact with the stationary rail of the turn-out.

Claim.—1. The arrangement of the switch-rail sections A′ and B′, between the turn-out rail B and the main track rail A, the former being laid so as to overlap the fixed main rail A, substantially as described.

2. The spring *b*, or its equivalent, interposed between the rail B and lever D, in combination with the connecting rod *a*, and switch sections A′ B′, substantially as described.

3. A railroad-rail switch, constructed and operating substantially as set forth.

74,952.—W. R. Swinnerton, Peoria, Ill.—*Mechanical Movement.*—February 25, 1868.—The barrel shaft has a cross bar, whose ends carry pins which may form arbors to anti-friction rollers. The pins traverse radial trammel slots in the crucially-arranged arms of the wheel. The effect is to cause two rotations of the barrel to one of the hand wheel.

Claim.—1. The lever E, with its arms K, and all equivalents of the same, constructed and operating substantially as and for the purposes specified.

2. In combination with lever E, the slotted wheel as described, and the shafts L and G, constructed and operating substantially as set forth.

3. The mode of adjustment and arrangement of the shafts L and G, herein set forth, in such manner that their relative distance from each other shall correspond to about one-fourth the diameter of the wheel.

4. The combination and arrangement of the various parts herein described and shown, for the purpose of producing accelerated speed in machinery.

74,953.—PHILO SYLLA, Elgin, Ill., assignor to himself, WILLIAM F. and EDWIN H. SYLLA, same place.—*Hat Rack for Seats.*—February 25, 1868.—The forked arm which receives the hat is pivoted to a bracket attached to the seat.

Claim.—The combination of the forked rack F F G, vertical pivot H, and support C D E, substantially as and for the purposes set forth.

74,954.—JOHN TINGLEY, Philadelphia, Pa., assignor to PHILADELPHIA WOOD AND HOLLOW WARE MANUFACTURING COMPANY.—*Churn.*—February 25, 1868.—The churn is turned on trunnions upon its sides, and has a perforated diagonal diaphragm to cause the agitation of the cream.

Claim.—The inclined diaphragm. arranged diagonally in the vessel, and held in place by the detachable cover *h*, all substantially as set forth.

74,955.—JOSE TOLL, Locust Grove, Ohio.—*Churn.*—February 25, 1868.—The middle one of the three dashers descends while the outer ones are ascending, and conversely.

Claim.—1. The arrangement of the three oppositely-reciprocating dashers B B′ B″, stems C C′ C″, cross-head D, double crank I *i* J *j*, and pitman K L, for the purpose set forth.

2. The perforated and vertically-adjustable frame M M′, socket N, and pins O O′, for the object explained.

74,956.—B. VAN VRANKEN, Schenectady, N.Y.—*Brick Machine.*—February 25, 1868.—The molds are forwarded along the vertically adjustable table by a cross rod, which is fixed to spring holders that give way to extraordinary pressure which may occur from the displacement of the mold. A stone occurring beneath the follower drives out a jointed section and relieves a rod from a friction catch. The movement of the rod turns the shaft of the cams upon which the fore end of the table rests, and allows the table to descend. The play of the press box follower is adjustable by screws beneath the bar on which the cross head of the operating pitman acts.

Claim.—1. The spring catch g^4, rod g^2, and rock shaft g^1, for holding up one end of table E, in combination with the arm *w*, and press-box section J′, arranged so as to operate substantially as described.

2. Depressing the mold-box table E, by an outward pressure of a hinged section J′, or its equivalent, applied to the press box, substantially as described.

3. The application of a self-releasing follower to the mold box table E, substantially as and for the purposes described.

4. Providing for a parallel adjustment of the bar K, by means of screws and pinion spur wheels, substantially as described.

74,957.—ELIJAH WAGONER, Westminster, Md., assignor to himself and G. W. MATHEWS.—*Rice Planter.*—February 25, 1868.—The seed falls through the tubular standard of the plow and is scattered by a deflecting board. The plow is followed by the coverer, which consists of a plate cast with serrations or ribs upon its lower surface. The plow is concave on its lower side and is adjustable in horizontal inclination.

Claim.—1. The plows E E when constructed in the form described, and provided with the incline *e* and guards *e′ e′*, substantially as and for the purpose set forth.

2. Connecting the coverer to the plow by a double joint *h*, as and for the purpose described.

3. The coverer H when constructed in the form described, and provided with the concave-formed edge and a corrugated under surface, substantially as and for the purpose specified.

4. The rod G passing from the plow through the arm F, and provided with a screw and nut, by which inclination of the plow can be adjusted, substantially as specified.

5. Constructing the seed conductors of the funnel-formed sections I I I, connected by straps *i i*, substantially as and for the purpose specified.

6. The combination of the idler N, slide O, and roller K, substantially as and for the purpose indicated.

7. The markers R R when attached to the machine, and operating substantially as and for the purposes set forth.

8. The arrangement herein described of a hoe or trencher outside of each of the supporting wheels.

74,958.—HENRY WANKLIN, U. S. revenue steamer Wilderness.—*Salinometer Pot.*—February 25, 1868.—The brine is weighed by its pressure upon the piston, which is connected to a weighing beam. The water flows from a side chamber into the cylinder at a point just above the highest position of the piston and flows out through a hole at the upper end of the cylinder into a discharge chamber, so as to keep the cylinder nearly full while flowing through.

Claim.—A salinometer in which the specific gravity of the water is determined or measured by its pressure on a movable piston, substantially as and for the purpose set forth.

74,959.—GEORGE I. WASHBURN, Worcester, Mass.—*Feed Water Heater.*—February 25, 1868.—The feed water is drawn through closed chambers through which the exhaust steam passes in condensing coils. The end of the coil pipe has a stop valve through which the uncondensed steam passes into the coldest water chamber.

Claim.—1. The combination with the condenser C, arranged between the reservoir and pump of the surface condenser D, Fig. 1, situated between the pump and boiler, substantially as described.

2. The arrangement of the condenser between two pumps or two ends of the same pump, substantially as described.

3. A steam pump and condensing apparatus, constructed and arranged substantially as herein described.

74,960.—HERVY WATERS, Boston, Mass.—*Blank for Hoe.*—February 25, 1868.—Improvement on his patent of February 26, 1867. The blank has deep indentations on its faces in direct line between the shanks, so as to partially divide the metal in a thick state and prevent its working over in rolling.

Claim.—A blank for shovels, hoes, &c., made substantially as shown and described.

74,961.—ALFRED WEED, Boston, Mass.—*Boring Faucet.*—February 25, 1868.—The valve is at the rear end of the spigot, and its stem is turned up at a right angle through a longitudinal slot in the top to form a handle. The valve carries a boring bit.

Claim.—A tapping faucet having a combined valve and bit, arranged to operate substantially as set forth.

74,962.—MARTIN WESSON, Springfield, Mass.—*Shoe.*—February 25, 1868.—The strip is woven the proper width to fold over and form the outside and the lining of the vamp and quarters. It may be woven in a tube, forming both lining and outside.

Claim.—As a new article of manufacture, a shoe, the upper whereof is composed of a woven or knit fabric, and having the "quarter" and the "vamp" of such upper, or either of them, formed of a web which is woven or knit of proper width to form the outside and the lining in one piece, whether such web is made tubular or flat, or with the lining attached to the outside by tying or connecting, substantially as specified.

74,963.—WELLS H. WHITE, Troy, Ohio.—*Concrete Pavement.*—February 25, 1868.—Composed of pitch, 5; coal tar, 1; sand, 3; coal ashes, 1½ parts. The pitch and tar are boiled together. The dry matters heated in a pan and several buckets of saturated solution of salt poured upon the gravel and ashes. The heated mixture of pitch and tar is then poured upon the rest.

Claim.—Concrete pavements composed of the materials, and laid hot and then rolled with a hot roller, substantially as set forth.

74,964.—LAWRENCE WIEGEL, JOSEPH LEHNBEUTER, and CHARLES FEGERS, Cincinnati, Ohio.—*Preparing School Slates.*—February 25, 1868.—The

pasteboard, when prepared as described in the claim, forms an artificial slate, and is mounted in the usual manner.

Claim.—An artificial slate made with a composition of liquid caoutchoue, asphaltum, and pulverized pumice stone, reduced to a thin paste with spirits of turpentine, and applied to pasteboard by means of rollers, all substantially as and for the purposes specified.

74,965.—JOHN R. WILBUR, Chicopee, Mass.—*Corn Sheller.*—February 25, 1868.—The hopper has side reciprocation. The bonnet has a concave ribbed, under surface. It is hinged to the frame at the upper side, and is drawn towards the cylinder by weights attached by cords to its lower side.

Claim.—1. The V-shaped ribs *k*, in combination with teeth or points L on the face of the cylinder A and bonnet B, constructed substantially as described and for the purposes set forth.

2. The crank H and shaft or arm E in combination with the hopper D, constructed as described and for the purposes set forth.

74,966.—DAVID WILLIAMSON, New York, N.Y., assignor to JAMES WILLIAMSON, same place.—*Cork Pull.*—February 25, 1868.—After the perforation of the cork the cross bar is thrown around by the spring and serves to engage the cork.

Claim.—The cork drawer formed with a mortise containing the sliding and pivoted cross bar with its catch, and the spring for moving the bar crosswise to the mortise, substantially as specified.

74,967.—ELLIS WILZINSKI, Chicago, Ill.—*Clay Washing and Stone Separating Machine.*—February 25, 1868.—The clay and water are received in a tank which has a stationary partition, having sharply edged square bars and a beater made in a similar way and secured to a vertical rotating shaft. The rods of the beater pass between those of the partition. The water and clay pass out through a strainer. The stones collect in the bottom of the tank.

Claim.—The tank A provided with partition B, beater M, and sliding gate F with strainer G, the whole constructed and operating substantially as and in the manner herein set forth, forming the clay washing and stone separating machine.

74,968.—JAMES D. MCBRIDE, Mansfield, Ohio.—*Attachment for Hot Air Register.*—February 25, 1868.—The register opens into the back of an attachment having an upper and under tray to contain water, and a space to receive a clothes drying rack.

Claim.—1. In combination with an attachment for a hot air register, the water vessels B and D, arranged in the manner and substantially as herein described.

2. The stand F, when used for the purpose and in the manner substantially as herein set forth.

3. The combination of the several parts A, B, C, D, E, and F, for the purpose and substantially as herein described.

74,969.—A. P. WINSLOW, Cleveland, Ohio.—*Railroad Car Stove.*—February 25, 1868.—The stove is surrounded by a fender whose sides are double and inclose a water chamber. The stove stands upon a water tank which has perforated pipes leading to the fire space, and discharging water therein when the stove is upset. The flue traversing the top of the stove longitudinally has plates preventing the escape of burning matter when the stove is inverted.

Claim.—1. The water chamber or tank B and perforated water pipe D in combination with a railroad stove, substantially as and for the purpose set forth.

2. The guards *a* in combination with a stove, substantially as and for the purpose set forth.

74,970.—ABRAM ALEXANDER, Pittsburg, Pa., assignor to ALEXANDER BOLT MANUFACTURING CO., same place.—*Furnace for Heating Bolt Blanks.*—March 3, 1868.—The sides of the furnace consist of water chambers. Tubular openings admit the ends of the bolts whose exterior portions rest on the shelves.

Claim.—1. The bolt-blanks heating furnace herein described, composed of a combination of a certain number of hollow castings or boxes forming the sides of the said furnace.

2. The side A having two or more rows of holes R R R, &c., and shelves I I′, &c., arranged and used for the purpose set forth.

3. Circulating water through the hollow sides of a furnace for heating bolt blanks, for the purpose of dispensing with the fire-brick lining therein.

4. In combination with the hollow cast or hollow made sides, the pipes Q, K, K, L, L, and M, arranged substantially in the manner and for the purpose specified.

5. In furnaces for heating bolt blanks, the apron V in combination with one or two of the sides of the furnace, for the purpose set forth.

74,971.—A. MERRITT ASAY, Philadelphia, Pa.—*Card for Artificial Teeth.*—March 3, 1868; antedated February 20, 1868.—The card has the manufacturers name printed upon one side, and its other side is covered by a piece of blotting paper which is coated with the wax upon which the teeth are placed.

Claim.—1. The cards or slips for holding artificial teeth with the wax only on one side, substantially as above described.

2. Printing the manufacturer's name or trade mark on one side of the slip, and coating the opposite side of the same with beeswax or an equivalent material, substantially as described and for the purposes specified.

3. The process of preparing the sheets, out of which the cards or slips are formed, to receive the coating of wax on their outer surfaces, substantially as described.

74,972.—S. K. AYERS, Delton, Wis.—*Lamp.*—March 3, 1868.—The vent hole in the base of the burner allows the entrance of air, which mingles with the gas formed in the upper part of the lamp to keep it cool and dilate it to a point below an explosive state. The hole is closed by a valve when the lamp is unused.

Claim.—A vent hole *c* in the base of a lamp burner combined with a valve *d*, arranged and operating as and for the purpose described.

74,973.—JAMES AYRES, Paterson, N. J.—*Spring Balance for Safety Valves.*—March 3, 1868.—The lower end of the box is attached to a fixed object, and the upper end of the stem has an eye receiving the safety valve lever. The stem slides freely in the head of the box, inclosing the springs whose ends enter cavities in the head of the box and a block at the foot of the stem, respectively. The length of the stem and consequent tension of the springs is adjusted by a right and left screw-headed set nut, which engages the upper and lower sections of the stem.

Claim.—The spring balance formed by the combination of the box or frame A, rod B, having a head *b* formed upon its inner end, springs C, long hand nut E, and rod F with each other, substantially as herein set forth.

74,974.—JOHN H. BARRINGER, Jr., Hillsboro, Ill.—*Curry Comb.*—March 3, 1868.—The sides of the comb are expansible, and have square sockets to receive the rectangular ends of the transverse bars. Each bar has four serrated ribs extending radially and rectangularly therefrom, so that a fresh edge may be brought into action when required.

Claim.—1. The teeth cylinders C, the side pieces B, and the handle A, when combined and arranged as described and for the purpose set forth.

2. The cylinders C when provided with two or more sets of teeth *c*, substantially as described and shown.

74,975.—WILLIAM BARTON, Troy, N. Y.—*Slat Matting.*—March 24, 1868.—The slats are held at the requisite distance by the button blocks, and both are perforated for traverse of the stay ropes.

Claim.—Connecting the slats and buttons, which form a slat mat, by means of ropes or other flexible material, which passes through the slats and buttons, substantially as and for the purpose herein shown and described.

74,976.—Samuel Bean, Syracuse, Ohio.—*Cane Cleaner.*—March 3, 1868.—The two pairs of scraping plates move at right angles to each other, being pressed against the cane by the spiral springs. The plate to which the scrapers are secured is pivoted at its upper and lower end to allow it free oscillation.

Claim.—The plates C C′ and springs D D′ in combination with the pivoted plate B and frame A, all constructed, arranged, and operating substantially as and for the purpose set forth.

74,977.—Lyman Bennet, Amsterdam, N. Y.—*Cutting out Bands and Fronts of Drawers.*—March 3, 1868.—The pile of fabric, consisting of a number of thicknesses, is clamped to the table by the overlying patterns and cut by the outlines of the latter.

Claim.—The arrangement upon the table A of the guides B, D, and F, press bar C, and knife guide E, as herein described for the purpose specified.

74,978.—Randall Bisbee, Boston, Mass.—*Fitting Clothing.*—March 3, 1868.—In measuring a person's foot the flexible mold is applied in the same manner as a laced boot. The sole of the mold is expanded or contracted to fit the foot, and the upper is laced up. A sheet of paper is then pressed down upon the pointers, which make a line of dots separated from each other more or less, according to the distention of the upper of the mold. The last is then fitted within the mold until the latter takes precisely the same contour as upon the foot.

Claim.—1. As an improvement in the mode of manufacturing or fitting clothing or other covering for the foot and other portions of the human figure, the employment of an inelastic but flexible mold, made perfect in form, constructed with yielding openings or apertures, and provided with a device for indicating the shape or form of such openings, substantially as herein shown and described.

2. As a means of indicating and noting the size and shape of the apertures in the mold, the pointers, or their equivalents, essentially as herein shown and described.

3. The construction of the sole of the mold for the foot, as divided in its center, and provided with a suitable means of confining it in position, substantially as before set forth and explained.

74,979.—Marcus Bockman, Brooklyn, N. Y.—*Mechanical Movement.*—March 3, 1868.—The levers have side arms carrying anti-friction rollers, which run upon the arc of the segmental block. The said block has trunnions journaled in the uprights, and its oscillation is caused by the alternate pressure of the rollers on each side.

Claim.—The frame A A and B B, with the levers C C, with their arms D D, and rollers J J, and the segment E, and connecting bars F F, constructed, arranged, and operating substantially as and for the purpose set forth.

74,980.—George W. Brady, New York, N. Y.—*Safety Attachment to Railroad Cars.*—March 3, 1868.—The shield extends around the front, outside, and back of the wheel, and is attached to a spring frame by which it is held in near proximity to the rails, but allowed to rise over small obstructions.

Claim.—1. The shields G, when connected with slides H, which are fitted upon tapering dovetail or other tenons *a a*, formed on the ends of the yoke J, which rest upon the axle boxes of railroad cars, substantially as herein shown and described.

2. The above, in combination with the springs I I, arranged as and for the purpose set forth.

3. The yoke J, resting upon and fitting around the axle box, and extending down the side of the pedestal, the said yoke having a dovetail tenon on each end, to which the metallic slide connected with the shield frame is attached.

74,981.—Jacob Brinkerhoff, Auburn, N. Y.—*Corn Sheller.*—March 3, 1868.—The corn is pressed by the shelling cylinder against the surface, consisting of a series of spring blocks, which accommodate themselves to ears of various size.

Claim.—The series of regulators or pressure blocks, each with its independent spiral spring, combined and arranged substantially as and for the purpose herein set forth.

74,982.—Rufus N. Bruce, Springfield, Mass., assignor to himself and Amos Call, same place.—*Planer Chuck.*—March 3, 1868.—The object is clamped between the fixed and movable jaw upon the "vise plate." The latter is hinged to the base plate and inclined thereon by the set screw at its free side. A scale denotes the angle to which the plate is set.

Claim.—A planer chuck in which the bottom plate A of the vise is hinged at one side to the bottom plate B of the chuck, between two projecting guides K and K, and operated at the other side by an elevating device, consisting of a screw F, and loose nut E, the parts being combined and arranged together substantially in the manner described.

74,983.—Robert Bryson, Schenectady, N. Y.—*Harvester Rake.*—March 3, 1868.—The finger bar and platform, with the rake mechanism attached thereto, are allowed to accommodate themselves to the inequalities of the ground. The square shaft operating the raking and reel mechanism slides freely through the clutch hub, and is connected to the said mechanism through a gimbal joint, which allows the said canting of the platform to take place without influencing the connection. The anti-friction rollers upon the rake and reel arms are set at different distances from the axis, so that by moving the adjustable cam segment out or in, any arm may be allowed to descend, when its rake is put into operation as a rake, whereas it would otherwise act only as a beater.

Claim.—1. The laterally-sliding segment I, applied to the plate or track bed H by means of a slot and guide, or slots and guides, substantially as and for the purpose described.

2. The rod K′ and guide *n* upon the draught frame A, in combination with lever K and sliding segment track I, substantially as and for the purpose described.

3. The combination of the sliding segment I, and its lever and connecting rods for operating it, with the track bed H, fixed cam H^2, and a series of revolving rakes and reels, substantially as described.

4. The combination of a sliding elevating segment track I, with rake and reel arms, which revolve around an axis, and with anti-friction wheels *e e*, applied upon said arms at different distances from their respective axes of motion, substantially as and for the purposes described.

5. A gimbal-jointed rod S, which is allowed to slide freely through the clutch hub *h*, and which carries upon it a sliding clutch *r*, in combination with spur wheels $f^3 f^2$, longitudinal shaft *g*, and spur wheels $f\ f^1$, arranged to operate substantially as described.

6. The sliding rod S and its gimbal or universal joint T^1, in combination with a clutching device *r h*, a rotating bearing *p*, and a driver *h′*, substantially as and for the purpose herein described.

7. The arrangement of the rod K′, and the slide rod S, with its clutch, upon the draught frame of a front-cut machine, and in front of the driver, all in such relation to the driver's seat that the driver can conveniently stop or start the rakes and reels, and also cause any one of them to operate either as a rake or reel at pleasure, substantially as described.

74,984.—Anson Burchard, New Brenton, Ill.—*Double Hoes.*—March 3, 1868.—The hoe handle is sawn diametrically a portion of its length, and the parts are adjustable in distance by a set screw. A section of the bisected hoe is attached to each branch of the fork.

Claim.—1. Making them adjustable, so that the blades may be set near together or further apart, as desired.

2. As a means of adjusting double hoes, a cleft or forked handle provided with a screw or other device, for adjusting the separation, substantially as described.

74,985.—Henry Burrows, Lowell, Mass.—*Apparatus for Dyeing Piece Goods.*—March 3, 1868.—The piece of cloth, its ends being sewed together and rounded in form, is coiled around the rollers in a devious course, so that the whole piece has continu-

ous movement, in which it is alternately carried beneath and raised from the liquid dye. When the cloth has been sufficiently dipped the ends are unsewn, and the forward end is passed between the wringing rollers in a flat form.

Claim.—1. The combination as well as the arrangement of the series of guides I, and either bars or rollers K, with the reservoir, its drum B, and roller H, the whole being to operate together as described, with a piece of cloth applied to them, in manner as set forth.

2. The arrangement and combination of the guide arm L with the system of guides I, bars or rollers K, drum B, roller H, and reservoir A.

3. The combination and arrangement of the pressure roller O and forked arm N, or the same and the post M with the reservoir, its drum, rollers, and guides, arranged as set forth.

4. The combination and arrangement of the roller F with the reservoir A, the drum B, the roller H, and the system of guides I, or I and K, applied to the said reservoir, and arranged with the drum B and roller H, substantially as specified.

74,986.—George E. Burt, Harvard, Mass.—*Mowing Machine.*—March 3, 1868.—The cutter bar is supported on a chain passing over a grooved segment, whose axis is turned by a foot lever to raise or lower the cutter. The cutter is counterbalanced by the seat. The main wheel has no axle, but has two concentric rings connecting by radial arms, and the inner ring running on anti-friction rollers journaled between two loose rings and running upon a circular track rigidly fixed to the frame.

Claim.—1. The seat T, supported by mechanism constructed and arranged in such a manner that the weight of the operator shall act to lift the cutter bar, substantially as described, for the purpose set forth.

2. The foot lever *r*, when constructed with mechanism so arranged that, when operated upon, it shall act, in conjunction with the operator's weight in the seat, to elevate the cutter bar, substantially as described and set forth.

3. The segment *s*, the gear *v*, the lever *r*, in combination with the segment H, and elevating chain *c*, substantially as described for the purpose set forth.

4. The hanging boxes C C, the lever D, and the pivot *d*, in combination with the seat T, constructed and arranged substantially as described for the purpose set forth.

5. The combination of the periphery rolls *f f f*, the rings J J, the revolving rim I, and the stationary hollow ring K, with the frame A, constructed and arranged substantially as described for the purpose set forth.

74,987.—John Henry Butler, Scottsville, Ky.—*Rake.*—March 3, 1868.—The circular rake head has a diametric bar, at whose middle the handle is pivoted. The rim and cross bar have teeth. The head may be allowed to turn upon the staff, or may be rendered rigid by hooks connecting the head and staff.

Claim.—The circular and rotary construction of the machine above described, connected with a handle, as above described, and having teeth inserted in the usual manner in the circular frame, and by means of iron hooks and staples, above described, preventing the rotary motion of the machine, at pleasure, and thereby converting it into a common rake.

74,988.—John Caldwell, Providence, R. I.—*Lantern.*—March 3, 1868.—The guard frame is formed to fit the top of the chimney and the lamp. It is so attached to the latter as to enable the use of a common chimney as a wind guard, and the application of a common flat lamp to out-door uses.

Claim.—The combination of a lantern frame *e e' d*, constructed as described, with a lamp *a* and chimney *c*, in such a manner that the frame may be readily fitted to the lamp, and the chimney will form the glass of the lantern, substantially as set forth.

74,989.—John Cassidy, Montezuma, Iowa.—*Sled Brake.*—March 3, 1868.—The brake is pivoted to the rave, and has two legs which straddle the runner, and are forced into the track by a horizontal lever.

Claim.—1. The double-locking irons B B, bent or otherwise forming one continuous bar, all substantially as shown and described, in combination with a sled or sleigh, for the purpose of retarding the progress of the latter, all as set forth.

2. The lifting bar *e*, substantially as shown and described, in combination with the locking irons B B and lever *b*, all as and for the purpose set forth.

3. The frame *n*, substantially as shown and described, in combination with the roller *i*, locking irons B B, and lifting bar *e*, or the equivalent thereof, all as and for the purpose set forth.

4. The roller *i*, substantially as shown and described, in combination with the locking irons B B and frame *n*, all as and for the purpose set forth.

74,990.—Hugh Cawl, Douglass Corning, and James W. Wheeler, Troy, N. Y.—*Plaiter for Sewing Machines.*—March 3, 1868.—The cloth is laid on the lower plate, and being folded around the edges of the next plates, its edge is brought to the adjustable gauge. In stitching the subsequent plaits, the edge of the upper plate is adjusted in the seam in the fold of the last plait.

Claim.—The plates A, B, and C, and the gauge D, for the purpose of guiding the cloth as it passes through the plaiter and regulating the width of the first plait, in combination with the additional blade or gauge E, substantially in the manner and for the purposes herein described and set forth.

74,991.—William H. Chamberlin, Medina, N. Y.—*Potato Digger.*—March 3, 1868.—The axle, which is fast in the driving wheels, carries a spur-wheel meshing into a pinion on the shaft of the digger. The latter carries spiral series of curved tines, by which the potatoes are thrown out.

Claim.—1. The wheels G, formed with three curved prongs *g'*, and removably arranged upon the shaft F, substantially in the manner herein shown and described and for the purposes set forth.

2. The combination of the pronged wheels G, shaft F, frame B, gear wheels E and D, axle A, drive wheels C, and tongue I, with each other, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the tongue I, seat K, bars L J, lever M, and catch N, with the frame B and axle A, all constructed, arranged, and operating substantially as herein set forth for the purpose specified.

74,992.—Thomas C. Comstock, Harrodsburg, Ky.—*Implement.*—March 3, 1868.—The head of the nail is placed between the serrated beaks. The action of raising the handles brings the "fulcrum nose" to act as a fulcrum. The nail is drawn up through the channel, (by a series of holds, if necessary.) The channel gives means for extraction of the nail without bending and consequent danger of breaking.

Claim.—1. The nail drawer and hammer, constructed as described, its handle B provided with the beak E and fulcrum nose D, forming the wrench W, and also provided with the vertical opening H, for the passage of the nail being drawn, and the handle A, having the sharpened vertical jaw F, all arranged as described, for the purpose specified.

2. The nail drawer and hammer, when provided with the beak D, jaws E F, opening H, hammer C, screw driver G, and tack drawer I, all constructed and arranged as herein shown and described.

74,993.—Isaac Cook, St. Louis, Mo., assignor to himself and Franklin Manufacturing Company, assignors to Isaac Cook and George P. Herthel, Jr.—*Adjustable Seat.*—March 3, 1868.—The ends of the seat have gudgeons which turn in rubber bushings in the frame and allow the seat to be placed in a horizontal or vertical position. Rear projections of the seat engage rubber-faced lugs on the frame, and arrest the seat when being adjusted to either position.

Claim.—The seat board A, in combination with the lever B, the trunnion *m*, supported in a rubber-bushed mortise of the stand C, the shoulder E, its rubber facing *u*, and the cheek stud F with its rubber facing, all acting to produce a noiselessly-moving seat, substantially as set forth.

74,994.—T. J. Cranmer, Vallicita, Cal.—*Self-Loading Battery Gun.*—March 3, 1868.—The cylinder has a series of radial cartridge chambers, only one in each longitudinal row having a nipple, the fire communicating from one chamber to another. The cylinder has intermitting rotation by a ratchet and pawl. Each row of chambers is brought in turn beneath the powder charger, the ball charger, the rammer, and the capper, and when horizontal, (or at any inclination desired,) is brought in conjunction with the barrels, and the cap exploded by the hammer. The operations are all automatically performed by connection to a main crank shaft. The discharge from the ammunition hoppers is regulated by cut-off slides, which, in the case of the powder charger, is adjustable.

Claim.—1. The sash or frame R, provided with lugs for moving the slides S S, and constructed substantially as described, and for the purposes herein set forth.

2. The rock shaft and frame Q, provided with teeth that move the sash or frame R, substantially as and for the purposes herein shown and described.

3. The construction of the lock for firing the volleys, consisting of the sliding bar J and dog L, with the lug *a*, hammer M, and spring F^2, substantially as herein shown and described.

4. The device by which the caps are placed upon the nipples, consisting of a combination of the spring E^2, dog *n*, and lugs, with the sliding bar S, substantially as herein shown and described.

5. The combination of the hopper O^2 with the tubes *p* and plates *t*, lugs *g*, and sash R, operating substantially as and for the purposes herein shown and described.

6. The construction and arrangement of the wall S′ in each powder chamber, adjusted laterally by means of the set screws to regulate the charge of powder, substantially as and for the purpose specified

74,995.—Robert Crawford, Mercer, Pa.—*Churn Dasher.*—March 3, 1868.—Below the concavo-convex winged disk is the air vessel, with an upper and lower opening. The latter opening has a valve closed by impingement against the cream, in the down stroke. The vessel, being raised above the cream, is filled with air, with which the cream mingles on rushing through the hole in the top.

Claim.—1. The air vessel D, of any suitable shape, for the purpose of displacing the cream and permitting the same to pour into the said vessel, thereby commingling with the air in the vessel, substantially as shown and described, and for the purpose specified.

2. The valve *g*, of any suitable form, in combination with an air vessel D, and operating substantially as shown and described, and for the purpose specified.

3. The concave radial wings *a*, in combination with the air vessel D, substantially as and for the purpose shown and described.

74,996.—Charles F. Crehore, Newton Lower Falls, Mass.—*Treating Paper for Various Purposes.*—March 3, 1868.—The paper or millboard is immersed in melted sulphur to give it strength and flexibility, or to confer hardness to enable it to take a finish.

Claim.—The treatment, substantially as before described, of the different fabrication of paper, by combining the same with sulphur, or any combination with or equivalent to sulphur, for the purpose of producing the material or effects before explained.

74,997.—David B. Day, New York, N. Y.—*Floating Thermometer.*—March 3, 1868.—The bulb of the thermometer is in a vertical hole of the float, and its stem lies along the top thereof.

Claim.—1. The float A, bent thermometer tube B, and adjustable ballast weight D, constructed and combined substantially as and for the purpose herein set forth.

2. A thermometer for measuring the temperature of liquids, so constructed as to be suspended therein by means of a float making a part of the instrument, substantially in the manner and for the purpose set forth.

74,998.—John M. Dearborn, Boston, Mass.—*Animal Trap.*—March 3, 1868.—The chambers are above a water receptacle, and have dropping floors whose pendent arms are connected to the posts by springs so as to raise the trap doors after the animal has fallen through. The ends of the chambers are of glass to admit light. Between the chambers is a wire-gauze bait receptacle. The free ends of the trap door are supported by buttons until the rats become accustomed to leaping down upon them for bait.

Claim.—The combination of the side boards or plates F, glass end plates G, covering plates H, gauze or fine grating I, pivoted or hinged drop door or doors B, arms C, coiled springs D, and arms E, with each other and with the cover A, substantially as herein shown and described and for the purpose set forth.

74,999.—Gilliard Dock, Wiconisco, Pa.—*Car Wheel.*—March 3, 1868.—The oil hole passes through a teat projecting into the oil chamber in the hub of the wheel. The device prevents the escape of oil when the hole is downward.

Claim.—The perforated projection *e*, in combination with the recess *a* in the hub A of a car wheel, constructed and operating substantially as and for the purpose herein described.

75,000.—George E. Doniam, East Abington, Mass.—*Dentist's Flask.*—March 3, 1868.—The flask is secured by a spring clamp to insure the closure of the same under changing temperatures.

Claim.—1. In combination with the parts of a dentist's flask, and means for securing said parts together, means for allowing the parts to yield while retaining pressure on the contents of the flask, substantially as described.

2. The clamp, when made so as to yield, and arranged to be used with means for securing together the parts of a dentist's flask.

75,001.—Gardner Drake, Farmington, Me.—*Car Brake Shoe.*—March 3, 1868.—The shoe has studs on its rear side which enter the bar, and has a transverse slot which receives the nut to the attaching bolt. The upper side of the shoe is beveled to cast off snow and mud.

Claim.—1. The combination of the brake shoe A, having the slot *a* and the beveled end C, as herein described, for the purpose specified.

2. The combination of the slotted shoe A with the pins a^1, bolt a^2, and block B, as herein described, for the purpose specified.

75,002.—William Dunn, Argosville, N. Y.—*Strainer for Fluids.*—March 3, 1868.—The strainer has a sieve made in one of its sides, and is clamped by the other side to the edge of the vessel.

Claim.—The arrangement of a strainer within a vessel, such strainer having a wire gauze or sieve in its wall, and attachments for the purpose of connecting it to one side of the vessel, substantially as and for the purpose described.

75,003.—Alfred Duvall, Baltimore, Md.—*Excavating Under Water.*—March 3, 1868; antedated February 28, 1868.—The earth is loosened by a rotary excavator and carried into a vacuum box, from which the finer portions are withdrawn with the water, and the coarser allowed to collect for subsequent discharge. The barge has a valve at the bottom allowing passage to water for adjustment of flotation, which adjusts the apparatus vertically.

Claim.—1. The receiving box C, forming a horizontal portion of the pipe leading from the excavator to the pump, constructed with doors to give access to its interior, and submerged in water, or otherwise made air-tight, substantially as set forth.

2. The combination of the pump A, receiving box C, and screen E, pipe F G, and vertically-working excavator K, substantially as and for the purpose set forth.

3. The combination of the receiving inlet I and excavator K, respectively constructed and arranged to operate substantially as set forth.

4. The combination of the excavator K, vertical shaft J, and stationary cylinder L, with revolving

piston for supporting the shaft, substantially as set forth.

5. The arrangement of the hull of the boat with a partition V, valve T, and pump M, for regulating the depth of the excavator, either when at work or for the purpose of adjustiug the shaft, substantially as set forth.

75,004.—ALFRED DUVALL, Baltimore, Md.—*Excavating Under Water.*—March 3, 1868; antedated February 28, 1868.—The excavator tubes have universal joints which allow their lateral and vertical movements. The earth is loosened by the excavators at the ends of the tubes. The latter discharge into an air-tight receiving chamber from which the water and fine particles are exhausted by a rotary pump; a screw keeping back the coarser portions, which are subsequently discharged through the hatchways.

Claim.—1. The combination of the pump A, receiving box B, valve F, tubes E, and pipes I, the latter two being connected by a universal joint H, substantially as set forth.

2. The combination and arrangement of the stationary tubes E, horizontally and vertically movable pipes I, cord J, aud windlass K, substantially as set forth.

3. The combination and arrangement of the pipes I and E, receiving box B, screen C, pump A, and trough or series of troughs P, substantially as aud for the purpose set forth.

4. The receiving box B, with the adjustable valve F and screen C, and exterual water box D, constructed and arranged substantially as set forth.

75,005.—ANDREW R. EGGLESTON and CHARLES F. SWAIN, Milwaukee, Wis.—*Seeding Machine.*—March 3, 1868.—Improvement on their patent, February 19, 1867. The bottom of the hopper is sloped longitudinally toward the seed wheels, which have a series of peripheral cups to convey the seed to the exit holes. The latter may be adjusted in size or closed. The plows are raised from the ground or adjusted vertically by chains which extend from the draw bars to a windlass which is turned by a rope coiled around it and connected to a lever.

Claim.—1. The combination with the rotating feed cups of the overlapping stationary sockets or shields, substantially as set forth for the purpose described.

2. The combination of the feed cups, the gauge plate, and the shut-off slide, substantially as set forth.

3. The combination of the windlass, the hand lever, and drag bars, with lifting chains, arranged as described, whereby the plows are lifted by the backward movement of the lever, as set forth.

75,006.—JOHN ELIOT, Vermillion, Ill.—*Horse Rake.*—March 3, 1868.—The rake may be used with two horses to draw the hay in considerable quantities to a stack, or to glean grain fields.

Claim.—The hay gatherer, when provided with teeth B, having the rearward extensions to the under side of which and the head A the runners C are secured, as herein shown aud described.

75,007.—BENJAMIN FISH, Mechanicsburg, Pa.—*Tuyere.*—March 3, 1868.—The air chamber has a spring valve which is closed by the pressure of air when the blast is on, but which otherwise springs open to allow passage to a small quantity of air to keep the fire alive.

Claim.—The improved tuyere, herein described, constructed and arranged substantially as set forth.

75,008.—L. H. GANO, Milwaukee, Wis.—*Bag Tie.*—March 3, 1868; antedated October 18, 1867.—The jointed wire frame is placed around the bag mouth, and is secured by the bent lever which is pivoted to the jointed link and passed through the other one. The end of the lever is held by the spurs at the hinge of the jointed link.

Claim.—The lever *a*, provided with its tooth *c*, in combination with the elastic link *b*, the spurs *d d*, and the links *b' b''*, arranged and operating substantially as described.

75,009.—M. D. GROW, Fort Dodge, Iowa.—*Water Wheel.*—March 3, 1868.—The water is received at the periphery of the wheel, flowing beneath an annular gate, which may be vertically adjusted to regulate its passage. The gate is supported on rollers which travel inclines upon the case, and the turning of the gate consequently causes its vertical adjustment. The water flows downward and outward over the spiral buckets.

Claim.—The bell-shaped wheel A, provided with the spiral buckets S L, and having its upper edge and guide band E arranged in relation to the annular chute plates B B', substantially as herein shown and described.

75,010.—FREDERICK HAINSWORTH, Chicago, Ill.—*Apparatus for Ventilating Water Closets.*—March 3, 1868.—The air is received in the fore end of the flaring-ended tube; a valve upon a sliding rod being driven by the wind to stop the rear opening. The air passes down a vertical pipe to an annular space surrounding the cone, and having exit at its lower end makes a downward current through the pipe.

Claim.—A water closet ventilator, consisting of the case D, pipe B G, and valve A, substantially as described.

75,011.—JONATHAN HAINSWORTH, Chicago, Ill.—*Steam Blower.*—March 3, 1868; antedated February 24, 1868.—The fan arms are on a vertical shaft held between top and step centers. The steam enters axially through the step center and passes through the radial arms, which are curved at the ends to give the steam a tangential course and cause the rotation of the fan shaft. The step is inclosed in a chamber.

Claim.—1. The arrangement of the vertical shaft G and steam cup D, as and for the purposes set forth.

2. The arrangement of the vertical hollow center I and shaft G, as and for the purposes specified.

3. The combination of the cup D, steam duct C, and center B, as and for the purposes set forth.

75,012.—GEORGE HART, New Bedford, Mass.—*Traveler for Furling Sails.*—March 3, 1868.—The metallic guide is attached to the upper side of the yard, and has a circular groove to receive the cylindrical part of the "traveler," and a flat-sided slot connecting this rounded groove with the outside, and giving place for movement of the web of the traveler. The web and cylindrical part have antifriction rollers.

Claim.—A traveler, with friction rolls, running in a guide, for hauling in and out square sails, as herein set forth and described.

75,013.—ANDREW HARTMAN, Canton, Ohio.—*Railroad Gate.*—March 3, 1868; antedated February 22, 1868.—The gates are laid down flat by the flange of the locomotive wheel, and caught in that position until relieved by a lever on the rear car.

Claim.—1. The combination of the rods F, H, J, box G, spring *q*, slide I, and nut *w*, the several parts being arranged in the manner and for the purpose herein specified.

2. The combination of the lever A, and the springs *d* and *x*, the several parts being arranged as and for the purpose herein set forth.

3. The combination of the gates *o o'*, rods K and *l*, arms *i i k*, spring *s*, and box *m*, the several parts being arranged in the manner and for the purpose specified.

4. The peculiar arrangement of the irons *t t'*, levers *r r'*, catches L L', slotted irons *v v'*, rods *u u'*, and stops *h h'*, the several parts being used as and for the purpose herein specified.

5. The peculiar arrangement and combination of the gates, levers, rock shafts, rods, springs, boxes, slides, catches, and slotted irons, as herein shown, the whole forming a self-operating apparatus, in the manner and for the purpose herein specified.

75,014.—GIBBONS G. HICKMAN, Coatesville, Pa.—*Bottle.*—March 3, 1868.—The oblique tube is formed when the glass is in a plastic state, and extends so near the bottom of the bottle that the liquid has not space to gain sufficient momentum to carry it through the orifice. A small splint may be introduced through the tube and a portion of the contents abstracted. The device may be used for an inkstand.

Claim.—The conical tube D, projecting obliquely downward and inward from the side of the bottle A, to a point very near the bottom thereof, as and for the purposes shown and described.

75,015.—Charles W. Holbrook, New York, N. Y., assignor to himself, William Boardman, and Charles G. Bayler, same place.—*Hydraulic Press.*—March 3, 1868.—The ram acts through toggle arms upon the lifting rods, which are secured to the corners of the lower and moving platen.

Claim.—The combination and arrangement of the movable platen C C, rods K K K K, toggle-joints H H H, and arms E E E, with the central cylinder motor, all substantially as described.

75,016.—George Holman, Waterville, N. Y.—*Revolving Fire-arm.*—March 3, 1868.—The cylinder has alternate rifled and smooth bores, and is made sufficiently long for the due effect of the powder on the projectile. The barrel is so large that the bullet and the small shot are allowed to spread. The rod, on which the cylinder turns, fits in gudgeons screwed into the ends of the cylinder.

Claim.—1. The plugs E E′ in the ends of the central hole *a* of cylinder D, in combination with the rod F, on which said cylinder is fitted, all arranged substantially as and for the purpose set forth.

2. The providing of the cylinder D with alternate rifled and smooth bores *c f*, smaller in diameter than the bore of barrel C, substantially as and for the purpose specified.

3. The attaching of the spring I, which operates the stop lever J, to the front side of the hammer H, for the purpose of insuring strength and durability.

75,017.—Lewis Horton and Josiah A. McGaw, Manchester, N. H.—*Trunk Caster.*—March 3, 1868.—The roller is journaled to a plate which is pivoted to a plate secured to the trunk bottom.

Claim.—The trunk caster, consisting of the plate *a*, to which the plate *b* is hung by the pin *c*, said plate bearing between the two arms *e* the corrugated roller *d*, all constructed as described, whereby the plate *a* is secured in place without the pin *c* entering the bottom of the trunk, and the plate *b* allowed to revolve in contact with the plate *a* without leverage, as herein shown and described.

75,018.—Edward Howard, Boston, Mass.—*Dust Ring for Watches.*—March 3, 1868.—The dust ring has a snap edge all around, which engages a corresponding beveled portion of the dial plate.

Claim.—The method of attaching the dust ring *a* to the lower or dial plate of a watch-movement, by means of a bevel or snap edge on said plate, engaging with a corresponding edge in the dust ring, substantially as and for the purpose set forth.

75,019.—William O. Howard, New York, N. Y.—*Shot Cartridge.*—March 3, 1868; antedated February 22, 1868.—A fibrous, elastic tube is tied at one end, and prepared with stearine or similar substance, applied hot in a former; the small shot being inserted, the other end is tied. For breech loaders, the cartridge is inserted into a copper capsule charged with powder and fulminate, in any usual manner.

Claim.—The combination, with the fibrous, elastic covering A and shot B, of a coating of adamantine, stearine, or equivalent substance, substantially as and for the purpose specified.

75,020.—Charles Hurst, New York, N. Y.—*Car Replacer.*—March 3, 1868.—A jacking frame is attached to each end of the car, and has an axle and two flanged wheels, which have transverse movement by a screw, and vertical movement by racks and spur wheels.

Claim.—The sliding axles D D′, ratchet bars F, axle H, having pinions *c*, screw-shaft I, arms *f h*, and nuts *g*, in combination with the flanged wheels E E′ and car A, whereby a vertical and lateral adjustment of the flanged wheels E E′ is obtained, substantially as herein shown and described, for the purpose specified.

75,021.—Charles B. Hutchinson, Auburn, N. Y.—*Machine for Jointing Staves.*—March 3, 1868.—The stave is clamped upon the curve-topped carriage, and is passed between the saws, which are carried upon inclined adjustable arbors.

Claim.—1. The combination of the right and left hand screw G, pivoted nuts L L, and pivoted side pieces E E, carrying saw arbors and saws, all constructed and arranged to operate to adjust the saws to different width of staves, substantially as described, and for the purposes set forth.

2. The combination of clamping levers C *c* with the carriage B, when constructed and operating substantially as described.

75,022.—Nicholas Jenkins, New York, N. Y., assignor to himself, George Brown, and Charles F. Bliss, same place.—*Slide for Extension Tables.*—March 3, 1868.—The slides have dish-formed plates on the ends of studs, which are attached to one slide and traverse a groove in the slide adjoining. These disks take the place of the usual rectangular plates, the corners of which, when loose, plow into the edges of their guiding groove. The slides have stop pins, which strike the usual stop block when the slide is sufficiently closed.

Claim.—1. The circular form of the metal plate M, when arranged relatively to the slides A, B, &c., and to the concentric fastening which secures it, substantially in the manner and for the purpose herein set forth.

2. The stop N, centrally arranged relatively to the slides A, B, &c., with the blocks G receiving the same, substantially in the manner and for the purpose herein set forth.

75,023.—John Thomas Jones, New York, N. Y., assignor to the Singer Manufacturing Company, same place.—*Friction Driver.*—March 3, 1868.—The friction clamp embraces the hub of the feed wheel, and has two levers, each of which has a pawl which pinches the wheel to cause its intermitting rotation. The respective pawls cause rotation in contrary directions. The levers extend radially from the clamp, and have radial slots meeting at their open ends, and receiving a pin by whose reciprocation a like movement is communicated to the lever whose slot it occupies. An adjustable brake rests against the portion of the circumference of the hub not covered by the clamp, and prevents the back movement.

Claim.—1. The combination of the hub, friction clamp, two rocking cams, and two operating levers, arranged at the same side of the hub, substantially as before set forth.

2. The combination of the hub, friction clamp, two rocking cams, operating levers, and reciprocating driver, substantially as before set forth.

3. The combination of the hub, friction clamp, two rocking cams, operating levers, reciprocating driver, transferrer, and gauge, substantially as before set forth.

4. The combination of the hub, rocking cam, lever, reciprocating driver, transferrer, gauge, and holding mechanism, substantially as before set forth.

75,024.—John Thomas Jones, New York, N. Y., assignor to the Singer Manufacturing Company, same place.—*Friction Driver.*—March 3, 1868.—The motion of a reciprocating shaft is made to cause the intermitting rotation of the feed wheel. The said shaft carries one or more split rings, each of which is associated with two lever-operated cams, by which the ring is adjusted to cause the said movement of the feed wheel in either direction.

Claim.—1. The combination of the hub, split ring, and cam, substantially as before set forth.

2. The combination of the hub, split ring, cam, and operating lever, substantially as before set forth.

3. The combination of the hub with two sets of split rings and cams, substantially as before set forth.

75,025.—William Johnston, Appleton, Wis.—*Bedstead Fastening.*—March 3, 1868.—The rail catches are upon two rings cast together, and engage the said inclines of the segmental pieces let into the post.

Claim.—The part D, when made in two sections of segmental form, secured together by the single

pin P, in combination with the rings R R, joined together and cast in one piece, and bearing upon one side the necks *s s*, and catches *k*, as herein described for the purpose specified.

75,026.—George P. Kimball, San Francisco, Cal.—*Construction of Vehicles.*—March 3, 1868.—The ends of the perch are turned up to form the jacks which are strengthened by overlying bars and other bars which connect their ends to the perch. The plate on top of the head block and the bar under the axle are connected by vertical bolts to act as a safety attachment on fracture of the kingbolt. The strengthening bars of the jacks are attached to adjusting screw bolts passing through the head block and receiving a nut.

Claim.—1. The combination of the perch A and jack P with the bars J J and H H, substantially as described and for the purposes set forth.

2. The combination of the bar D, plate O, bolts I I, braces G, and perch A, substantially as described and for the purposes set forth.

3. The combination of the screw plate C and nuts C with eye-bolt S, substantially as described and for the purposes set forth.

75,027.—Almas A. Knowlton, St. Albans, Vt.—*Mold for Artificial Teeth.*—March 3, 1868.—The matrix for the front of the teeth is in the front part of the mold. The back part is divided into two sections having respectively the matrices for the top and back of the teeth. The latter section carries the screws whose points form the screw-threaded attachment sockets.

Claim.—1. Forming the back part of the mold in two pieces, B and C, the division line being located substantially as herein shown and described, and for the purpose set forth.

2. The combination of the screws *h* with the back part C of the mold, substantially as herein shown and described, and for the purposes set forth.

3. Forming the holes for the platina pins in plain incisors and canines in the beveled edge of the part C, and at an angle of twenty degrees or thirty degrees with the plane of the position of said teeth when in the mouth, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the screws *d* with the parts B, C, and A, of the mold, substantially as herein shown and described, and for the purpose set forth.

5. The combination of the pins *f* with the parts B and C of the mold, substantially as herein shown and described, and for the purpose set forth.

75,028.—Samuel Lewis, Brooklyn, N. Y.—*Snow Clearer.*—March 3, 1868.—The knife is attached to the tilting box which is raised up at the rear end to discharge the load. The tilting of the box is effected by a chain connected to its top, and coiled around the barrel of a windlass.

Claim.—The combination of the tilting rear box 6, frame 1, 2, brace 8, windlass 17, and lever 13, all arranged and operating substantially as described for the purpose specified.

75,029.—Samuel Lewis, Brooklyn, N. Y.—*Ice Planing Machine.*—March 3, 1868.—The horizontal knife is placed with its flat side down, and is connected by braces to the rear cross-beam; it is connected by adjusting screw rods to the central cross-beam. The machine is mounted on runners, one of which runs on the made surface, and is so much lower than the other as to bring the machine level. An adjustable, vertical cutter forms the side of the furrow slice. The fore end of the machine is raised by the curved elevator bars which are pivoted to the frame, and drawn backward by the chains and windlass.

Claim.—1. The adjustable knife 7, in combination with a frame mounted on runners 20 20, and all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

2. The manner of attaching and bracing the knife 1 of an ice planer with its flat side downward, by the bolts 2 2, braces 3 3, taper washers 5 5, and nuts 4 4, substantially as described, and with the objects specified.

3. The slots *b b* in the knife 1, when in combination with bolts 2 2, braces 3 3, washers 5 5, and nuts 4 4, for the purpose explained.

4. The vertical cutters 9 9, formed, attached, and operating as described, and combined with the knife 1, and its attachments, as shown.

5. The runners 11 11*, when made reversible and adjustable as described, by means substantially as shown, and combined with an adjustable knife and vertical cutters, all as specified and explained.

6. The brake or elevator 16, in combination with the chain 17 and windlass 14, applied and arranged to operate in the manner substantially as and for the purpose specified.

75,030.—H. W. Libbey, Cleveland, Ohio.—*Bosom Pad.*—March 3, 1868.—An outer cover of flexible rubber cloth has a central projection perforated by a valve opening, into which air is blown to expand the cover. The inner side of the rigid plate has a lining of silk stretched from its edge.

Claim.—1. A breast form or pad, having a rigid base A, and a flexible rubber front, provided with a valve at the nipple, and padded or stuffed, substantially as herein described.

2. The valve *c*, as arranged, in combination with the elastic covering C and nipple F, for the purpose and in the manner substantially as set forth.

75,031.—H. W. Libbey, Cleveland, Ohio.—*Bosom Pad.*—March 3, 1868.—A central, rigid, dished plate has a flexible cover stretched over its convex side, and a silk lining over its concave side. The cover is inflated by air, introduced at a valve-covered opening.

Claim.—1. The diaphram A, membrane B, and elastic covering C, combined and arranged substantially as specified.

2. The nipple D and valve E, combined and arranged substantially as and for the purpose specified.

75,032.—Samuel E. Lockwood, Westbury, N. Y.—*Compound Punching and Upsetting Apparatus.*—March 3, 1868.—The tire is clamped between the serrated surfaces of the cams and abutments, and the moving frame is driven toward the fixed one by a cam and connecting rod, operated by a lever. The punch is operated by the same cam as the upsetting mechanism.

Claim.—The improved machine herein described, consisting of the stationary head block C, sliding head block D, connecting rod F, eccentric E, upon shaft G, eccentric disk H, with its lever I, stationary blocks J, and sliding block J′, having serrated projections *i i′*, toothed eccentric wheels *k*, and punch *n*, die block O, and openings *r* S, all constructed and arranged as described, for the purposes specified.

75,033.—J. A. J. Logan, Moline, Ill.—*Reflector.*—March 3, 1868.—The shank is formed of a projecting tongue of the reflector plate which has a double bend, so as to stand backward from the face of the reflector, but in a parallel plane.

Claim.—As an improved article of manufacture, the concave metallic reflector A, made in one piece, with its shank C, when said shank is formed with a shoulder B, arranged as described.

75,034.—Henry O. Lothrop, Milford, Mass.—*Steam Engine Cut-Off.*—March 3, 1868.—The auxiliary valves are one at each end of the primary valve, and operate in connection with ports in the ends of the primary valve, the auxiliary valves being operated by cams rotating within the steam chest. The cams have a lateral motion by a sliding rod which extends into the cam shaft, and is actuated by the regulator.

Claim.—The improved "cut-off" regulating mechanism, herein described, consisting of the auxiliary valves K L, operated by the cams *c* and *d*, applied to the shaft *c* and slides *i*, the whole operating in combination with the main valve D and cylinder ports B and C, to produce the results before set forth, and explained.

75,035.—Virgil H. Lyon, Plainfield, Ind.—*Fruit Gatherer.*—March 3, 1868.—The frame of the picker is attached to the top of the rod which is made in sections. The upper end of each section enters a socket formed by a ferrule on the lower end.

of the section above it, and has a cross-headed pin which passes into a smaller socket extending from the larger one. The head of the pin traverses the slot of a transverse plate in the inner socket and is secured by a turn of 90°.

Claim.—1. The head A, fingers C C C C, B B B B, in combination with sack S, when formed, constructed, and arranged in the manner herein described, and for the purpose set forth.

2. The sectional rod D, in combination with head A, when constructed and arranged substantially in the manner as herein shown, and for the purpose set forth.

75,036.—CHARLES MANHEIN, New York, N. Y., assignor to E. L. PERRY, same place.—*Catamenial Sack.*—March 3, 1868.—The sack is formed of material which is impervious to liquid and contains an absorbing substance, as sponge.

Claim.—The catamenial sack, constructed as described, from one piece, in such a manner that the bags B C D are only formed when the sack is partially folded, as herein shown and described.

75,037.—CHARLES G. MATCHETT, Greenville, Ohio.—*Window Shade.*—March 3, 1868.—The upper roller is supported by the bands which are attached to the top of the frame and coiled around the ends of the roller; the weight of the shade tends to prevent the downward rotation of the roller by being coiled in a contrary direction to the supporting bands. The upper roller has a band coiled around its middle over the shade, and passing beneath a gravitating clutch on the frame top. The lower roller is supported by two cords attached to the frame top, passing beneath the roller, and through eyes near the place of beginning, and from thence to the connecting tassel. The shade may be adjusted at each end so as to cover any portion of the window.

Claim.—1. The arrangement of gravitating catch H with the riband F, upper roller B, and bands C C′, for the purpose set forth.

2. The arrangement of cord I, tassel J, and lower roller E, for the purpose set forth.

3. The combination of the two rollers B E, bands C C′ F, catch H, and cord I, substantially as and for the purposes set forth.

75,038.—DAVID C. MAYO, Richmond, Va.—*Press for Packing Shred Tobacco.*—March 3, 1868.—The required quantity of tobacco is placed in the flattened, metallic tube. The tube and bag are placed beneath the press and the tobacco is forced by the plunger from the former into the latter.

Claim.—The combination of the lever and counterpoise *d*, and connecting rods b^1 b^2, and slides B B, cross-head E, plungers *e e*, with filling tubes *f f*, all arranged substantially as herein described.

75,039.—DAVID NEILSON MELVIN, Buffalo, N. Y.—*Furnace for Generating Steam.*—March 3, 1868.—The conical tubes have their smaller ends downward and receive the water at that end, having separate connection at their upper ends with the steam drum. The combustion chamber is over the arch placed above the center of the furnace. The caloric current passes through the side openings from the combustion chamber and enters the chamber containing the steam-generating tubes. It has a downward course therein, and exit through side flues regulated by dampers.

Claim.—1. Constructing a steam boiler of one or more inverted conical water tubes B, each separate and independent of the others, substantially as set forth.

2. The mode of sustaining the said tubes B in the metallic plates E E, as herein described, to allow of their expansion and contraction.

3. Constructing furnaces having inclined grates, with a bridge or partial diaphragm K, at the center, for dividing the draught, in combination with the combustion chamber D, and side escape flues *p p*, substantially as and for the purpose set forth.

4. The door *f*, provided with arm *h* and weight *g*, and hinged so as to be self-operating and self-sustaining, substantially as specified.

5. The arrangement of the tubes B, heating chambers C, and flues *p p*, whereby the heat through the latter comes first in contact with the enlarged upper surfaces of the tubes, and is thence retarded as it descends, substantially in the manner and for the purpose set forth.

6. The series of dampers *q q* in flue G, in combination with the tubes B, heating chamber C, apertures *p*, and furnace D, provided with a bridge K, arranged as described, for regulating and equalizing the draught among the said tubes, as specified.

75,040.—WILLIAM MILLIKEN, Cambridge, Mass.—*Combined Book Cover and Stand.*—March 3, 1868.—The file covers are secured to an adjustable stand which supports the same in an inclined position.

Claim.—1. The combination of the covers A A and the adjustable frame or stand B B, substantially as and for the purpose set forth.

2. The adjustable bars or supports E E, in combination with the adjustable frame B B and covers A A, substantially as and for the purpose set forth.

75,041.—B. F. MOHR, Mifflinburg, Pa.—*Machine for Boring Posts.*—March 3, 1868.—The post is clamped to a longitudinally sliding carriage upon a transversely sliding frame, which is operated by treadles to give the feed motion to and from the auger.

Claim.—The combination of the levers H, J, and K, and M, with the pin I, notch *h*, and notches on the bar L of carriage E, or its equivalent, all constructed and operating in manner substantially as above set forth and described.

75,042.—HALSEY MOORE, Bangall, N. Y., assignor to himself and AARON W. KNAPP, same place.—*Air Condensing Apparatus.*—March 3, 1868.—The air pumps are operated by weights suspended on cords coiled upon drums. The motion is communicated through a system of levers.

Claim.—1. The rock shaft D, with which the piston-rods of the air pumps or condensers A are connected, operated by means of the sliding weights G and H, moving back and forth upon the slotted arms F, attached to said shaft D, substantially as herein shown and described, and for the purpose set forth.

2. The weights G and H, moved back and forth upon the slotted arms F, from the working-beam P, by means of the connecting rods I, levers J, connection rods L, bent or elbow levers M, and connecting rods O, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the toothed segment R, toothed segment S, working-beam T, connecting rods U, crank V, and shaft W with each other and with the working-beam P, to impart motion to said beam, substantially as herein shown and described.

75,043.—DUNCAN MORRISON, Portland, Me.—*Coal Sifter.*—March 3, 1868.—The box contains two compartments in which the hods are placed, which receive respectively the ashes and cinders, separated by the inclined reciprocating sieve.

Claim.—The arrangement of the several devices hereinbefore described, in the manner set forth, and for the purposes specified.

75,044.—ROBERT MORTON, Stockton-on-Tees, England.—*Liquid Cooler.*—March 3, 1868.—The pipes are laid in horizontal and parallel position in a tank through which the wort is passed. The pipes are formed each from three or more tubes, the middle one of which is made square and the outside ones flat on the inner side. The three are brazed together, making a compound pipe of flattened, oblong section. The bottoms of alternate pipes are connected by plates which allow a passage for liquid beneath the pipe inclosed between the connected pipes. These intermediate pipes have upward ribs which cause the liquid to take a course beneath and above each alternate pipe respectively. The pipes are connected at each end alternately.

Claim.—1. The arrangement of a series of flat tubes A, which are alternately provided with longitudinal ribs *c*, and connected by corrugated strips *d*, substantially as and for the purpose set forth.

2. The caps C, in combination with the tubes A, ribs *c*, and connecting strips *d*, constructed and operating substantially as and for the purposes described.

75,045.—Joseph Nason, New York, N. Y.—*Coffee Pot.*—March 3, 1868.—A cock at the upper part of the lower chamber allows the air to escape and permits the introduction of the water. In use, after the coffee and water are placed in the upper and lower chambers respectively and the pot placed over the lamp, the formation of steam in the lower chamber forces the water through the connecting pipe into the upper chamber. The water is drawn downward through the coffee by the condensation of the steam when the pot is removed from the lamp.

Claim.—The employment of two cocks, communicating respectively with the upper and lower parts of the chamber of a duplex coffee urn, the several parts being constructed and arranged for joint operation, substantially as and for the purposes herein set forth.

75,046.—Benjamin Nott, Albany, N. Y.—*Cooking Stove and Range.*—March 3, 1868.—The base-burning grate is fed from a cylindrical, covered tube which slides in a suitable vertical tube fixed at the back part of the top plate. The radiating heat from the fire may be used by a reflector oven attached before it.

Claim.—1. A base-burning stove so arranged and constructed as to admit the feeding and burning of the coal at the rear of the fire-pot, in combination with lateral flues, surrounding ovens at the sides thereof, for the purpose of making radiating fire surface at the front, or at C, for cooking purposes, in addition to the baking in the ovens, substantially as described.

2. In combination with a base-burning stove constructed as described, the auxiliary supply openings, for the introduction of lighter fuels, substantially as and for the purpose described.

75,047.—George F. Perkins, New York, N. Y.—*Collar and Neck Tie Combined.*—March 3, 1868.—The imitation cravat is upon the collar and folded so as to hide the button.

Claim.—The reversible paper cravat B, on the lower edge of one end of the collar, and cut in one and the same piece with the latter, adapted to be folded into said collar above the line *a*, and its free end inserted in the opposite end of the collar, as herein shown and described.

75,048.—Charles Perley, New York, N. Y.—*Shoe.*—March 3, 1868.—The gaiter is laced at the heel, and the tongue padded to fit the depressions above the heel.

Claim.—1. The padding applied at *f*, within the rear portion of the shoe, for the purposes and substantially as specified.

2. The tongue *d*, stiffened with a padding, that also equalizes the pressure of the lacing on the foot, substantially as set forth.

3. The buttons or fastenings along the tongue *d*, between the flaps *g g*, to hold said tongue properly in place as specified.

75,049.—Hypolite Pernot, New York, N. Y.—*Billiard Cue Trimmer.*—March 3, 1868.—The rough-faced, circular rasp-plates of various concavity are associated in one handle so as to enable the facing of different cues with the same instrument.

Claim.—1. A billiard cue trimmer A, consisting of a roughened or toothed concave or flat plate, substantially as herein shown and described.

2. A billiard cue trimmer, consisting of two or more roughened plates A′ A′, fitted into one handle B′, substantially as described, so that different kinds of cues may be trimmed by the same implement, as set forth.

75,050.—C. E. Pierce, St. Charles, Ill.—*Tire Heater.*—March 3, 1868.—The tires are turned upon rollers within the annular case above the fire.

Claim.—1. Placing the tire box B upon the forge A, and making it an integral part of the forge and chimney, substantially as herein shown and described and for the purpose set forth.

2. The arrangement of the shifting rollers C E in the annular tire box B, whereby the smaller tire is hung upon the roller C in the upper part of the flue, and the larger tire rests upon and is operated by the roller E in the lower part of the flue, as herein described for the purpose specified.

3. The combination of the apron H with the lower part of the door G or tire box B, substantially as herein shown and described, and for the purpose set forth.

75,051.—Elijah S. Pierce, Hartford, Conn.—*Connecting Rod.*—March 3, 1868.—The attachment at one end of the connecting rod is to a sliding collar resting against a spiral spring sufficiently strong to insure the necessary movement, but giving away if the motion of the motor exceeds that of the other crank or arm.

Claim.—1. An improved connecting rod, constructed and operating substantially as herein set forth.

2. The combination of the devices C, F, G, and S, or their equivalent, substantially as specified.

75,052.—Benjamin Pine, New York, N. Y., assignor to Charles E. Hartshorn, same place.—*Extension Ladder.*—March 3, 1868.—The sections of the ladder slide upon each other, and the upper one is extended by chains which pass around rollers and are wound upon a windlass journaled to the lower section.

Claim.—An extension ladder composed of two parts A B, fitted together, and connected by endless chains C C, all arranged to operate substantially in the manner as shown and described.

75,053.—Joseph L. Reilly, Chester, Pa.—*Furnace Door Latch.*—March 3, 1868.—The latch is pivoted at distance from the rear end, and that end enters a notch in a lug beneath the upper hinge whether the door be opened or closed.

Claim.—1. Providing a furnace door with a latch B, which can be locked into a catch D, for the purpose of holding the door open, substantially as herein shown and described.

2. The bolt B of a furnace door, when arranged as described, so that it serves to hold the door open and to keep it closed, substantially in the manner herein set forth.

75,054.—E. S. Rice, Paw Paw, Mich.—*Plow Wheel.*—March 3, 1868.—The axle enters a close socket in the wheel, and the hub has a circumferential collar upon its inner edge, which is covered by the removable collar upon the standard. The latter collar serves to retain the wheel and to keep dirt from the journal.

Claim.—The combination of a removable collar C with the wheel D, axle B, and standard A, said collar being removably attached to the said standard, and passing around a flange formed upon the hub or axle of the wheel, substantially as herein shown and described, and for the purpose set forth.

75,055.—Silas O. Rogers, Jr., Stanfordville, N. Y.—*Car Coupling.*—March 3, 1868.—The entering link tilts back the pivoted hook block, which engages the link and is held by the spring bolt. The bolt may be drawn back by the lever to release the hook block and uncouple the car.

Claim.—The tumbler C, constructed substantially in the form and manner herein shown and described, the slide bar E, coiled spring F, or equivalent, and lever G, in combination with each other and with the bumper head B, substantially as and for the purpose herein set forth and described.

75,056.—Norman Rose and E. W. Wright, Milford, N. Y.—*Water Wheel.*—March 3, 1868.—The water is received at the periphery of the central part of the wheel, and passes upward and downward, and then outward, between curved buckets, which are simultaneously adjustable, to act to best advantage for the amount of water at command.

Claim.—The buckets *e* at the central or main part of the wheel D, in combination with the adjustable buckets *f f* at the top and bottom of the same, substantially as and for the purpose specified.

75,057.—Sylvanus Sawyer, Fitchburg, Mass.—*Steam Generator.*—March 3, 1868.—The water-jacketed, detached fire box communicates with the

boiler proper through steam and water pipes, and the fire box is so situated that the water fills all the part immediately exposed to the fire. The fire box has steam drums communicating with the steam space in the boiler.

Claim.—The combination of the detached fire box, the steam drums or chambers, and the main boiler, arranged substantially as described.

75,058.—MICHAEL SCHALL, New York, N. Y.—*Composition for Forming Casts and Fancy Articles.*—March 3, 1868.—Stearine is melted at a low temperature, and thereinto is stirred about half the quantity of "Krem's white;" more stearine is then added, to enable it to be cast into smooth articles. It is then cast in molds.

Claim.—A composition formed of the ingredients herein named, for the purposes described.

75,059.—WILLIAM SELLERS, Philadelphia, Pa.—*Injector for Feeding Boilers.*—March 3, 1868.—Improvement on his patent, August 15, 1865. One object is to enable a small quantity of water to be thrown. The plug is made longer than customary, and a hole is drilled from its fore end which extends far enough to communicate by a cross hole with the steam space in the nozzle after the plug has closed the tapered end of the nozzle. The exterior of the discharging tube is cylindrical, and supported in the brass bushing which is screwed into a plate cast with the outer shell. The bushing is sufficiently long to prevent the escape of water in important quantity between it and the discharging tube, which fits so as to slide freely therein. The combining tube is prevented from moving so far toward the nozzle as to close the water opening, by the impingement of the piston against a small flange in the upper case, before the surfaces come in contact. In starting the injector the water is discharged through a valve and escape opening until the quantity is increased so as to produce a pressure in the chamber greater than that in the boiler. This will open the main check and permit the valve to close, forcing all the water into the boiler.

Claim.—1. The hole *c* in the end of the plug, which plug regulates the discharge of steam in the injector, substantially as herein set forth.

2. The flange *d d*, substantially as set forth.

3. The discharging tube K, constructed substantially as described.

4. The arrangement of the waste orifice W, substantially as specified.

75,060.—THOMAS SHAW, Philadelphia, Pa.—*Lathe Tool.*—March 3, 1868.—The cutter is dovetailed into the end of the holder and secured by a wedge.

Claim.—The combination of holder *a* with cutter bit *b* and wedge *c*, in the manner and for the purpose described.

75,061.—JACOB A. SHERMAN, New York, N. Y.—*Truss.*—March 3, 1868; antedated February 20, 1868.—The pad is carried at one end of a spring, which is movable upon extensible bars passing around the body. The latter bars are connected at their fore ends by an adjustable hinge and by loops and a wedge, by which the pressure of the spring is adjusted.

Claim.—1. Uniting the bars *a a* by a hinge, in combination with an adjustment applied between the lapping ends of such bars, substantially as and for the purposes specified.

2. Applying the spring that carries the hernial pad between the bar *a* and the person, and fitting the same to slide at one end on the said bar *a*, substantially as set forth.

3. The plates *m* and *n*, attached together by a screw and united at the end of the plate *m*, by a hinge, to the truss pad, and at the end of the plate *n* to the spring *l*, so as to regulate the position of the hernial pad, as specified.

4. The screw *t*, in combination with the pad plate *o* and plates *m* and *n*, as and for the purposes specified.

75,062.—JACOB SILBERMANN and GUSTAV UNGER, New York, N. Y., assignors to themselves and JACOB HEINEMANN, same place.—*Loom.*—March 3, 1868.—The reed has diverging plates set so as to be raised or lowered in respect to the fabric, in combination with mechanism that raises and lowers the reed in the lay as the weaving progresses, and also causes the diverging reed to occupy the proper position in respect to the diverging warps passing from the heddles to the fabric, so that there will not be undue strain on the said warps.

Claim.—1. A reed, supported in slides in the lay, in combination with mechanism, substantially as described, that gives an end movement to said reed each reciprocation of the lay, in order that the wider portion of the diverging reed may come into the warps where they stand wider apart near the heddles, for the purposes and as set forth.

2. The cam *q*, lever *p*, link *n*, and shaft *l*, or its equivalent, in combination with the lay and diverging reed, fitted to slide in the lay, and operate in the manner and for the purposes set forth.

75,063.—ANTHONY W. SILVIS, Birmingham, Iowa, assignor to himself and SAMUEL B. SHOTT, same place.—*Hand Spinning Machine.*—March 3, 1868.—The spool carries the roping for a series of spindles, and is mounted on a carriage which reciprocates to and from the spindles. The spool has free rotation during a portion of its movement to allow sufficient roping to run off for one draw. The motions are automatic, being actuated from a main shaft turned by a winch.

Claim.—1. The carriage C, in combination with the feed roll D, guide rail F, spool E, catch *g*, and pin *t'*, all operating as described, whereby, as the catch *g* strikes the pin *t'*, the feed roll D is dropped upon the wheel *a* of the carriage, and the guide rail F releases the roping to be fed to the spindles, as herein shown and described.

2. The combination of the carriage C, having the operating mechanism, the cord *m*, the sheave *n*, rods *s*, shaft *f*, clutch pulley *p*, levers *r r'*, and finger *q'*, as herein described, for the purpose specified.

3. The slide *y*, connected with the drop *z*, and operated by the carriage C, as and for the purpose specified.

75,064.—RUSSELL J. SKINNER, Chicago, Ill., assignor to J. W. SCOTT & Co., same place.—*Chandelier.*—March 3, 1868.—Improvement on his patent of May 14, 1867. The extension rod in that patent is replaced by a hollow or solid rod, which is plain or grooved, and combined with an India-rubber strap or hose, in such manner that when the chandelier is brought down the elastic strap supports it by its elasticity. A friction collar is adjusted by a set screw.

Claim.—The hollow or solid extension rod H and the India-rubber or other elastic strap, straps, or hose, G, placed inside or outside of the said rod H, both combined, arranged, and operating substantially as herein described and specified, to be used for raising and lowering chandeliers, substantially as herein set forth.

75,065.—THOMAS W. SHADE, Manchester, Mass.—*Funnel.*—March 3, 1868.—The funnel is furnished with a series of detachable ajutages to suit various-sized bung holes. The cross-bar near its top gives rest to the discharging vessel.

Claim.—1. The tunnel, as made, with the body and ajutage in separate parts, and provided with a bayonet connection to hold them in connection, as set forth.

2. The arrangement and combination of the cross-bar or rest P with a liquor tunnel composed of a conical mouth piece and an ajutage or discharge nozzle.

75,066.—HAMILTON E. SMITH, New York, N. Y.—*Clothes Wringer.*—March 3, 1868.—The upper roller is driven by the lower one through the intervention of wheels connected by bent and straight links so that the springing apart of the rollers shall not affect the meshing of the teeth.

Claim.—The spring posts A A', when provided with the adjusting screws *g g'* in their legs *e e'*, combined with the rollers B B' and the compensating gearing connecting them, arranged and operating substantially as and for the purpose herein described.

75,067.—ALFRED STARR, New York, N. Y., assignor to WILLIAM M. WILLING, same place.—*Composition for Artificial Ivory.*—March 3, 1868; antedated February 24, 1868.—Composed of shellac, 8 lbs.; asbestos, 7 lbs.; kaolin, 2½ lbs., and camphor, ½ lb., with addition of coloring matter. The materials are heated to 240° or 280° Fahr., thoroughly ground between rollers, and shaped between dies.

Claim.—The composition, made substantially as set forth, for forming an artificial ivory, as specified.

75,068.—CHARLES STEINBACH, Lima, Mich.—*Punching Machine.*—March 3, 1868.—The punch is attached to the cross-bar of a sash frame which reciprocates in an adjustable frame by the action of a crank. The strip of leather is confined between the parallel guide bars, which are adjustable in distance by a set screw.

Claim.—1. A punch moved by a crank, which may be set at any desired angle, as herein specified and for the purposes set forth.

2. The adjustable parallel rulers, substantially as herein specified.

75,069.—GEORGE STEINEGGER, Highland, Ill.—*Gang Plow.*—March 3, 1868.—The plow beams are hinged to the axle and are connected by links to the elevating levers, by which they may be raised in or from the ground, more or less.

Claim.—The swinging beams B B′, when lifted by the lever *b* and link *h*, substantially as shown and described, in combination with the lateral braces *l*, eye plates *i*, and bolts *k*, or their equivalent, all as and for the purpose set forth.

75,070.—WILLIAM H. STEVENSON, Auburn, N. Y.—*Harvester.*—March 3, 1868.—The driving spur wheel of the cutter has a web which is dished to admit the attachment of the bevel pinion upon the crank shaft of the pitman. This dished wheel drives a pinion which may be engaged by a ratchet clutch, with the bevel wheel engaging the bevel pinion on the crank shaft. The inner end of the cutter bar is carried on a runner whose forward end has lateral and vertical adjustment by a lever, connecting rod, and sliding segment. The lever has a pawl by which the lateral adjustment is secured.

Claim.—1. In a two-wheel double-hinged joint harvesting machine, the combination of the spur wheels I H E with a dished driving spur D, which will allow of the arrangement of the pitman crank shaft J, substantially as and for the purposes described.

2. The arrangement of the wheels D E H I, the wheel E being placed loosely on its shaft F, constructed with a clutching face *f*, and provided with a latching lever G, substantially as described.

3. The construction and arrangement of the adjustable shifter, holder, and guide, constructed in one piece, and made fast to the draught frame, by bolts passing through one or more slots, to enable the shifter to be moved back and forth to adjust its fork to the groove in the spur pinion, substantially as described.

4. The arrangement of the adjusting lever T, linked connection L, and segment slide S, working loosely in a guide box *k*, which does not extend below the draught frame, in combination with the drag bar P, all substantially in the manner shown and described.

75,071.—GEORGE M. STRONG, Boston, Mass.—*Sleigh Bell.*—March 3, 1868.—The eye bolt to which the tongue is hung is passed through the strap and riveted.

Claim.—The riveted eye bolt C in combination with the tongue T, bell B, and strap A, substantially as described, and for the purpose set forth.

75,072.—ALVAN STUDLEY, Natick, Mass.—*Curtain Fixture.*—March 3, 1868.—One end of the roller has a barrel around which the cord is coiled, the barrel having a reduced part forming a journal which turns in the end plate of a cylindrical case surrounding the barrel, the case being slotted for passage of the cord. The other end of the roller is journaled in a hinged bearing which is pressed against the roller by a spring.

Claim.—1. A socketed head *i*, jointed or hinged so as to be capable of being turned laterally against and be held in place by a spring, *k*.

2. The window-curtain-roller end bearing, as composed of the cylindrically-socketed head *i*, the arm G, the spring *k*, and the carrier H, arranged so as to be applied to the curtain roller and window frame, and to operate with respect to the roller substantially as specified.

3. The combination of the cylindrical case E, having a bearing *r*, at its outer end, with the roller C, having a shoulder *x*, for the inner end of the case to rest against, and a journal *g*, to enter the bearing or socket *h* of the head *i*.

4. The combination of the cylindrical journal and roller with a pivoted or hinged socket, to move laterally, substantially as and for the purpose described.

75,073.—GEORGE W. SWETT, Troy, N. Y.—*Ash Pan of Cooking Stoves.*—March 3, 1868.—Air flues surround the ash-pan drawer which communicate with the registers in such manner as to furnish cold or heated air to the fire.

Claim.—1. The ash-pan drawer A, having the rear part thereof, extending under the fire chamber, so constructed as to receive the ashes or other matter falling from the combustion chamber while the front part of the top thereof is closed, and the whole arranged and combined in the manner substantially as herein described and set forth.

2. The combination of the ash-pan drawer A, or its equivalent, with the fire chamber or chamber of combustion B, and so arranged in the hearth of a stove as to form the air flues or chambers *f*. *g*, *i*, and *j*, in the manner and for the purposes substantially as herein described and set forth.

3. Constructing the hearth of a stove with dampers and a flue or flues therein for the purpose of conducting atmospheric air from the room or place where the stove is used into the said ash-pan drawer A and to the bottom of the said hearth, substantially as herein described and set forth.

75,074.—ALVAH SWEETLAND, Syracuse, N. Y., assignor to himself and MILTON J. PALMER, same place.—*Hame Fastener.*—March 3, 1868.—The lower end of the strap is bent into a hook and is fastened and plays in the slot of the lever, while the lever plays in the slot of the strap. The lower end of the lever has a hook which engages the eyes. At the end of the eye-piece is a hook which fastens in the loop of one hame, and at the opposite end of the strap is a hook which fastens permanently into the loop of the other hame.

Claim.—The lever C and slot F in the lever, and these parts in combination with each other and the slot of the strap, constructed and operating in the manner and for the purpose substantially as described.

75,075.—D. C. TALBOT, Holden, Mass.—*Fishing Tackle.*—March 3, 1868.—The line has a loop which is passed over a weighted lever, and, on the drawing of a fish upon the line, the weighted end of the lever is depressed and the other end, bearing the flag, is raised.

Claim.—1. The arrangement of the weight C, the loop *g*, the spring *i*, and the pin *j*, in combination with a signal flag and staff and fishing pole, substantially as described and for the purposes set forth.

2. In combination with a fishing pole or tackle, the flag staff B, (with the weight C,) when attached to the pole and operated substantially as described, either with or without a reel.

75,076.—ESAU D. TAYLOR, Hornellsville, N. Y.—*Base for Ball Players.*—March 3, 1868.—The stake is inserted in the ground at the base, and the hooked stud upon it passes into the socket plate of the cushion.

Claim.—The stake A, pin socket B, swivel cap D, and cushion or sand bag E, all in combination, to be used for the base or bounds for base ball players, substantially as and for the purposes herein set forth.

75,077.—JACOB TAYLOR, Beloit, Ohio.—*Sheep Rack.*—March 3, 1868.—The side racks are double, each alternate vertical slat being attached to the

sliding frame, so that the spaces may be made narrow when hay is fed, or wide enough to admit the head when grain is fed.

Claim.—1. The trough C, open at one end, and consisting of the bottom C, inclined boards e', and perpendicular side pieces, in combination with the frame A and sliding racks, substantially as described, for the purpose set forth.

2. The combination of the upright sliding side racks D with the frame A, and slats B, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the movable rack E with the frame A, slats B, and sliding racks D, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the end board e^2 with the forward end of the rack E and with the trough C, substantially as herein shown and described, and for the purpose set forth.

75,078.—ALOIS THOMA, Now York, N. Y., assignor to himself, S. BROMBERG, and A. W. WILDER, same place.—*Furnace for Decarbonizing Pig Iron for the Production of Steel.*—March 3, 1868.—The carbonic oxide produced in the furnaces at each side of the converting chamber is changed into carbonic acid gas by more thorough combustion, induced by blasts of heated air, entering chambers contiguous to the furnaces. The thoroughly oxidized caloric currents are distributed by passing through the holes in plates beside the converting chamber, and circulate around the iron pigs piled openly therein. The currents pass through damper-regulated openings in the floor and top of the converting chamber, and are discharged into the chimney, where they heat the pipes furnishing air to the combustion chamber. Between the combustion chamber and the distributing plate is a chamber in which a jet of cold water may be thrown upon the heated current to reduce the temperature and mingle steam with it.

Claim.—1. The arrangement of the partitions *i i* in the channels *a*, for more thoroughly heating and burning the gases on their passage to the decarbonizing chamber, as set forth.

2. The perforated walls D D, arranged between the ends of the channels *a* and the chamber B, to allow the gases to gather in the chambers K thus created, and to be cooled therein, as set forth.

3. Conducting the gases from the chamber B to a chamber G, through which the pipes H are laid, in which air is conducted to the channels *a*, to aid the combustion of the gases in said channels, so that, by means of the gas discharged from the furnace, the air entering the same is heated, as set forth.

4. The channels *a*, partitions *i*, air chambers H, perforated walls D, decarbonizing chamber B, channels *o* and *p*, chamber G, and pipes H, all arranged as described, in combination with each other, and all operating substantially as and for the purpose herein shown and described.

75,079.—W. H. THOMAS, Galveston, Ind.—*Hemmer for Sewing Machines.*—March 3, 1868.—The fabric first passes over the central guide, downward around the inner end of the same, and thence along underneath to the front edge of the same, and upward over the front at the angle, so as to form the fold.

Claim.—The deflector dx, in combination with the guides *a b c*, substantially as and for the purpose specified.

75,080.—ALEXANDER C. TWINING, New Haven, Conn.—*Socket for Casters.*—March 3, 1868.—The spiral ribs on the stock have grooves beside them to receive the displaced wood and prevent splitting.

Claim.—1. The socket or stock, made with ridges edged, or nearly so, in planes acutely and equally inclined to the axis of the socket, as and for the purpose described.

2. The valleys, along the ridge bases, for an increased prevention of splitting, as herein described.

75,081.—WILLIAM VINE and WILLIAM H. JUBB, Norwalk, Conn.—*Dyers' Vat.*—March 3, 1868.—The bottom of the inner tub is perforated, and its sides slotted so as to allow the dye liquid to run out when the said tub is raised by the windlass.

Claim.—The arrangement of the double vat A and B with hoisting attachments, in the manner substantially as herein set forth and for the purpose described.

75,082.—INCREASE S. WAITE, Hubbardston, Mass.—*Machine for Finishing Card Handles.*—March 3, 1868.—The cutter heads are mounted on two parallel shafts, one of which is adjustable. Each cutter head is a recessed cylinder with two cutters, in throats opening into the periphery of the head. The larger cutter head has a flange with an annular groove and curved cutters to cut the end of the handle into a curved form. The blank is placed on the rest and forced between the cutters, by which its sides are beveled and its end rounded.

Claim.—In a machine for tenoning card-board handles, the rotary cutter-head A, with the curved concave flange *i*, provided with the cutters *g* and *k*, the cutter-head B, with the cutters *h*, the rest G, and guide H, constructed and operating substantially as described.

75,083.—WILLIAM WAKENSHAW, Newark, N. J., assignor to T. B. PEDDIE, same place.—*Traveling Bag.*—March 3, 1868.—The fastenings are pivoted to the sides of the frame and clamp the ends of the bag.

Claim.—The fastenings D D, constructed of the form and applied to the bag in the manner substantially as shown and described.

75,084.—ELISHA W. WALTON, Drytown, assignor to JOSEPH H. ATKINSON, San Francisco, Cal.—*Drill Sharpener.*—March 3, 1868.—The point of the drill is laid in the forming die and the swage brought down upon it by movement of the lever.

Claim.—The combination of the swage, frame, and die, in combination with the stirrup lever and an eccentric, for the purposes specified, all constructed and arranged substantially as described and shown.

75,085.—FRANK J. WALZ and CHARLES STECK, Hudson, N. J.—*Beer Faucet.*—March 3, 1868.—The plug is tubular and within it is a cylinder which is perforated at the side just beneath the plunger when it is elevated. The cylinder has also a small perforation at its lower end. The piston is raised by a spring, and by forcing it downward while beer is running a jet of air is forced into the latter.

Claim.—The combination of the pump-barrel E, having side and end perforations *e* and e', the plunger F and spring K, arranged and operating in connection with the faucet, so as to commingle air with the liquor during its discharge, substantially as and for the purpose herein specified.

75,086.—WILLIAM POWELL WARE, New York, assignor to himself and JAMES J. DE BARRY, Brooklyn, N. Y.—*Sign for Street Lamps.*—March 3, 1868.—The perforated plate has opaque letters attached thereto.

Claim.—The transparent signs herein described, composed of perforated metal A, and opaque material B, combined and arranged so as to serve in the manner and for the purposes and advantages herein specified.

75,087.—B. J. WATSON, Troy, Wis.—*Heat Radiating Attachment for Stoves.*—March 3, 1868.—The caloric current passes into the rear end of the first chamber and through a pipe which extends around and beneath the perforated edge of the top plate; the ends of the pipe communicate with the front ends of the two chambers. The smoke passes off from the rear end of the second chamber.

Claim.—1. A flue attachment for stoves, consisting of the chambers G and H, and pipe F, substantially as shown and described, and for the purposes set forth.

2. The chambers G and H, in combination with a stove S, and pipe F, and damper a', substantially as shown and described, and for the purposes set forth.

3. The chamber G, in combination with the pipe A, and the chamber H, in combination with the pipe B, and damper a', substantially as shown and described, and for the purposes set forth.

75,088.—J. R. WEISIGER, Danville, Ky.—*Pump.*—March 3, 1868; antedated February 28, 1868.—The hollow shaft is connected to a hollow radial head which oscillates within the sectoral chamber. The radial walls of the chamber and the sides of the head have valves, so that the water is drawn into the head and is discharged through the tubular shaft.

Claim.—1. The construction and arrangement of the hollow shaft I, having at its lower end the hollow head J, provided with valve M, the uprights P, arms Q, rack O, and pinion, all operating as described, for the purpose specified.

2. The arrangement of the radial plates E, having valves G, hollow head J, having valves M, hollow shaft I, cylinder A, uprights P, rack O, arms Q, and pinion, as herein described, for the purpose specified.

75,089.—T. A. WESTON, Buffalo, N. Y.—*Ratchet Head and Lever.*—March 3, 1868.—The spring pawls slide in tangential cavities in the collar of the spindle and engage the teeth upon the inner side of the strap.

Claim.—The ratchet lever head, when constructed with teeth *e e e e e* and pawls *e e e e*, combined, arranged, and operating substantially as and for the purposes shown and described.

75,090.—T. A. WESTON, Buffalo, N. Y.—*Ratchet Head and Lever.*—March 3, 1868.—The lever is pivoted between two lugs upon the strap or barrel and has oscillatory movements in the plane of the spindle. The pawls slide in cavities parallel with the spindle and drop alternately into the depressions between the large ratchet teeth.

Claim.—1. In a ratchet lever, with a series of differential teeth and pawls *b e*, as described, the construction and arrangement of parts as herein set forth, consisting of the feed screw D, socket *i*, the barrel A, turning thereon, and operated by lever B, the ratchet head C, secured to the screw by the pin *d* and washer *k*, for retaining the springs in place, the whole operating in the manner and for the purpose specified.

2. The jointed lever B, in combination with the devices thus constructed, substantially as set forth.

75,091.—T. A. WESTON, Buffalo, N. Y.—*Ratchet Brace.*—March 3, 1868.—Sliding spring pawls act for right and left rotation respectively upon the upper and lower head, and the intermediate pawl barrel may be locked by the sliding bolt, with either head, to cause a right or left rotation from the reciprocation of the lever.

Claim.—1. The combination of two ratchet heads D E, an intermediate pawl barrel A, and the locking device, which may shift from one head to the other to engage and disengage the said heads, substantially as set forth.

2. The combination of the shifting slide I and tightening screw *n*, or equivalent, with the ratchet heads D E, and pawl barrel A, substantially as herein set forth.

75,092.—T. A. WESTON, Buffalo, N. Y.—*Ratchet Brace or Lever.*—March 3, 1868.—The duplicate ratchets on each side of the strap enable the use of large teeth, the pawls falling in alternately.

Claim.—1. The special construction and arrangement of the double ratchet head B, with the end of the lever, forming a strap *a*, resting centrally between the sets of ratchet teeth and the spring pawls C C, on opposite sides, playing alternately in said teeth, the whole operating in the manner and for the purpose specified.

2. The special construction and arrangement of the pawls connecting with the one pivot *d*, and formed hollow, and receiving the springs *g g*, the whole operating in the manner and for the purpose set forth.

75,093.—T. A. WESTON, Buffalo, N. Y.—*Ratchet Brace Lever.*—March 3, 1868.—The pawls act in turn to engage the teeth of the ratchet.

Claim.—The special arrangement of one sliding pawl F and one pivoted pawl E, as described, when combined with a ratchet head C, having an unequal number of teeth, with said pawls, the whole operating in the manner and for the purpose specified.

75,094.—SAMUEL H. WHITAKER, Cincinnati, Ohio.—*Globe Valve.*—March 3, 1868.—The valve seat is a removable and reversible ring which is held down upon its compressible packing ring by the tubular screw clamp.

Claim.—1. The self-adjusting metallic valve seat B, in combination with the conical valve A, substantially as and for the purposes set forth.

2. In combination with the aforesaid movable valve seat B, applied and operating as described, the compressible packing ring D, for the purpose set forth.

3. The combination of the movable seat B and screw clamp C, substantially as and for the purposes set forth.

75,095.—RALPH C. WHITEHOUSE, Boothbay, Me.—*Frying Pan.*—March 3, 1868.—The pan consists of two perfect frying pans united by a side hinge so that their edges may be brought together.

Claim.—The combination and arrangement of the two pans *a b*, united by hinge *e*, and having the handles arranged as herein set forth, for the purposes described.

75,096.—HARRY D. WHITTEMORE, New York, N. Y.—*Brick Kiln.*—March 3, 1868.—The bricks are placed upon trucks whose bottoms form grates for the furnaces. The trucks are run upon a rail track and are associated together in a row, with division plates between them. The division plates have dampers to regulate the circulation of heat. A blast pipe has branches leading to each furnace.

Claim.—The railway cars *a a' a''*, constructed in the form of a fire grate, and the artificial blast B, pipes *e e e*, with dampers *n*, all in combination with the dampers *o o' o''*, arranged with the vertical partition plates *m m m*, all arranged and operating substantially as herein set forth.

75,097.—CHARLES F. WHORF, St. Louis, Mo., assignor to himself and CHARLES M. ELLEARD, same place.—*Hot Air Furnace.*—March 3, 1868.—The furnace is surrounded by a series of vertical air pipes arising from an annular chamber around the base, leaving an annular air chamber between the said furnace and the pipes. The air ascends into an open-bottomed, distributing vessel, from which it passes to the rooms to be heated.

Claim.—1. The distributing chamber E, the water vessel F and the furnace A A' B, when combined and arranged as described and set forth.

2. In combination with the above, the series of pipes B, the annular heating chamber B', and the pipes C and C', as and for the purpose set forth.

75,098.—CHARLES WILLIAMS, Vineland, N. J., assignor to himself and ISAAC B. WARD, New York, N. Y.—*Construction of Walls of Buildings.*—March 3, 1868.—The slats are placed at an angle of 45° with the posts and sills, and consequently at a right angle toward each other. The sides of half the slats are parallel with the walls, and of the others at right angles thereto.

Claim.—The arrangement of lattice framework, substantially as herein shown and described, in combination with concrete material, in the formation of walls, substantially as and for the purposes described.

75,099.—J. A. WILLIAMS, Elizabeth, Ill.—*Axle for Vehicles.*—March 3, 1868.—The friction collars are cast upon the axle; those portions of the axle being cast with dovetail longitudinal grooves for the attachment of the collars. The spindle shell has an inward extension whose ratchet serrations engage similar serrations upon a ratchet bar to which it is bolted, and which is also bolted to the axle.

Claim.—1. The serrated extension T of the spindle E of an axle, in combination with a serrated rack R, for holding the said spindle firmly in its place, substantially as and for the purpose shown and described.

2. The longitudinal slots, substantially as described and for the purpose specified.

3. The reversible character of the rack R, substantially as described and for the purpose specified.

75,100.—N. BANGS WILLIAMS, Providence, R. I.—*Oil Cup.*—March 3, 1868,—The oil passes from the cup through a central conical chamber occupied by fibrous material and a tapered screw plug. The pressure of the latter upon the said material regulates the flow of oil.

Claim.—The tapering compressing plug *a* in combination with a chamber B, containing a fibrous absorbent, for the purposes specified.

75,101.—J. D. WILLOUGHBY, Shippensburg, Pa.—*Cider Mill.*—March 3, 1868; antedated February 20, 1868.—The fruit passes between the grinding cylinders and then between the pressure rolls, the juice running off and the pomace being mingled with water running on it from a spout; a second quality is extracted by pressure between the lower rolls.

Claim.—The arrangement of the grinding rolls B relatively with one or more pairs of pressing rolls C D, and the spouts for receiving and conveying separately the various qualities of juice produced, substantially as shown and described.

75,102.—I. SHIELDS WILSON and HORACE SEE, Philadelphia, Pa., assignors to themselves and N. D. THOMPSON, Bordentown, N. J.—*Surface Condenser.*—March 3, 1868.—The circulating end of the air pump discharges the water through the condenser around the condensing pipes, and then into and out through the box. The exhaust steam enters the condenser and passes through the pipes, the water collecting in the reservoir, and the surplus water and vapor escaping into the box. The feed pump takes its supply from the reservoir, and in case of shortness of supply water can be taken from the box, or from the discharge pipe of the air pump.

Claim.—1. Removing the condensed steam, after it has passed through a surface condenser, and discharging it directly into the boiler by the feed pump, when arranged, in connection with the air pump, in the manner and for the purpose set forth.

2. The pumps I and J, when arranged in respect to the surface condenser E, substantially as described and for the purpose set forth.

75,103.—R. C. WRENN, Waverly, Mo.—*Hemp Harvester.*—March 3, 1868.—The metallic apron is formed like a plow moldboard, and carries the swath of hemp out of the course of the implement in the next through.

Claim.—In combination with a machine for cutting hemp, the curved apron D, placed behind the cutter bar, constructed, arranged, and operating substantially as described.

75,104.—HENRY B. ABBOTT, Felicity, Ohio.—*Hill-side Plow.*—March 3, 1868.—The double plow admits of turning upon a horizontal arbor so as to bring the right or left-hand plow into the operative position; the other plow being inverted with its sole in proximity to the beam. In this position it is held by a pin sliding in eyes upon the side of the beam.

Claim.—The combination, with the two bar shares E E′, connecting sheath G, and double moldboard F, of the connecting bar I, bracket C, and locking bolt J, the latter being shifted from one set of staples to another on the opposite side of the plow beam, as and for the purpose explained.

75,105.—SEAMAN ALLAIRE, New York, N. Y., assignor to himself, ROBERT HENRY, and E. WRIGHT VAIL, same place,—*Carriage Hub.*—March 3, 1868.—The metal is extended radially, forming lengthened mortises for the spokes.

Claim.—The solid metallic hub A, provided with radial sleeves *b* and wooden spokes B, when constructed and combined essentially as shown and described.

75,106.—WILLIAM ALLENDER, New London, Conn.—*Casting Aluminum Plates on Artificial Teeth.*—March 3, 1868.—The sections of teeth are separated by a space when placed in the mold, to allow the contraction of the plate in cooling, the molten metal being prevented from entering the spaces. The pins are pointed inward and may be covered with coiled wire for the purpose of allowing the metal to slip upon them in some degree, and the inner surface of the teeth is also made smooth for the same purpose. Metal may be cast outside the teeth and cooled from the outside to prevent the said concentration in cooling.

Claim.—1. In combination with the pouring of molten aluminum to form a base for artificial teeth, the so making or grinding off the blocks of teeth, designed for the reception of molten aluminum as a base, as that the metal cannot seize or gripe, but slip upon, the teeth or blocks, in contracting, and thus prevent the fracture of the metal, or of the teeth, or blocks of teeth, substantially as described.

2. In combination with teeth or blocks of teeth, on which aluminum is to be cast for a base, the pointing of the pins or rivets toward each other, or toward the center of the block, or in the line of the greatest contraction, substantially as described.

3. In combination with the molding of teeth or blocks of teeth, or preparing them to receive molten aluminum, which is to form their base, the protected space between them, to guard against the entrance of the metal or other material, as described, so that the contractile force of the aluminum, in cooling, may draw them up together, or nearly so, substantially as described.

75,107.—WILLIAM ANDREWS, Alleghany County, Md.—*Gridiron.*—March 3, 1868.—The skillet has an acutely-corrugated bottom, the channels in which drain into the basin whose bottom is removed from direct action of the fire.

Claim.—Bars *e e e*, united as described, and forming an imperforated bottom, in combination with the rim *d*, the basin B, and the mouth C, constructed substantially as and for the purpose set forth.

75,108.—G. W. ANTISDALE, Chagrin Falls, Ohio.—*Truss and Supporter.*—March 3, 1868.—The front frame is composed of spring bars so bent as to fit the curvature of the abdomen, and having pads adjustably attached near to their ends. The main spring bar curves around upon one side and has an adjustable lumbar pad. A membrane may be stretched over the front frame to form a supporter.

Claim.—The upright bar E, horizontal bar C, adjustable pad G, and pad H, as arranged in combination with the frame A, for the purpose and in the manner set forth.

75,109.—CHARLES W. ATKESON, St. Louis, Mo.—*Cowl.*—March 3, 1868.—The air is concentrated by the funnel-shaped opening which may at the time be facing the wind, and is led down the vertical, ventilating pipe by a deflector attached to the vane.

Claim.—1. The funnel head A, when combined with the duct B, the guide C, and the weather-cock C^2, substantially as described and shown.

2. The funnel head A, when constructed by means of the two disks *a* and the vertical partitions a^1, the whole combined and arranged as described and set forth.

75,110.—JAMES S. and THOMAS B. ATTERBURY, Pittsburg, Pa.—*Manufacture of Glassware.*—March 3, 1868.—The hinge piece is riveted to the pitcher top. The rivet holes are formed nearly through the glass in the act of blowing, and the remaining thin shell is subsequently broken out.

Claim.—1. As a new article of manufacture, a pitcher A B, produced by blowing the glass or other suitable material in a mold, and providing it with a metallic cover, substantially as described.

2. The method herein described of perforating glass pitchers and securing the covers upon them, substantially as described.

75,111.—L. F. BANCROFT, Worcester, Mass., assignor to himself and ANDREW B. YETTER, New York, N. Y.—*Street Sprinkler.*—March 3, 1868.—The side water guards are attached to arms on a rocker shaft operated by a treadle, and are let down when it is desirable to prevent a side sprinkling.

Claim.—1. The combination of the side water guards D D with the sprinkler A, substantially as and for the purposes set forth.

2. The combination, with the water guards D D,

of the bent levers *e e*, arms E E, and springs *h h*, substantially as and for the purposes set forth.

75,112.—JOHN S. BARDEN, Providence, R. I., assignor to WILLIAM M. STONE, Attleborough, Mass. —*Pump.*—March 3, 1868.—The top and base of the pump are connected by a circular series of rods which surround the glass cylinder. The cylinder is confined between a fixed, lower gasket in which the valve may be cut, and an upper gasket forced downward by an annular ring-nut, whose thread is on its periphery, and which screws into the head beneath the level of the spout.

Claim.—The combination and arrangement of the internal annular nut G and its screw *e* with the nose head B, connected with the base A by the series of rods C C, such nut G serving to confine the glass barrel or tube D within the pump frame, as specified.

75,113.—DAVID BARKER, Northfleet, England. —*Drier.*—March 3, 1868.—The trays supporting the blocks of fuel run upon rollers upon the angle iron bars secured in the walls. The walls have perforations to allow the escape of the vapors resulting from the drying of the blocks. Either heated air or steam pipes may be placed between the trays. The ends of the chamber may be closed by metallic doors.

Claim.—Chambers for drying artificial fuel and other substances, subdivided into horizontal compartments, as hereinbefore described, by permanent or removable partitions, and provided with series of lateral apertures arranged along the lower part of each compartment for the escape and withdrawal of vapors therefrom, the whole being constructed and arranged substantially as herein set forth.

75,114.—JACOB H. BEIDLER, Lincoln, Ill.—*Washboard.*—March 3, 1868.—The corrugated zinc plate is perforated in the gutters, and is supported on a longitudinally guttered board which allows escape of the water passing through the perforations.

Claim.—The corrugated perforated face plate C, in combination with the longitudinally corrugated board B, when used in a washboard as and for the purpose set forth.

75,115.—GEORGE W. BENNETT, White Haven, Pa.—*Center Plate for Railroad Cars.*—March 3, 1868. —The upper and lower parts of the center plate have concentric rings; that upon the upper part lying closely within the other. The inner ring has lugs upon its outer side which enter segmental cavities in the outer ring, and prevent the movement of the parts upon each other beyond a certain limit.

Claim.—The combination of the rings *a a'*, having the recesses *c c* and projections *c' c'*, operating in connection with each other when used in a center plate for cars, substantially as and for the purposes specified.

75,116.—GEORGE W. BISHOP, Stamford, Conn., assignor to JOHN LABURT, Cohocton, N. Y.—*Gate.*—March 3, 1868.—The rails are pivoted to the rear post and the upright, and turn upward in different, vertical planes. The elevating cord is attached to the top rail and passes over a sheave upon a beam extending horizontally backward from the top of the post.

Claim.—The combination, with a gate whose horizontal rails are pivoted in advance of each other substantially as herein described, of a slotted top rail and pulley, all constructed, arranged, and operating substantially as herein specified.

75,117.—J. S. BOICOURT and T. H. BARNES, Boonesboro, Iowa.—*Rotary Steam Engine.*—March 3, 1868.—The sliding valves are forced outward by the eccentric surfaces of the piston wheel, and are forced inward by the springs. The injection and exhaust ports are on each side of the valves.

Claim.—The arrangement of the sliding valves E and the springs F, with reference to the pistons D D, as herein set forth and described.

75,118.—STERLING BONSALL and LOUIS HILLEBRAND, Philadelphia, Pa.—*Bell Pull.*—March 3, 1868. —The knob stem consists of jointed, curved sections, which are drawn through the socket in a downwardly curved direction.

Claim.—1. The construction of a plate B, with the opening *a* at the upper end, and boss *k* at the rear, the slot *b* at the lower end, with a pintle *c* cast into and across the middle thereof, and with the screw hole *d*, substantially as described for the purpose specified.

2. The construction of a handle C, with a forked end at the lower part, a tongue E' at the inner side of the upper end, and a knob or projection D on the outer side of the upper end, substantially as described for the purpose specified.

3. The combination of plate B and handle C with the bar E, so fastened at *f* as to make the slot *l*, resting over the pintle *c*, and restrained by the plate B, act as a hinge, with the fulcrum inside of the perpendicular of the lever, substantially as described.

75,119.—ELIHU BOSWELL, Highland, Ohio.—*Corn Harvester.*—March 3, 1868.—The fallen stalks are raised by the down-curved guides and presented with the vertical stalks to the cutters. The stalks fall upon reel platforms, which are allowed by the retraction of the spring bolt to rotate 90° and deposit their loads.

Claim.—The sliding stop, composed of the rod *r* and spring *s*, when these parts, constructed and operating together as explained, are used in combination with the revolving reels or tables R' R', for the purpose of controlling their action, substantially as described.

75,120.—BENJAMIN S. BOYDSTON, Richmond, Ind.—*Ironing Stand and Clothes Dryer.*—March 3, 1868; antedated February 28, 1868.—The cross frame has horizontal bars to sustain the ironing board and rails to hold the articles.

Claim.—1. The stand, composed of bars A A A' A', strips *a a*, and clothes receptacle, connected by means of the stay, as set forth, and provided with the ironing board B, in the manner and for the purposes described.

2. The combination of the bars *d d* with their keepers, and the slats *f f f* with the stand, as described and for the purposes set forth.

75,121.—N. F. BURNHAM, York, Pa.—*Water Wheel.*—March 3, 1868.—The gate is a ring having a limited revolving motion and apertures, which may be brought more or less in conjunction with the chutes of the case. The chutes are so curved as to receive the water in a radial direction, and to deliver it against the buckets in a tangential direction.

Claim.—The combination of the curved chutes *s s*, when constructed with curved walls near the outer extremity, and straight slightly-converging walls toward their inner extremity, in the manner described and shown, with the gate ring R surrounding said chute, and having the openings *r r*, the whole device operating to receive the water in a direction toward the center of the wheel, and turn it by the concave wall until it is thrown in a compact mass against the buckets, tangentially to them, in the manner described.

75,122.—ANGELO CATTANEO, Newark, N. J.—*Machine for Fulling Hat Bodies.*—March 3, 1868.—The movement of the swinging side of the fulling box causes the mass of hats to pass around regularly to insure equal action on all their parts.

Claim.—The side piece *h* to the box *f*, fitted to swing on the hinge *i*, in combination with the hammers *c c*, the parts being arranged and operating substantially as and for the purposes set forth.

75,123.—JOHN C. CLARKE, Elmira, N. Y.—*Potato Digger.*—March 3, 1868.—The cutter roller has longitudinal knives, and rolls over the ground to cut the vines. The potatoes are raised by a transverse row of roundly-pointed hoes or shares, and are cast upon the shaking screen, which has a series of longitudinal rods extending backward.

Claim.—1. The cutter G, with arc-shaped knives *a*, substantially as described.

2. The cutter G, sliding arms F, and pivoted braces E, combined and operating substantially as described.

3. The hoes J, provided with ridges *e*, substantially as described.

4. The hoes J, sliding arms I, and pivoted braces

H, combined and operating substantially as described.

5. The sliding bearing M, shaft L, and eccentric *n*, or equivalent, in combination with the shaker O, substantially as and for the purposes described.

6. The combination of the arm *o*, eccentric *n*, or equivalent, and reciprocating frame N, substantially as and for the purposes set forth.

7. The hinged blocks *k l*, in combination with the sliding bearing M, substantially as and for the purposes set forth.

8. The combination of the cutter G, hoes J, and shaker O, substantially as described.

75,124.—THADDEUS L. CLARK, Mount Vernon, Ohio.—*Spring Equalizer for Mill Spindles.*—March 3, 1868.—The boxes are between the jaws of the driver and contain rubber blocks compressed by convex-ended follow blocks. The blocks bear the pressure of the longer jaws.

Claim.—The oblong driver F, with a short and long jaw *z x* at each end, within which are placed the boxes C C, beveled at their tops, and provided with rubber fillings D D and followers E E, when used in combination with the spindle A and pinion B, substantially as and for the purposes set forth.

75,125.—GEORGE H. COLBERT, Downsville, Md., assignor to himself and S. S. HOLLENBERGER, same place, and J. W. DAILY, Martinsburg, W. Va.—*Steering Apparatus.*—March 3, 1868.—The rudder shaft carries a pinion gearing with a larger spur wheel upon a shaft, whose cross lever is connected to the steering wheel by cords attached to its end.

Claim.—The vertical shaft *d*, provided with gear-wheel *c* and cross-lever *f*, arranged in combination with pinion *b*, rudder D, cords *g g*, and pilot wheel B, substantially as and for the purpose set forth and described.

75,126.—O. H. COOKE, Morristown, Vt.—*Shoe Lacer.*—March 3, 1868.—The teeth are forced through the leather and clinched, and the bent shank or hook holds the string.

Claim.—The within described lacer as an article of manufacture, consisting of a concavo-convex body, provided with the teeth *c c*, and a shank which is curved, and which has a convex head upon it, constructed and arranged as and for the purpose herein specified.

75,127.—JOHN CROWTHER, Oxford, Mich.—*Cultivator.*—March 3, 1868.—The rear wheels turn on cranks upon the ends of a rock shaft, connected through a series of levers, with a vertical shaft carrying the fore wheels. The connection is such that the frame is raised or depressed simultaneously at both ends.

Claim.—Raising and lowering the frame A by means of levers D and H, and bars C, F, and I, and shaft J, substantially as herein specified.

75,128.—FRANCIS CURTIS, Newton, Mass.—*Roofing Felt.*—March 3, 1868.—The wooden pulp is mingled with ground woolen rags, and is saturated with tar or an equivalent.

Claim.—The new fabrication or compound material above described, consisting of the combination of woolen or worsted rags with wood or wood fibre.

75,129.—GEORGE CUSTER, Norristown, Pa., assignor to himself and WILLIAM MOORE, same place.—*Washing Machine.*—March 3, 1868.—The square box has longitudinal ribs, and revolves in one direction around a central, ribbed shaft, which rotates in a contrary direction.

Claim.—The box C, its ribs or projections *f* and *f'*, in combination with the ribbed roller B, and with the within described devices, or their equivalents, for imparting a rotary motion in one direction to the box and in the other to the roller, substantially as and for the purpose specified.

75,130.—ABBOT R. DAVIS, East Cambridge, Mass.—*Card Board for Printing.*—March 3, 1868.—The card is formed of thin strips of wood, in which the grain has been sufficiently demoralized by heavy pressure as to destroy disposition to warp. The strips are laid together with the grain in one strip crossing that of the other.

Claim.—Subjecting the sheets of wood to severe pressure by rollers or otherwise, to reduce the thickness of the wood, and to condense and unite the fibers, and thus prevent the card or card board thus made from twisting, warping, and breaking, substantially as specified.

75,131.—THOMAS B. DE FOREST, Birmingham, Conn.—*Machine for Reducing and Pointing Wire.*—March 3, 1868.—The jaws of the cutter dies have continued rotation with the tubular shaft to which they are pivoted, and have radial reciprocation by the disk of a longitudinally reciprocating shaft, which is attached to a frame actuated by a polygonal cam wheel on the main shaft. The end of the wire is inserted between the jaws which close upon it, and point it by their revolution.

Claim.—1. The combination of the two jaws G and G' with the revolving shaft D, when constructed and arranged so as to receive from the said shaft a rotary motion, and further combined with the cam J and shaft H, so that the said jaws receive therefrom a vibratory movement, and when both the jaws are movable, or the one fixed and the other movable, substantially as herein set forth.

2. The hollow shaft D, carrying the vibrating jaws G, having combined therewith a head I, and cam J, with its stirrup connection, so as to operate in the manner herein described.

75,132.—ANDREW FERDINAND DESSAU, Washington, D. C.—*Piano Forte Frame.*—March 3, 1868.—The bottom of the "square" piano is formed of a rectangular outside frame, with an oblique inner portion in which the beams run in a direction to take the strain of the strings. The pieces forming the frame are built up of strips of wood, which are caused to adhere together, and in which the grain of one strip runs obliquely to that in the contiguous strips.

Claim.—1. Constructing the bottom beams and frame of a piano of layers of pieces of wood, in the manner substantially as and for the purposes described.

2. Constructing the beams and frames of the pianos by building the same up in the manner substantially as described.

75,133.—EDWARD L. DORSEY, Winslow, Ind.—*Grain Separator.*—March 3, 1868.—The screen has an octagonal form, and its sides have meshes which vary so as to allow passage to the differently-formed objectionable seeds. The screen is journaled in the ends of a box, which has limited oscillation on a transverse shaft.

Claim.—1. The box B, made in V-shape, and balanced upon the pivoted support C, so that it will oscillate as and for the purpose set forth.

2. The screen E, provided with arms *c e* and *b b*, door way R, and slide H, when used in combination with the oscillating box B, as and for the purpose set forth.

3. Spout L and slide K, when used in combination with the box and screen, as and for the purpose specified.

75,134.—JOSEPH DOUGLASS, McConnellstown, Pa.—*Lifting Jack and Spike Extractor.*—March 3, 1868.—The vertically sliding bar, to which the upper end of the claw bar is hinged, has a ratchet engaged by the claw lever. The lever is fulcrumed to the upper ends of swaying standards, which allow its disengagement from the ratchet. A sliding pawl engages the ratchet to sustain the claw bar.

Claim.—1. The removable base A, in combination with the post B, when used in a lifting jack or device for extracting spikes, substantially as and for the purposes specified.

2. The hook J, with broad serrated edge, as and for the purpose set forth.

3. The combination of the rod F, lever G, rocking fulcrum H, spring *s*, pawl I, and spring *i*, substantially as and for the purpose set forth.

75,135.—JOHN ELLSTON, Cleveland, Ohio.—*Grinding Mill.*—March 3, 1868.—The collar is con-

nected to the curb by the elastic annular diaphragm, and its lower edge is received in an annular groove in the top of the stone. The air passes down the central opening in the collar and the eye of the stone, passing between the stones and up through the vertical spout to the fan. The meal has the usual exit.

Claim.—1. The elastic diaphragm J and collar I, in combination with the stone, substantially as and for the purpose set forth.

2. In combination with the above, the pipe M, hinged cover U, with the curb and fan-case, arranged as and for the purpose substantially as set forth.

75,136.—James Emery, Bucksport, Me.—*Lamp Shade.*—March 3, 1868.—The shade has panels for reception of pictures, and a slide wire whose lower end has a serpentine form to prevent the shade turning upon it. The upper end of the slide rod is bent over and enters a socket formed by a spiral on the wire, whose lower end embraces the burner.

Claim.—1. The screen supporter composed of the two wires B and C, having two helix coils, serpentine bends, and a projection arranged as set forth.

2. The screen, as made with the middle pocket to receive the slider, made as described.

75,137.—T. S. Engledow, Cedar Falls, Iowa.—*Heel for Boots and Shoes.*—March 3, 1868.—The top and bottom plates of the hollow heel are perforated for purposes of ventilation.

Claim.—The hollow hard rubber, gutta-percha, horn, or other similar heel *a b c*, with strengthening ribs *g g*, on its interior, and with removable base plates or pieces A, in the manner as herein described.

75,138.—E. C. Fairchild, Sunderland, Mass.—*Bag Holder.*—March 3, 1868.—The mouth frame is attached to the post by sliding upon one of a vertical series of dovetail cleats.

Claim.—The funnel-shaped mouth or frame B, provided upon its lower edge with hooks *d*, and upon one side with an arm C, and combined with a plate A, which said plate is constructed with lugs *a*, for the adjustment of the frame B, and arranged in the manner substantially as set forth.

75,139.—Solon Farrer, New York, N. Y.—*Spoon.*—March 3, 1868.—The cover is connected to a compound lever, which is influenced by a spring to close it. The cover is depressed by the lever. A portion at the point of the spoon is left uncovered to allow the exit of the medicine.

Claim.—1. The movable cover, in combination with the bowl of the spoon, substantially as and for the purpose specified.

2. The combination, with the spoon and the movable cover, of the lever D and spring *e*, substantially as and for the purpose specified.

75,140.—Henry Fassmann, New Orleans, La.—*Cotton Bale Tie.*—March 3, 1868.—The diamond-shaped ends are connected by a central, perpendicular rib, and by two side ribs; around one of the latter an end of the hoop is passed; the other end being passed through the other slot and beneath the central rib.

Claim.—The cotton-bale tie, composed of the plate A, having the slots *a a*, between which is a strengthening ridge *d*, on one or both sides of the plate, and having its ends strengthened by stout ridges *b b*, cast upon the plate, substantially in the manner and for the purpose described.

75,141.—H. T. Fenton, Philadelphia, Pa.—*Steam Generator.*—March 3, 1868.—Improvement on his patent of May 7, 1867.—Over the fire box, and communicating therewith, is a cylindrical case of cast-iron, from whose top extend a series of vertical flues traversing the crown sheet. Within the cast-iron case is a circular series of vertical pipes, whose ends are bent outward and pass through the said case near to its ends. The heat causes a continued current through these pipes.

Claim.—The vertical boiler, its fire box B, central chamber D, pipes E, and tubes F, the whole being arranged substantially as and for the purpose herein set forth.

75,142.—James R. Finch, Dayton, Ohio.—*Grain Drill.*—March 3, 1868.—The seed apertures are regulated by sliding plates. The flanged agitators have zigzag and radial flanges, and are supported over the seed holes by a rotating shaft.

Claim.—1. The flanges *e e*, in combination with the zigzag wheel or agitator H, substantially as and for the purpose specified.

2. The arrangement of the plates B B with the movable plate or shut-off C attached to the bottom of the grain box A, substantially as and for the purpose set forth.

75,143.—Samuel L. Fiske, Philadelphia, Pa.—*Tenter Bar for Shaping Articles of Cloth.*—March 3, 1868.—The sides of the cloth are secured to the hooks of the tentering bars, and a "former" being placed beneath it, it is stretched upon the same by pressure of the detachable bars upon its upper side.

Claim.—The combination of the parallel tentering bars *b c*, their hooks *i*, the former B, and detachable bars *e e*, the whole being constructed and arranged substantially as and for the purpose described.

75,144.—Henry K. Flinchbaugh, Conestoga Center, Pa.—*Fence Post.*—March 3, 1868.—The posts are made of strap iron bent around at the top and spread at the bottom; the sides are connected by stay rods, and are braced at the angle near the foot by angular-flanged frames.

Claim.—The manner of constructing the sides A of a post for a rail fence from strap iron, in combination with the cap B on the spread base, with its feet *a* and braces C D, arranged substantially in the manner shown and specified.

75,145.—Henry K. Flinchbaugh, Conestoga Center, Pa.—*Iron Post for Wire Fences.*—March 3, 1868.—The posts are forked at the lower end, and the lower ends of the forks bent angularly in opposite directions.

Claim.—The construction and application of the iron post A, with its spreading base B B′ and feet *b b*, when applied in the manner and for the purpose specified.

75,146.—Orrin Forsyth and John H. Truex, Rochester, N. Y.—*Weighing Scale.*—March 3, 1868; antedated February 20, 1868.—The beams for weighing the gross article, marking the tare and net, are rigidly connected, and have a pendulous bar at the end which has two weight supports for the same purpose as the compound beam.

Claim.—1. Notching the under side of the beams, and employing, in combination with the same and the sliding weights, a spring-catch *i*, operating in the manner and for the purpose specified.

2. Making the supports E G on the pendulum rod adjustable to different distances apart, in the manner and for the purpose herein set forth.

75,147.—David W. Fowler, Goshen, Ind., assignor to himself, George A. Ewing, and George G. Kimball, same place.—*Illuminating Oil.*—March 3, 1868.—Composed of naphtha, 1 gall.; sulphate of copper, 1 oz.; oxide of zinc, 1 oz.; sulphate of alumina and potash, 4 oz.; chlorate of potash, ½ oz.; camphor, 1 drachm; and water, 2 oz.

Claim.—The combination of the above ingredients, in manner and proportions as set forth, and for the purposes specified.

75,148.—John J. Gish, Milton, Ohio.—*Hog Snout Slitter.*—March 3, 1868.—The cartilaginous portion of the snout is removed by the curved, guillotine cutter.

Claim.—The herein described slitter, consisting of the frame B, bar D, stem C, spring G, blade E, and block A, all constructed and arranged to operate in the manner and for the purpose specified.

75,149.—William B. Gleason, Boston, Mass.—*Manufacture of Molded Articles.*—March 3, 1868.—The inside of a mold is lined with thin shavings or veneers, and a plastic adhesive material forced in, which compels the veneer to take the form of the mold.

Claim.—The process of producing molded articles

with an adhering pelliele, by the use of a plastie adhesive compound under pressure as a former, substantially as deseribed.

75,150.—Richard J. P. Goodwin, Manchester, N. H.—*Sad Iron.*—March 3, 1868.—The cover is hinged at the baek and held shut by a spring bolt at the fore end.

Claim.—The eombination of the hinge joints E F and cover B with the spring bolt G, operating in connection with the striker J, substantially as and for the purpose set forth.

75,151.—R. J. Gould, New York, N. Y.—*Packing for Hose Coupling.*—March 3, 1868.—The paeking ring is formed to enter two rectangular annular grooves in one part of the coupling and a V-shaped annular groove in the other part.

Claim.—The arrangement of a T-shaped packing pieee *a*, having the ends of the cross bar flat or V-shaped, in combination with correspondingly shaped recesses *b* in the surfaces to be joined, said packing overlapping the inner surfaees of both parts A and B of the coupling, substantially as and for the purposes set forth.

75,152.—John C. Govers, Washington, D.C.—*Window Shade.*—March 3, 1868.—The journals of the roller are upon pieces sliding in vertical grooves in the easing, the pieces being eonneeted to cords passing over sheaves in the easing. The roller is turned by an endless cord whieh passes around sheaves at the bottom and top of the window and has one turn around the roller.

Claim.—1. In eombination with the roller C, the spring *g* and journals D, with the slide *e* attaehed to move in the grooves G, when constructed and arranged to operate substantially as described.

2. The roller C, spring *g*, journals D, and slide *e* attaehed, in eombination with the groove G, and cords *a* and *f*, when constructed and arranged to operate substantially as deseribed and for the purpose set forth.

75,153.—Robert D. Gray, Lafayette, Ind., assignor to himself and William B. Brittingham, same plaee.—*Rotary Valve for Steam and other Enginery.*—March 3, 1868.—The eonieal valve has similar cavities on the opposite sides, and is balaneed by the pressure of steam. The valve is oseillated by a tappet rod on which slides an arm adjustable on the piston rod.

Claim.—1. The construction of the conical valve F, with reeesses and ends with reference to the ehambers F^1 and F^2, valve chest D, and ports D^1 and D^2, substantially as herein set forth.

2. The arrangement of the oscillating valve F, valve stem G, arms L and K, tappet rod I, stops I′, and tappet arm H, substantially as deseribed.

75,154.—Henry B. Grebinger, Millersville, Pa., assignor to himself, B. E. Kendig, and C. B. Herr, same place.—*Scrubber Holder.*—March 3, 1868.—The strips of gum elastic are held between alternating metallie strips, which serve to keep them asunder and seeure them in the head. The rubber and metallic strips are traversed by bolts passing through the sides.

Claim.—The intervening pieees F, with their perforations *f*, in combination with the slotted sides B *c*, headed screw bolt D, all arranged and applied in the manner and for the purpose specified.

75,155.—C. B. Gregory, Beverly, N. J.—*Fireplace.*—March 3, 1868.—The stove has double walls, the annular chamber between which is filled with gravel. Air is admitted through registers at the bottom and passes through a number of apertures in all parts of the inner plate.

Claim.—A fireplace, consisting of a perforated casing, surrounded by a mass of gravel, or other equivalent granulated material, through which the air must pass to the fuel, substantially as and for the purpose herein set forth.

75,156.—John Grüssi, Cleveland, Ohio.—*Flat Iron.*—March 3, 1868.—The top is hinged at the rear end, and secured by a staple and hook at the fore end. The eharcoal is placed on a grate supported above the bottom of the chamber. The air holes pass inward and downward, opening beneath the grate. The carbonic acid gas passes out through the side passages beneath the lid.

Claim.—1. The draught holes *d d*, arranged below the grate, in eombination with the grate H, and vent *c*, and chamber A′, as and for the purpose set forth.

2. The cover E, body A, ehamber A′, and vent *c*, in combination with the grate H, draught holes *d d*, and door J, substantially as and for the purpose specified.

75,157.—John N. Guger, Peoria, Ill.—*Tug and Chain Carrier.*—Mareh 3, 1868.—The ring in the back strap to whieh the hip straps are attaehed has side hooks on which the chains are hung when unhitehed.

Claim.—A tug and ehain carrier attaehment for a harness, eonstructed in the form herein shown and deseribed, and having hooks G and pivot pin H eombined therewith, all arranged and operating as specified.

75,158.—Jonathan R. Hamilton, Portland, Oregon.—*Instrument for Making Local Applications in Uterine Diseases, &c.*—March 3, 1868.—The eup is fitted to contain lint saturated with the proper remedy, and is detachable from the stem, so as to be used without it, in some cases where the patient is in a reclining position.

Claim.—The eup A, as constructed and applied, substantially in the manner herein deseribed, for the purposes specified.

75,159.—John Harvey, Scranton, Pa.—*Hat Hook.*—March 3, 1868.—The hook is raised by the spring, but may be depressed and held by a button.

Claim.—The arrangement of the plate A, arm B, and spring C, when the several parts are constructed substantially as and for the purpose specified.

75,160.—Lewis T. Hawley, Salina, and Amos Westcott, Syracuse, N. Y.—*Cooling Milk.*—March 3, 1868.—The ice reeeptacle fits into the mouth of the can, and has from the eenter of the bottom a cylindrical extension whieh passes down into the milk. The cover of the said reeeptaele has spring studs in its edge which hold it in plaee.

Claim.—1. The felt jacket, or eovering of other suitable material, in eombination with the stopper and ice reservoir A, arranged substantially as and for the purpose above set forth.

2. The reservoir for ice or cold water A, eonstructed and arranged substantially as above deseribed, and for the purpose above specified.

3. The knobs on the collar of the eover, substantially as and for th e purpose above set forth.

75,161.—Jonathan Heisler, Schuylkill Haven, Pa.—*Tonic or Bitters.*—Mareh 3, 1868.—Composed of black snake root, 1 oz.; wild eherry bark, 1 oz.; elecampane root, ½ oz.; sarsaparilla root, ½ lb.; pine tree gum, ¼ lb.; buds of balsam tree, ¼ lb.; alcohol, ½ pint; and water, 8 qts.

Claim.—The bitters or tonie, compounded and used substantially in the manner and for the purpose as herein described.

75,162.—George W. Herring, Bangor, Me.—*Cant Hook.*—Mareh 3, 1868.—The bar to which the hook is pivoted is turned out beneath the lower end of the ferrule.

Claim.—The pivoting of the hook C to the bar B, when said bar is provided with a lip *x*, and eonstructed to operate substantially as and for the purposes specified.

75,163.—J. S. Hooton, New Carlisle, Ind.—*Apparatus for Heating and Purifying Feed Water for Steam Generators.*—March 3, 1868.—Improvement on his patent of March 5, 1861. A bent pipe connects the lower part of the condenser with the filter, which has an overflow pipe near to the top, and a discharge ehamber for the accumulation of water near the bottom.

Claim.—1. The combination of the man holes *a a a a a*, shelves or plates 1 2 3 4 5 6 7 8, and the struc-

ture or casing A, constructed and operating substantially in the manner and for the purpose herein set forth.

2. The filtering case C, elbow pipe L, spouts G and H, in combination with the casing A and plates or shelves 1 2 3 4 5 6 7 8, all arranged and operating in the manner substantially as herein set forth.

75,164.—Robert B. Hugunin, Cleveland, Ohio.—*Pen Rest.*—March 3, 1868.—The ring fits on the second finger and has a fork to receive the pen-holder.

Claim.—The shield herein described, for the purposes specified.

75,165.—John S. Hull, Cincinnati, Ohio.—*Hydrocarbon Burner.*—March 3, 1868.—The hydrocarbon is forced from the reservoir by air injected therein by pumps. The fluid passes through tubes above the burners, to cause its heating and attenuation. Jets of steam are mingled with the gas at the burners to assist combustion. Steam may be passed through the heating pipes to clear out scales or sediment. The packing of the valves, which are subject to heat, is of prepared asbestos.

Claim.—1. A heater or burner apparatus, supplied at all points of combustion by the force of compressed air acting upon the fluid, substantially as and for the purpose herein specified.

2. A cut-off valve C, between the pump B and the reservoir, for the purpose set forth.

3. The location of the air and fluid ducts *a* and *b* outside of the reservoir, substantially as and for the purpose specified.

4. The double bosses *f*, for attaching the pipe coupling to the reservoir, for the purpose set forth.

5. The arrangement of the burners G G in numbers upon different tubes F^4 F^4, which are separately or in sets, provided with cut-off valves, so as to increase or diminish or distribute the burners to any desired extent, substantially as herein set forth.

6. The superheating tubes F^2 F^2, extended over the burners and communicating with the pipes J J, substantially as and for the purpose herein set forth.

7. The arrangement of flame deflectors I I over the superheating tubes, substantially as specified.

8. The arrangement of numbers of burners G G, in line with one another, so that the burners *l l l* of each set may be connected with one adjusting shaft, and adjusted simultaneously, substantially as specified.

9. The adjustment of the said burner-points separately to their connections with the common adjusting shaft, for the purpose set forth.

10. The introduction of the superheated steam jets into the flame jets of the burners directed thereto, substantially as and for the purpose herein specified.

11. The employment of steam for clearing out the supply and burner tubes, which are so arranged as to admit the passage of the steam through them, substantially as herein described.

75,166.—James Hutchinson, Fond du Lac, Wis.—*Hop Press.*—March 3, 1868.—The eccentric cam is pivoted to a block which slides between the standards and is held down by pawls traveling down ratchets upon the sides of the standards. The beam also slides on the standards and has pawls which hold all the movement gained by the cam.

Claim.—The improved mechanical arrangement for pressing hops and similar substances, consisting of the hinged lever G, with its eccentric head H, block E, provided with the dogs *c*, in combination with the ratchet plates C and beam D, provided with the roller F and pawls *a*, when constructed and arranged to operate as described.

75167.—Niels Johnson, Berlin, Wis.—*Machine for Boring Hubs.*—March 3, 1868.—The hub is placed in the universal clutch, and a cylindrical or tapering hole formed axially in the same. In forming the tapering hole, the cutter has automatic, centrifugal movement simultaneously with its feed movement.

Claim.—The bars H H, clamps I and J′, pinions L L, rack bar J, and set screw K, for forming a universal clamp for hubs, substantially as set forth.

75,168.—E. H. Kirkham, Boston, Mass.—*Clothes Sprinkler.*—March 3, 1868.—The water is introduced through the valve openings in the side of the head. The elastic bulb at the top acts either to draw in the water or to enforce its ejection.

Claim.—1. A clothes sprinkler, made essentially as herein shown and described, that is to say, as composed of the elastic bulb *a*, tubular stem *c*, and foraminous cap *d*, the latter being provided with ports and valves, substantially in manner and for the purpose as hereinbefore explained.

2. The before described mode of forming and applying the valves *g g*, that is, as consisting of the annulus *n* and spurs *g g* applied to the neck of the stem *c*, and so as to cover the ports *a′ a′*, the whole being arranged and operating as set forth and explained.

75,169.—Richard Kitson, Lowell, Mass.—*Brake for Cotton Lappers.*—March 3, 1868.—The friction pulley is fastened to the shaft of the pinion between the arm and the shield, which form the swinging yoke. The upward motion brings the friction pulley into contact with the shoe, to check the motion of the said pulley, and the downward motion of the yoke releases the pulley from contact with the shoe. The yoke shield is on the central shaft, forming a case to protect the gear and pinion from sand and short fiber, and also forming a support for one end of the pinion shaft which passes through the friction pulley and enters the arm at the junction of the horizontal and vertical portions thereof.

Claim.—1. The stationary shoe C, combined with the friction pulley B and swinging yoke, in the manner and for the purpose substantially as specified.

2. The swinging yoke, consisting of the shield D and arm *b*, arranged and applied substantially in the manner and for the purpose set forth.

3. The shield D, arranged to cover the gears, and form one bearing or support for the shaft of the pinion *a* and pulley B, as explained.

4. The combination of the shield D, gear F, pinion *a*, friction pulley B, stationary shoe C, arm or lever *b*, transverse lever *g*, weight *f*, connecting rod *d*, and foot lever G, all arranged to operate substantially as and for the purposes set forth.

75,170.—John L. Klein, New York, N. Y.—*Manufacture of Soap.*—March 3, 1868.—Paraffine, 1,000 lbs., and "vegetable wax," 500 lbs., are melted, and then salt lye, 20° Banmé, 500 lbs., is added; boil 1 hour, and then add soda lye, 20° Baumé, 1,500 lbs.; boil 2 hours, then turn off the steam, run off the lye, and add fish oil, 1,000 lbs.; palm oil, 50 lbs.; and salt lye, 500 lbs.; boil 1 hour, then add caustic soda lye, 1,000 lbs.; boil 4 or 5 hours, and settle.

Claim.—The combination of paraffine and ceria-japonica to make soap, using for that purpose the aforesaid compound and ingredients, or any other substantially the same, and which will produce the intended effect.

75,171.—Harry K. Leech, Harrisburg, Pa.—*Railroad Switch.*—March 3, 1868.—The guide has a weighted bottom, so as to readjust itself after divergence by a passing train, and tends to guide a car passing in any way upon the main track. The guide may be held by the lever so as to guide a car on to the side track.

Claim.—The guide J, hung in fixed and movable bearings, when constructed and adjusted with the rails, substantially as and for the purpose herein set forth.

75,172.—A. H. Lighthall and Charles F. North, Cohoes, N. Y., assignor to Charles F. North, same place.—*Car Heater.*—March 3, 1868.—The furnace is placed beneath the floor of the car, and is inclosed in a shell, leaving an annular air space outside the furnace, from which the air escapes into the car through a register. The air for combustion is received through one of the fore-and-aft flaring-mouthed ducts, and the smoke escapes through side flues.

Claim.—A heater for railroad cars, having cylinders B and C, fire and ash boxes, as described, rod N, clutch O, lugs L, draught funnel I, griddle S, and wire T, constructed, combined, and arranged substantially as specified.

75,173.—William A. Lighthall, New York, N. Y.—*Securing Tubes in Surface Condensers.*—March 3, 1868.—A transverse slot is made near the end of the tube, and a longitudinal slot from the end taps its middle. The resulting lips are bent outward.

Claim.—Making the slotted apertures in the ends of the tubes of surface condensers for steam engines in the manner and for the purposes set forth.

75,174.—John T. Lowrey, James A. Case, and Richard Chew, High Banks, Ind.—*Corn Planter.*—March 3, 1868.—The seed slide is operated by the foot and a spring. The seed is covered by the corrugated drags. The sides may be adjusted in distance, or one may be removed from the other and used in planting single rows.

Claim.—The combination of the drag A, so constructed that the part A′ may be detached, in combination with the parts B, C, D, E, F, and G, arranged to operate for planting double or single rows, substantially as described.

75,175.—Levi H. Mace, Westchester, N. Y., and Frederick S. Gwyer, New York, N. Y.—*Bottom for Ice Box in Refrigerators.*—March 3, 1868.—The plate has an upturned edge, and is so corrugated and inclined as to run the water to the discharging orifice.

Claim.—The radially-corrugated sheet-metal bottom, formed and adapted for use in refrigerators, substantially as and with the advantages herein specified.

75,176.—James H. Mortin, Columbus, Ohio.—*Scaffolding for Building.*—March 3, 1868; antedated February 22, 1868.—The bars by which the inner sides of the brackets are supported extend into or through the wall; in the first case having an upturned end, and in the other case having an eye giving engagement to a brace rod extending to the sills or joists. The hoisting frame consists of a gallows which is connected to the outside of the brackets, and has a hook at its head for attachment of the pulley block.

Claim.—1. The combination, with the brackets C, of the bars *a*, fitted into the joints of the wall, and braced by suitable tension braces *c* against the strain exerted thereon by the aforesaid brackets, substantially as and for the purpose specified.

2. The arrangement of a removable hoisting frame D, with reference to the scaffold constructed with detachable supporting brackets *c′*, substantially as and for the purpose specified.

75,177.—Samuel McGee, Madison, N. J.—*Boring Faucet.*—March 3, 1868.—The stock of the cutter screws into the diaphragm, and is held by a cross pin. The cutter is adjustable diametrically in the stock, and is secured by a set screw.

Claim.—1. The combination of a faucet and an adjustable cutter so arranged that they may be adapted to faucets of various sizes, substantially as set forth.

2. Constructing a faucet with a diaphragm *i* to form a chamber in the end to receive the cutting made by the bit in entering the barrel, substantially as set forth.

75,178.—James S. McMurray, Toronto, Canada, assignor to himself, Thomas Richard Fuller, and Samuel Street Fuller, Stratford, Canada West.—*Car Coupling.*—March 3, 1868.—One end of the link has a pendent pin which braces against the rear end of a slot in the lower side of the draw head, and holds the link in a horizontal position.

Claim.—The pin *g* upon the coupling link I, in combination with the inner beveled end of the slot *e*, the pivoted pin C, crank G, and weighted crank E, as herein described, for the purpose specified.

75,179.—Thomas Meikle, Louisville, Ky.—*Machine for Making Plow Clevises.*—March 3, 1868.—The center piece or former is secured to the sliding plate, and the blank bent around it by the pivoted jaws which are forced upon it by the anti-friction rollers on the guide frame. The plate is reciprocated by link connection to an arm of a bar rocked by a lever. A pair of anvil blocks give bearing to a series of "sets" which may be raised from their sockets by treadles.

Claim.—1. The combination of the sliding plate J, having a fixed center piece R attached thereto, with the compressing levers or jaws H, rollers I, screw P, and mechanism for operating the sliding plate, substantially as and for the purpose set forth.

2. The swages and blocks constructed as described, for use successively in forming a flat iron bar, so that the clevis may be completed by bending it in a machine fitted for that purpose, substantially in the manner set forth.

75,180.—John H. Mercer, New York, N. Y.—*Bath Tub.*—March 3, 1868.—The escape valve and supply pipes are inclosed in a separate chamber divided from the other part of the tub by a perforated plate. This chamber also contains the float which raises the exit valve when the tub is filled.

Claim.—1. The perforated plate *q* at the end of the bath, covering up the descending pipes and their cocks, substantially as set forth.

2. The arrangement of the pipes *g*, *h*, *k*, and *l*, at the end of the bath tub, in combination with the cocks *o* and *p*, the handles of which are above the table piece *w*, as and for the purposes set forth.

3. The arrangement of the float *s* and valve *d*, operating in the manner set forth, in combination with the bath tub and perforated end plate *q*, as specified.

75,181.—Henry J. Miller, Nashua, N. H.—*Boot Jack and Blacking Brush.*—March 3, 1868.—The backs of the brush and dauber have plates with tapering dovetail recesses, by which they are connected to the opposite jaws of the boot jack. The latter constitutes a handle.

Claim.—The combination of the boot jack A and brushes B C, when they are connected together and held in the manner specified.

75,182.—John Mix, West Cheshire, Conn.—*Manufacturing Gimlets.*—March 3, 1868.—The blank is bent and grooved by swaging, and is formed into a spiral gimlet by a series of operations.

Claim.—The method herein described of forming blanks for gimlets or gimlet bits.

75,183.—Hiram Moon, Red Creek, N. Y.—*Carriage.*—March 3, 1868.—The fifth wheel consists of two disks with counterpart concentric ribs and depressions upon their contiguous faces.

Claim.—The combination and arrangement of the upper and lower part of the circle A A′ with spring brace *k* and pereh plate *m*, as and for the purpose set forth and described.

75,184.—Wallace T. Munger, Branford, Conn., assignor to Thomas Kennedy, same place.—*Reversible Knob Latch.*—March 3, 1868.—The follower has motion on the hub under the influence of the spiral spring when the spindle is withdrawn, and allows the yoke to move forward so that the head of the latch may be reversed.

Claim.—The combination of the follower K, provided upon its inner side with the points *k k* for operating the latch, and with projections L L and *n* for receiving the hub I; the said hub I being provided upon one side with a shoulder *i*, to form a bearing in the plate of the case, and upon the opposite side a slot J, and shoulder *m* to receive the projections L L and *n* on the follower, and the whole constructed and arranged so as to operate the latch bolt in the manner herein set forth.

75,185.—John Neff, Jr., Pultney, N. Y.—*Cultivator.*—March 3, 1868.—The draw bar and the handles are adjustable so as to work the plow with either side coinciding with the line of draught. The fore end of the draw bar is supported on a spring.

Claim.—1. The draught-rod B, when made and applied and supported by a spring, as specified.

2. The method of fastening and adjusting the handles by means of the support E, as set forth.

3. The teeth F, G, H, I, and J, when constructed and arranged substantially as specified; also, the furrow board, when made and applied to the teeth, substantially as set forth.

75,186.—JOHN A. NESBIT, Charlottesville, Ind.—*Boot Crimping Machine.*—March 3, 1868.—The "former" is fixed in a frame, and is forced down between the adjustable jaws by a rack and pinion.

Claim.—1. The guide B, sliding on ways attached to the frame A, and so cut away on the lower edge that the clamps may be attached to the edges of the leather while on the brake and under pressure, and used in combination with removable brake C, adjustable jaws D, and clamps G, substantially as described.

2. The arrangement of the reciprocating guide B, ways A, removable brake C, winch E, and pinion and rack F, substantially as and for the purpose set forth.

75,187.—MILTON W. and GEORGE W. NESMITH, Metamora, Ill.—*Grain Register.*—March 3, 1868.—The register is operated by the movement of a spring lever, against which the measure is forced to impinge by a post in the receiving box.

Claim.—1. A grain-measuring apparatus, constructed substantially as described, and provided with a registering device operated by a lever, so arranged, that by drawing the measure past it in one direction, the register will be operated substantially as described.

2. The registering device, consisting of the dial wheels *v*, provided with the pins *x*, and having the gear wheels *m* attached, in combination with the double wheel *u*, when said parts are arranged as described, and operated by the pawl P, as and for the purpose set forth.

3. The pawl P, having the dog *t*, with the stop *r* and spring *n*, all arranged substantially as described.

4. The combination of the registering device, the pawl P, and the lever L, all arranged to operate as and for the purpose set forth.

75,188.—WALTER B. NOYES, Dorchester, N. H.—*Saw Jointer.*—March 3, 1868.—The file is clamped to a carriage on the arm, which is secured to the frame, giving journal bearing to the saw mandrel. Upon the opposite side of the saw is a clutch to prevent vibration.

Claim.—The jointer *g*, constructed and operating as and for the purpose set forth.

75,189.—PETER NUMSEN, Baltimore, Md.—*Fruit Can.*—March 3, 1868.—The down-turned flange, forming the side of the hole, has an inturned edge to support the cap, which is a flanged disk, and when inserted, is flush with the can top.

Claim.—1. The combination of a hole C, and cap D, shown in Figs. 1, 4, 5, constructed and operated in the manner and for the purpose herein substantially set forth.

2. Forming or shaping a hole, C, as shown in Figs. 1, 4, 5, in the manner and for the purpose herein set forth.

75,190.—J. P. OLIN, Westfield, Ohio.—*Corn Marker, &c.*—March 3, 1868.—The cross beam, to which the standards of the shoes are attached, has two joints to allow of the sections bearing the outer standards being thrown over upon the middle section to shorten the implement or to override obstacles.

Claim.—The arms E, braced and hinged to the frame A, and markers B′, in combination with the frame A′ and adjustable markers B, substantially as and for the purpose set forth.

75,191.—THOMAS W. PLUM, London, England.—*Siphon Faucet.*—March 3, 1868.—The cock is connected to a flexible, floating pipe, which draws the liquid from immediately beneath the surface, and the exit of the cock is so low that it will draw all the liquid out, acting at the last as a siphon.

Claim.—A tap or cock so constructed as that its discharging aperture may be opened and closed below the level of the bottom of the cask or vessel into which it is inserted, and whose inner end consists of or terminates in a floating flexible tube, all substantially in the manner and for the purpose herein set forth.

75,192.—D. H. PORTER, Bridgeport, Conn.—*Pivoting Teeth.*—March 3, 1868.—The bent portion of the U-shaped piece is inserted in the tooth during manufacture, and the expanded ends are inserted in the plate.

Claim.—The herein described double-headed U-rivet, for insertion into mineral teeth, in the manner and for the purpose substantially as herein set forth.

75,193.—HENRY G. PORTER, Grand Rapids, Mich.—*Hay Elevator.*—March 3, 1868.—One barrel shaft of the stationary horse-power is connected by a clutch to a barrel upon which the hoisting cord is coiled. The fork is allowed to descend by unclutching the barrel from the ratchet wheel upon the shaft.

Claim.—1. The arrangement of the horse-power, with the ratchet wheel D, spool E, pawl F, lever G, and cords J and K, substantially as and for the purpose set forth.

2. The combination of the fork with the horse-power, ratchet wheel D, spool E, pawl F, lever and cords, when the parts are arranged and operating substantially as and for the purposes set forth.

75,194.—J. C. POTTER, Alfred, N. Y.—*Indicator for Knitting Machines.*—March 3, 1868.—The shaft of the index finger is so connected to the knitting mechanism as to denote the number of rounds knit, as an indication for widening or narrowing.

Claim.—1. The arrangement of the shaft E with the gear wheel G, ratchet wheel H, finger L, and dial plate F, substantially as and for the purpose set forth.

2. The combination, with the needle-supporting bed and the shaft C, of a knitting machine, provided with a screw, of the clamp B, shaft E, gear wheel G, finger L, adjustable dial-plate F, all arranged and operating as set forth.

75,195.—WILLIAM S. REEDER, St. Louis, Mo.—*Head Block for Saw Mills.*—March 3, 1868. A cogged rack runs the entire length of the carriage, and being operated by a segmental rack upon a lever at one end, actuates the cog wheels upon the feed screws of the log rests of the head blocks. These cog wheels connect to the feed screws by ratchets and pawls, so as to make the retrograde movement of the rack inoperative upon the screws.

Claim.—1. The arrangement and combination of the lever device E′, the graduated limb E, the rack D, and the cog wheels c^1, substantially as and for for purposes set forth.

2. The arrangement and combination of the crank wheel C′, the pawl c^3, ratchet wheel c^2, and the application thereof to actuate the screw C to produce the feed motion of the head block B′, as set forth.

3. The spring brake F, to prevent small logs from being thrown over too far, when constructed substantially as set forth.

75,196.—GEORGE RICHARDSON, Lowell, Mass.—*Machine Clock.*—March 3, 1868.—The machine clock is intended to show the number of reciprocations or revolutions made by any part of a machine. Motion is communicated to a worm gear, which communicates by a system of gear wheels with the index finger.

Claim.—The application of the stationary internal gears *d* and *e*, traveling gears *j* and *n*, and pinions *i* and *l*, when arranged to operate substantially as described and for the purposes fully set forth.

75,197.—ALFRED ROBINSON, New York, N. Y.—*Process and Apparatus for the Manufacture of Roofing Fabric.*—March 3, 1868.—The strips of paper are tarred, cemented, and pressed together by passage between rollers. The tarring rollers rotate in fountain troughs, and raise the contents into contact with the paper.

Claim.—1. The process of preparing roofing fabric, substantially as herein specified.

2. The combination of a system of pressure and saturating rollers so arranged relatively with each other as to accomplish the purpose of my invention, substantially as herein specified.

75,198.—JOHN ROOT, New Haven, Conn., assignor to himself and MACLAGON & STEVENS, same place.—*Bolt Heading Machine.*—March 3, 1868.—The header is reciprocated vertically by a crank on

the main shaft, which has pitman connection by a lever operating the header slide. The dies are forced in upon the blank by the projections from the cylinder. The latter has vertical reciprocation by connection to a crank on the main shaft.

Claim.—1. The arrangement of the cylinder B, with its projections *f*, the levers *e*, and die-holders *b*, so as to force up and withdraw the said die-holders, in the manner substantially as described.

2. The combination of the slide F, fulcrum pin *i*, block I, and eccentric L, with the lever H, all as herein described and for the purpose set forth.

75,199.—H. Schuyler Ross, Buffalo, N. Y., assignor to Charles G. Ross, New York, N. Y.—*Wrench.*—March 3, 1868.—The fixed jaw is pivoted to the cam lever, and has a slot in which the sliding jaw moves. The sliding jaw is forced toward the fixed jaw by a cam surface upon the lever, and is pressed from the fixed jaw by a spring.

Claim.—1. A wrench composed of a stationary jaw A, a movable jaw B, cam D, and handle E, constructed and arranged substantially as and for the purpose specified.

2. A wrench having its movable jaw B, operated by a cam D, pin *h*, and groove C, or their equivalents, substantially as herein specified.

75,200.—E. A. G. Roulstone, Roxbury, Mass.—*Trunk Corner.*—March 3, 1868.—The corner is made of one piece of metal in which the buckling side is cut out at the corner. The ends may lap and be secured together, or a reinforcing piece may be laid over and secured.

Claim.—A metal corner for traveling trunks, in which the metal is cut away or incised to form the corner, substantially as set forth.

75,201.—Daniel Rudolph, Sugar Grove, Ohio.—*Bee Hive.*—March 3, 1868.—The tin drawers have inturned flanges at top which prevent the ascent of worms and have grates above which allow the worms, of any eggs deposited upon them, to fall through into the drawers.

Claim.—The construction, arrangement, and combination of the flanged tin drawers with a wire sieve above, and surrounded by open chambers on each side, as herein described, for the purpose of entrapping moths, millers, and worms, and preventing their infesting the bee house.

75,202.—J. Ruhl, Defiance, Ohio—*Harrow.*—March 3, 1868.—The gudgeons of the toothed rollers turn in a frame to which the harrow frame is hinged. The latter may be swung upward and forward by a lever whose pawl engages a circular ratchet.

Claim.—The revolving harrows B B, hinged frame C, lever *g*, pawl *h*, and stationary ratchet wheel *f*, all arranged in combination, substantially as and for the purpose set forth and described.

75,203.—S. Franklin Schoonmaker, New York, N. Y.—*Preserving Hops.*—March 3, 1868; antedated February 22, 1868.—A chamber is rendered air tight by lining with plates of thin iron whose joints are made tight by strips of metal with rubber lining. The only communication with the chamber is through the hatchway, which is hermetically closed after introduction of the hops, and through pipes through which the air is withdrawn and the disoxygenated air returned. The air is disoxygenated by passing over oxide of barytes heated to a low red.

Claim.—In connection with a suitably inclosed chamber or compartment, nitrogen gas, when produced from the confined air by the agency of a chemical compound and heat, without the production of carbonic acid gas, substantially as and for the purpose described.

75,204.—Gustav Schumacher, New York, N. Y.—*Combined Knob Latch and Lock.*—March 3, 1868.—The stud of the spring tumbler enters a lengthened depression when the lock is used as a spring latch, and allows the movement of the latch, but enters a small notch when it is thrown forward by the key, and locked.

Claim.—A sliding latch-bolt, provided with studs 3, for the cam *b* to act against, and with two talons 4 and 5, for the key to act upon, in combination with the tumbler *c*, stud 10, and notches 11 and 19, as and for the purposes set forth.

75,205.—B. W. Shaw and George A. Simmons, Morristown, Vt.—*Churn.*—March 3, 1868.—The barrel has circumferential flanges forming wheels, and has gudgeons journaled in a frame so as to churn the cream by being rolled about.

Claim.—The combination of the cylinder A and the wheels B B, when constructed and operated substantially as and for the purpose herein set forth.

75,206.—Edwin R. Shepard, Scranton, Pa.—*Rail for Railways.*—March 3, 1868.—The bolts pass horizontally through the vertical plates of the rail and chair, and are secured by keys passing through their slots and held in place by the S-spring through which pass the projections at the ends of the keys.

Claim.—An inclined and wedge-keyed bolt, constructed substantially as described, in combination with a compound rail, as and for the purpose set forth.

75,207.—N. B. Sherwood, Millville, N. Y.—*Cotton Seed Planter.*—March 3, 1868.—The seed is raised by the hooked conveyers upon an endless chain, and is dropped by the descending conveyers into the discharge opening.

Claim.—1. The construction and relative arrangement, in connection with the chains, of the conveyer D, substantially in the manner and for the purposes herein shown and described.

2. The application of the flat link chains C, with conveyers D attached, to cotton-seed planters, substantially in the manner and for the purposes shown and described.

3. The sunken channels within the drums P, and the surface board J, for the carrier chains C, or their equivalents, to travel in, for the purposes herein shown and described.

75,208.—A. M. Shurtleff, Boston, Mass.—*Apparatus for Atomizing Liquids.*—March 3, 1868.—The air vessel communicates with an elevated water tank, the water from which displaces the air in the said vessel.

Claim.—In combination with atomizing tubes, an air vessel having means of connection both with the atomizing tubes and a stationary liquid head, substantially as set forth.

75,209.—Franz G. Siemers, Winona, Minn.—*Scraper for Ice Cream Freezers.*—March 3, 1868.—Improvement on his patent of January 21, 1868. The flaring scrapers have rectangular faces; their edges being curved to fit the side of the vessel. The rods have screw-threaded portions at their ends which receive nuts by which the scrapers are secured to them.

Claim.—The scraper E, constructed substantially as described, and made adjustable on the arm D, as set forth.

75,210.—Warren A. Simonds, Boston, Mass., assignor to himself and Henry H. Hyde, same place.—*Gas Regulator.*—March 3, 1868.—The bell is connected to the rod of the sliding valve and opens the same as the gas becomes exhausted from the said bell.

Claim.—1. The arrangement of cylinder A, with its interior annular ring or chamber, filled with mercury, and inlet and egress passages B and D, in connection with the floating bell F and rod *h*, opening and closing valve *l*, in valve chest C, all operating together as and for the purpose described.

2. The construction of the regulation valve, consisting of valve chest C, with its triangular opening *n* in plate O, and having arranged within it slide *l*, pressed by spring *m*, to open or close the said opening, all operating together, as and for the purpose described.

75,211.—David S. Slater, Poynett, Wis.—*Cultivator.*—March 3, 1868.—The frame is constructed of iron, and has a central and two laterally-adjusted

side plows. The side plows are so clipped to the standards that they may be set sideways, more or less, to throw the soil in the required direction.

Claim.—A cultivator consisting of the central bar A, having the adjustable handles C and the rigid share *o'* attached thereto, in combination with the laterally adjustable side bars B, having the adjustable shares *o* secured thereto, and all arranged to operate substantially as shown and described.

75,212.—BENJAMIN M. SMITH, New York, N. Y.—*Button Hole for Paper Articles of Apparel.*—March 3, 1868.—The fore end of the button hole has a metallic plate bent around the edge, serving to strengthen it.

Claim.—The metallic shield piece *a*, in combination with the button hole A* of a paper article of apparel, substantially as and for the purpose specified.

75,213.—J. C. SPARKS, Philadelphia, Pa., assignor to himself and A. G. BUZBY, same place.—*Carriage Wheel.*—March 3, 1868.—The ends of the felloes and the spoke are received into the rectangular ferrule.

Claim.—The arrangement of the ferrule A, having tapering sockets as described, the felloes C C', and spoke B, when projections on the said felloes are recessed for the reception of a tenon on the spoke, which projects through the side of and into the ferrule, all as set forth.

75,214.—GEORGE B. ST. JOHN, Boston, Mass., assignor to himself and NORMAN S. CATE, same place.—*Watch Key.*—March 3, 1868.—The accumulation of dirt is forced from the socket by the plunger which is retracted by the spiral spring surrounding it.

Claim.—The combination and arrangement of the elongated swivel or plunger and its surrounding spring with the key head and the pin D, substantially in the manner and for the purposes herein shown and described.

75,215.—A. S. STONE, Plainview, Minn.—*Grain Binder.*—March 3, 1868.—The grain falls on four endless belts or chains, carried on sprocket or chain wheels; the rear pair of belts carry a rake whose head bar is bent around rectangularly at the ends, and these arms are acted on by guides to elevate the rake teeth in the forward stroke and allow them to present backward on return. The grain is carried to the binder. The latter has two rigid semicircular arms on two rock shafts carrying spur wheels gearing together, and motion is communicated to them through a crank shaft upon one of them. These arms carry upon their ends devices for automatically twisting and cutting the binding wire and for gripping the end of the same, which is then carried down beneath the path of the grain as it passes into the binder. After binding the sheaf is seized by the automatic catch and dropped behind the machine. The size of the sheaf is regulated by adjustable, flexible bars within the rigid arms, and whose lower ends are connected together by an elastic strap.

Claim.—1. The arms G G', arranged upon the shafts D D', with the springs H H', rubber L, box O, with twisting device, and pinecrs R, and chisels, all constructed, arranged, and operating in the manner substantially as and for the purposes herein fully set forth.

2. The carrying device, composed of the bar X, shaft M, with its cogs *y* y^1, and wheel *z*, with its frame, and revolving pinchers Q, when constructed and used in the manner and for the purposes specified.

3. The combination of the reaper platform *c*, rake shafts C C', wheels *d d'*, chains *g g*, with rakes *e*, and cutters *b b*, with the grain-binding devices herein described, all arranged and used substantially as specified.

75,216.—ENOCH E. STUBBS, West Elkton, Ohio.—*Combination Padlock.*—March 3, 1868.—The disk tumblers have notches into which projections upon hasp hooks may enter, when the tumblers are set to the proper combination. The disks have small rectangular notches into which the spring pawl drops, when not raised by the D-formed, turning stud. The safety bolt is held up by a hook on a stud, so as to prevent the retraction of the hasp, and may be freed by turning the stud. Another stud has a slot into which a thin projection of the hasp enters when it is thrown back; this last turning stud has to be set to proper position to allow unlocking; this is done by the curved end of the key which is inserted through the edge of the padlock, and acts on the lower end of the spring hasp.

Claim.—1. The combination of the safety bolt *f* with the hook E and hasp hook F, arranged and operating substantially as described for the purpose specified.

2. The spring pawl D and eccentric stud 7, in combination with tumbler *a* and pivoted hook F, arranged and operating conjointly in the manner and for the purpose described.

75,217.—GEORGE H. TAYLOR, New York, N. Y.—*Apparatus for Exercise.*—March 3, 1868.—The adjustable couch has an aperture through which the headed rods project and are caused to impinge upon the person of the patient by connection to a lever which has vertical and horizontal oscillatory reciprocation by connection to a crank on a rotating horizontal shaft.

Claim.—1. The headed rods F, driven by any suitable mechanism for producing a reciprocating or circular motion of the headed ends of said rods, substantially as and for the purpose set forth.

2. The combination, with the headed rods F, of the lever G, said lever G being driven substantially as described to produce the motion set forth.

3. The combination, with the headed rods F and lever G, of the crank K, substantially as and for the purpose set forth.

4. The combination, with the headed rods F and lever G, of the jointed parallelogram I, constructed and operating substantially as set forth.

5. The combination, with the headed rods F, of the top B of the couch, said top B being made adjustable to different angles of inclination by means of the hinges C and a pawl or prop working in a rack or ratchet, or their equivalents, substantially as set forth.

75,218.—GEORGE H. TAYLOR, New York, N. Y.—*Apparatus for Exercise.*—March 3, 1868.—An oscillatory movement, adjustable in extent, is given to the hand and foot rests by connection to cranks on a rotating shaft. The crank arms on the shafts of the hand-hold and foot rest have diametric adjustment in the said shafts to regulate the extent of movement.

Claim.—1. The handle B, driven by any suitable mechanism by which a vibratory or oscillating motion is imparted to it, substantially as and for the purpose set forth.

2. The shoe or foot-holder B', driven by any suitable mechanism by which a vibratory or oscillating motion is imparted to it, substantially as and for the purpose set forth.

3. The combination with the handle B of the shaft A, crank C, crank E, and rod D, substantially as and for the purpose set forth.

4. The combination, with the foot-holder B' of the shaft A', cranks E' and C', and the rod D', substantially as and for the purpose specified.

5. The combination with the handle B and foot-holder B' and their immediate connections, of the driving shaft F, pulleys G and H, and a suitable means for applying power, as described, the whole constituting a machine constructed and operating substantially as and to the effect set forth.

75,219.—HENRY R. TAYLOR, Westport, Conn.—*Gear Cutting Tool.*—March 3, 1868.—The cutters are so pivoted to the stock that they may be turned up in a lathe by a backward rotation; and may then be swung out so as to give the proper prominence to the cutting edge.

Claim.—The rotary cutter, made up substantially as described, of a stock or holder and loose or separate cutting teeth or blades pivoted to the holder, and forming curvilinear sections outside of the latter, and constructed so as to be self-adjustable therein, or relatively thereto and each other.

75,220.—DAVID B. THOMPSON, Brooklyn, N. Y.—*Elevator for Buildings.*—March 3, 1868.—The hatchways are closed by safety platforms which are

thrown forward by springs from each side of the aperture. The hoisting stage has upper and lower inclines which force back the sliding platforms to allow its passage.

Claim.—1. The arrangement of a single or double inclined plane on the upper or lower, or both ends of the elevator, substantially as and for the purpose specified.

2. The single or double inclined plane, arranged upon a vertical axis, at the bottom of the elevator, for operation substantially as and for the purpose set forth.

75,221.—HIRAM THOMPSON, Worcester, Mass.—*Machine for Heading Bolts.*—March 3, 1868.—The end of the heated rod is thrust between the dies in the intermittingly rotating wheel, and the blank sheared off. A transverse wedge is forced endways by an incline to tighten the dies upon the blank which is carried beneath the header by rotatory movement of the die wheel. The die wheel shaft carries a wheel which has radial slots extending from its periphery, and a side pin of the cog wheel upon the cam shaft enters one of these slots at each rotation and causes the forward movement of the die wheel. This wheel is locked in position after each movement, by a sliding pin which enters one of the radial slots, and which is operated by levers actuated by the pin of the cog wheel. The bolt is freed from the dies by the driving backward of the clamping wedge by an inclined surface.

Claim.—1. The improved machine as a whole, arranged as specified, with or without the cutting attachment.

2. The hollow die S, in combination with the holding die *u*, and die *m*, for the purpose specified, when the dies S and *m* are operated by the means and in the order specified.

3. The chambered die stock F, constructed as described, in combination with the dies S, *m*, and *u*, when said parts are arranged as and for the purpose specified.

4. As means for operating the discharging punch, the cross-bar W, incline 5, and cams Y combined.

75,222.—JOHN C. TUNISON, Decatur, Ill.—*Stationary Spittoon for Cars.*—March 3, 1868.—The top is cast with open work and the conical bottom has a weighted valve which is opened by the dashing through of a bucket of water.

Claim.—A spittoon, composed of an open-work top, a conical-shaped body, and a weighted valve to cover an opening *f*, in said body, all constructed and arranged to operate substantially in the manner and for the purpose described.

75,223.—H. B. VAN VOORHIS, Pittsburg, Pa.—*Coal Stove.*—March 3, 1868.—The base and upper part of each stove are connected by horizontal pipes to a vertical pipe between the two stoves, and the top of either stove may be made to communicate with the exit flue. The pipes have dampers by which the calorie current from either stove may be made to pass upward through the fire of the other.

Claim.—Connecting the stoves A and B together by flue K and pipes C D, in such a manner that the smoke of each can be passed beneath and through the fire of the other, substantially as and for the purpose set forth.

75,224.—W. F. VEBER, Perrysburg, Ohio.—*Gate Post.*—March 3, 1868.—The gate post is made in sections, one of which is inserted in the ground and the other turns upon it. A flanged disk on the upper section rests upon a plain disk of the lower one, and a hooked dowel pin of the former turns in a central socket of the latter. The gate runs on a roller arbored to the upper section, and is moved into a balance, and then swung open by turning the upper section.

Claim.—The plates E and pin D, as arranged, in combination with the posts A B, for the purpose and in the manner substantially as set forth.

75,225.—FRANZ WAGNER and LOUIS SEXAUER, New York, N. Y.—*Water Meter.*—March 3, 1868.—The piston has two stops, which, in the reciprocating motion of the piston caused by the fluid, are brought in contact with the spring toggle arms by which the valve is changed. The valve is a four-way cock seated in the cylinder and connects by levers with the registering apparatus. The fluid passes through a filter on its way to the meter.

Claim.—1. The oscillating valve E, with chambers *n n* and ports *o o' p p'*, in combination with the reciprocating piston B, stops *k k*, toggle arms *d' f*, spring lever *c*, and elbow lever *d d'*, all constructed and operating substantially as and for the purpose described.

2. The combination of the valve *t*, bolt *u*, and plug I, in the mud cistern H, substantially as and for the purpose set forth.

3. The channels *s r*, in combination with the supply pipe G, mud cistern H, and cylinder A, substantially as and for the purpose described.

75,226.—PHILIPP WENTZEL, Mentz, Germany, assignor to H. C. LAUTERBACK, Roxbury, Mass.—*Window Sash Supporter.*—March 3, 1868.—The friction rolls are sprung against the sides of the sash and contain coiled springs which tend to keep the sash elevated.

Claim.—The employment of a presser roll or rolls, containing a spring or springs, the stress of which tends to turn the roll and to raise or support the sash, substantially as set forth.

75,227.—THOMAS ALDRIDGE WESTON, King's Norton, England.—*Coupling and Brake.*—March 3, 1868.—The two series of disks are connected respectively to the two shafts to be coupled together; the disks on one shaft alternating with those on the other, and each disk having longitudinal motion on its shaft or connecting cage respectively. The friction of the disks against each other is regulated by a nut screwing on one of the shafts. The device constitutes an adjustable friction coupling.

Claim.—A new or improved coupling and brake for transmitting or regulating or arresting motion, the parts of which are arranged or combined substantially in the manner hereinbefore described, and illustrated in the accompaying drawings.

75,228.—PHILO B. and M. C. WHITE, Dowagiac, Mich.—*Pump.*—March 3, 1868.—The cylinder is slotted to allow passage to the rod connecting the bucket to the double pitman. The bucket has two heads, each end having a valve, and is double-acting. Each end of the cylinder has a side passage leading to the pump stock. The side passages have valves. The water flows into the cylinder through the side slots.

Claim.—The submerged box G, provided with a water inlet in its side, channels B C C', valves *e c'*, slotted plunger D, with its valves *d d'*, said plunger operated by the lever E and shaft F, all substantially as and for the purposes set forth.

75,229.—ABNER WHITELEY, Springfield, Ohio, assignor to WILLIAM N. WHITELEY, Jr., same place.—*Harvester.*—March 3, 1868.—The finger bar is supported in a globular roller at its inner end, and is counterbalanced by the adjustable seat.

Claim.—1. The globular roller B, placed at the inner end of and in line with the finger bar of a harvesting machine, in combination with the bearing wheel A, and the driver's seat D, arranged and operating substantially as described.

2. The globular roller B, placed on the end of the finger bar, in combination with said finger bar, the main frame, brace rod E, and driving wheel A, as set forth and described.

75,230.—WILLIAM WICKERSHAM, Boston, Mass.—*Marble Cutting Machine.*—March 3, 1868.—The diamonds are held in the ends of split screw bolts or clamps which are tapered and forced into tapering cavities causing them to contract upon the diamonds. The diamonds are applied on the edge of a rotating disk, or the links of an endless chain, and the supporting standard of the disk or chain is so connected to the driving mechanism that it may have feed in any direction.

Claim.—1. In marble cutting machines, the combination of the diamond with a chain, in the manner and for the purpose described.

2. The clamps *u w'*, in combination with the diamond, in the manner specified and for the purpose set forth.

3. In machines for cutting marble and other stone, the combination of the diamond chain *e*, the chain gears *w w'*, and the standard *g*, arranged and operating as described.

4. A device for moving the chain standard to any position, consisting of the screw *h*, the worm gear *f*, combined with the chain standard, constructed and operating as described.

5. In marble cutting machines, feeding the machine along while it is working by communicating motion from the driving shaft to one or more of the trucks, substantially as described and for the purpose set forth.

6. A device for cutting underneath blocks of marble in a quarry, consisting of a diamond chain, chain standard, and upright shaft, all arranged as described, to cut grooves in a horizontal plane, in connection with an apparatus for feeding the machine along while it is working, in the manner and for the purpose described.

7. A device for cutting channels underneath blocks of marble in a quarry, consisting of a disk *e*, on an upright shaft attached to the slide *r*, working in the manner described, in connection with a feeding apparatus to feed said disk along while working, in the manner and for the purpose set forth.

75,231.—George L. Witsil, Philadelphia, Pa., assignor to Thomas E. Hunberger.—*Clothes Wringer.*—March 3, 1868.—The upper roller is journaled in recesses of the bent springs which are rigidly attached to the side pieces.

Claim.—The combination of a fixed roller D′, yielding upper roller D, and springs E, when the latter are formed as set forth, and attached to the frame at both ends, so as to give them staunchness to resist lateral pressure, and also so constructed as to form bearings for the upper roller, by being bent into the shape substantially as set forth.

75,232.—David C. Wolf, South English, Iowa.—*Spinning Machine.*—March 3, 1868.—The rolls are fed between the first two rollers, over the table, and between the three succeeding rollers, to the spindles and spools. The feed of the rollers occurs only while the cord is clamped by the lever and the fork. When the carriage is traveling toward the front, the lower end of the lever comes against the pin, which forces the upper end of the lever against the cord, and carries the cord up into the fork. The spring lever acts on the former lever, binding it against the cord. As the carriage is traveling backward, the end of the spring lever comes against the outer elliptical edge of the plate, is forced outward and releases the other lever, which thus ceases to bind the cord.

Claim.—1. The combination of the fork *s*, levers *t* and *r*, plate *v*, and pin *u*, for clamping and liberating the cord, substantially as and for the purpose herein recited.

2. The bar h''', operated by the bar e''', for holding the roller *k′*, as and for the purpose herein described.

3. The wheel y''', having the pin x''', and the other means and devices connected therewith, substantially as described for the purpose herein recited.

75,233.—Isidoro Zamboni, St. Louis, Mo., assignor to himself, Peter Zoppi, and John Ruedy, same place.—*Bottle Stopper.*—March 3, 1868.—The elastic packing surface is forced upon the neck of the bottle by the hinge and catch.

Claim.—The cap C, when provided with a packing surface c^4, and combined with the bottle A by means of the hinge *c* and latch c^1 c^2 c^3, substantially in the manner shown and described.

75,234.—Nelson B. Adams, San Francisco, Cal.—*Boat Detaching Block.*—March 10, 1868.—The incurved, lower ends of the levers form jaws, which are operated by a toggle at the upper ends of the levers.

Claim.—In combination with a block, the jaws E E, with the long arms F F, the short levers H H, with shoulders *a a*, forming a knee-joint, the operating lever J, having its fulcrum at G, and pivoted to the knee-joint I, the whole constructed, combined, and operating as a detaching apparatus, substantially as and for the purposes herein described.

75,235.—Thomas P. Akers, New York, N.Y.—*Leakage Measure, Alarm, and Indicator.*—March 10, 1868.—Two weights balance each other at the ends of a ball chain, hanging over a chain wheel connected with a registering device. One of the weights is in the well of a ship's hold, and is floated up by the bilge water.

Claim.—1. Providing for indicating the height of leakage water in the hold of a vessel by means of weights of greater specific gravity than water, suspended from a pulley, so that one of the weights shall rise and descend with the rise and fall of the water, and the other make similar movements, but in a reverse manner, and by its movements communicate motion to registering, indicating, or alarm mechanism, substantially as described.

2. The combination of a leakage measure which consists of two weights and a chain, which is arranged to unwind from a pulley as fast as it winds upon the same, with an alarm, or with an indicator, or with a combined alarm and indicator, substantially as described.

3. The combination of the wheels L L′, chain F, weights G G′, pulley E, and disks C C′, substantially as and for the purpose described.

4. The combination of a leakage measure, operating substantially as described, with the figured disks, the alarm devices, and the gearing L L and M, substantially in the manner and for the purpose described.

5. The curved piece *h*, constructed and applied to the hammer arm, substantially in the manner and for the purpose described.

6. The combination of the weight G, cylinder H, pendulum K, and double-acting poppet valve, substantially as and for the purpose described.

7. Arranging all the gearing, the alarm devices, the indicating disks, and the pulley of the weight-chain or cord, upon a frame or spider of the case A, substantially as described.

75,236.—Abraham Armstong, Newberg, Ohio—*Floor Cleaner.*—March 10, 1868.—The head is chambered to receive one edge of the flexible separating strips.

Claim.—In a floor cleaner, as described, adjusting the rubber and intervening plates by means of the set screws, for the purpose set forth.

75,237.—Jefferson Aughe, Dayton, Ohio.—*Colter Holder.*—March 10, 1868.—The colter rests between projections upon the outer disks. The disks have counterpart serrations upon their engaging faces, and the axial bolt being loosened, the outer disk may be turned upon the inner one to adjust the cutter.

Claim.—The combination of the plates or disks C, colter B, beam A, and bolt *e*, substantially as described, and for the purpose specified.

75,238.—Henry Baldwin, Titusville, Pa.—*Apparatus for Burning Crude Petroleum.*—March 10, 1868.—The jet nozzle of the petroleum pipe is concentric with, but slightly projects from, the inclosing nozzle of the air pipe. The steam-jet nozzle is beneath that of the petroleum. These nozzles are protected by a hood upon whose bottom the liquid impinges. A curved, deflecting plate extends in front of and partially beneath the hood, and from the center of said deflector a jet of steam with or without air is thrown upon the bottom of the hood.

Claim.—1. The jacket *e*, as arranged to surround the supply pipes and a portion of the heater, and used in combination with the same, substantially as and for the purposes set forth.

2. The reflector *f*, as arranged with relation to the heater, when used in conjunction with the same, substantially as and for the purposes set forth.

3. The supplementary reflector *g* and blow pipe *h*, as arranged with relation to the reflector *f* and heater *a*, substantially as and for the purposes set forth.

75,239.—William B. Bement, Philadelphia, Pa.—*Bolt Threading Machine.*—March 10, 1868.—The dies are adjustable and reversible on their slide

blocks, and the blocks may be moved centrifugally when desired. The drop reservoir has a pump whose plunger is depressed by an eccentric cam and raised by a spring. The oil is pumped through a pipe which discharges upon the cutting dies or tap.

Claim.—1. For opening and closing the dies while the machine is in motion, two or more cranked or eccentric spindles *f*, each carrying a toothed segment or pinion, adapted to internal teeth in a loose disk, which is controlled partly by a spring *d*, and partly by the friction clamp herein described, or any equivalent to the same, the whole being combined with the spindle of a screwing machine, substantially as specified.

2. The cutting dies *l l*, secured to the blocks *n n*, but admitting of an adjustment independently of the latter, substantially as specified.

3. The pump, with its piston and spring, in combination with the spindle B, and its eccentric or cam, substantially as and for the purpose herein set forth.

4. The within described lever, spring pawl, and rack, arranged for operating the sliding head or plate, substantially as set forth.

75,240.—JOHN F. BENNETT, Pittsburg, Pa.—*Purifying Iron and Steel.*—March 10, 1868; antedated February 28, 1868.—After the conversion of the cast iron into wrought iron by the pneumatic process, carbonic acid gas is driven through the molten iron to remove the sulphur, phosphorus, &c.

Claim.—The use of carbonic acid gas, either alone or mixed with atmospheric air, or with other gases or vapors, when introduced into the body of molten iron or other metal, in combination with or immediately following the pneumatic process, for the purpose of removing sulphur, phosphorus, and any other impurities which will form chemical combinations with the oxygen of the carbonic acid, and deposit the carbon, substantially as hereinbefore described.

75,241.—HIRAM S. BLUNT, New York, N. Y.—*Metronome.*—March 10, 1868.—Four stop disks (which may be united) are attached to a longitudinally sliding index shaft, which is connected to clockwork. The disks have various numbers of escape stops, and either of the said disks may be brought in connection with the pallet to give any desired number of beats to one rotation of the shaft.

Claim.—The adjustable rings or plates A A′ A″ A‴, separated or united, in the form of a drum, with pins or stops *n n n n n* secured to and forming a part of the movable shaft C and B, in combination with the index or hand *d*, and with or without the dial D, for the purpose of indicating the number of beats in a bar of music, in the manner substantially as described, and shown in the drawings.

75,242.—JOSEPH BRAKELEY, Bordentown, N. J.—*Preserving Eggs.*—March 10, 1868.—The shell is removed by immersion in acid, and the egg, after washing in clear water, is dried in vacuo, at a low temperature.

Claim.—The preservation of eggs of hens or other fowls in the manner substantially as set forth above; that is to say, by drying them with their natural integument.

75,243.—JOHN K. CALDWELL, Pittsburg, Pa.—*Brick Carrying Car.*—March 10, 1868.—The tables rest in notches of the standards, which are so formed as to allow either edge of the frames or tables to be raised up for the loading or unloading of the frames beneath. Wedge-formed tenons enter mortises in the lower sides of the frames when they are turned up, and hold them to place.

Claim.—1. A series of tables *b*, resting and turning on recesses in the supports *a* in a brick-drying car, substantially as and for the purposes set forth.

2. In a brick-drying and bearing car, the supports *a*, having ledges *c*, incline *c′*, and tenons *e*, constructed and used substantially as and for the purposes set forth.

3. The combination of the tables *b*, supports *a*, ledges *e*, inclines *c′*, and tenons *e*, in a brick-drying car, when constructed and arranged as and for the purpose specified.

75,244.—BENJAMIN CHAMBERS, Jr., Washington, D. C.—*Letter Balance.*—March 10, 1868.—The ends of the knife-edge bar are prevented from projecting from the lugs by plates, one of which is pivoted to the lug so that it may be raised up, and the beam removed by withdrawing the bar, one end at a time.

Claim.—The knife edges in holes passing through the lugs, as herein described, and covered, the covering plate at one end being pivoted, whereby the knife edges are kept in place, and can be readily removed when it is required to remove them.

75,245.—WILLIAM CLOUGH, Cincinnati, Ohio.—*Deodorizing and Refining Saccharine and Other Fluids.*—March 10, 1868; antedated February 28, 1868.—After reducing the sirup to from 16° to 20° Baumé, the pulverized barytes of other heavy powder is added. The sirup is then tested with litmus paper and any acid neutralized with lime. Silicate of soda reduced to 5° or 10° Baumé is then added. The silicate is used in proportion of 1 per cent. to the sirup.

Claim.—The process of refining and deodorizing saccharine and other fluids, herein specified.

75,246.—CHARLES W. CONANT, Gardner, Mass.—*Rocking Chair.*—March 10, 1868.—The rockers rest on a frame, and the ends of the pendent arch are attached to a spring whose middle is secured to a cross bar of the frame, and acts to restore the chair to an upright position.

Claim.—The arrangement, as well as the combination, of the spring D and the arch piece C with the chair seat A, the rockers *c c*, and the supporting frame B thereof, the whole being to operate substantially as described.

75,247.—L. S. COVEY and JOHN DUFFY, St. Croix County, Wis.—*Mop Press.*—March 10, 1868.—The mop is placed in the receiver, its staff passing through a slot in front thereof, and the plunger is brought down to expel the water from the cloth. The water passes through the holes and is received in a bucket.

Claim.—The box or receiver E, constructed and operated substantially as described, in combination with the plunger C, the lever D, and the cross beam F, and grooves *e e*, all constructed and arranged substantially as and for the purpose described.

75,248.—JOHN FRANKLIN CRABTREE and WILLIAM NEWTON CRABTREE, Visalia, Cal.—*Gun Lock.*—March 10, 1868.—The sear is pivoted on the trigger arbor, and is held to the tumbler by its spring. The sear and trigger each have rear projections which rest upon the forward end of a lever whose rear end is depressed by the main spring when the hammer is cocked. The drawing of the trigger forward releases the fore end of the lever, which is then thrown up and detaches the sear from the tumbler notch. The hammer, when uncocked, is held by a spring catch, which is released by a small lever outside of the stock.

Claim.—1. The pawl piece B, in combination with the trigger E and the lever F, acted upon by the main spring G.

2. The spring catch I, in combination with the lever M, with the inclined oblong slot O, for the purposes described and in a manner substantially as set forth.

75,249.—JOHN D. CREAMER, San Francisco, Cal.—*Raising and Lowering Window Sashes.*—March 10, 1868.—The disk at the end of the staff enters the recess in the top bar of the upper sash.

Claim.—The combination and arrangement of the several parts of my device, namely, the recess A, with the slotted plate B and the plate D, connected to the staff C by the curved piece *c*, substantially as described.

75,250.—BENJAMIN CRAWFORD, Allegheny City, Pa.—*Hame.*—March 10, 1868.—The hook is adjustable longitudinally on the extended staple of the hame, so as to bring the draught upon the desired point.

Claim.—1. Making fastenings, for connecting harness tugs or traces to hames, adjustable by an eye

through the inner or forward end of each, such eye to be operated on a staple, *d* or *d'*, in connection with proper looks or supports *e e'*, the same being attached to the hames or hames plate, for holding such fastenings at the proper point of adjustment, substantially as and for the purposes described.

2. The shoulders *i i'* constructed on the fastenings *f f'*, in combination with the supports *e e'*, for the purpose of relieving the strain which would otherwise come on the staples *d d'*, substantially in the manner above described.

75,251.—Hudson Du Bois, Marlborough, N. Y.—*Clothes Drier.*—March 10, 1868.—The arms are pivoted to the sides so as to project in somewhat tangential directions. The arms are held in a horizontal position by buttons which are turned to rest upon the rear ends of the arms.

Claim.—1. The combination, in a folding clothes drier, of the arms B B, latches *a a*, and springs *b b* with the central polygonal shaft A, arranged and constructed substantially as and for the purposes herein described and set forth.

2. The combination of the arms C C and legs D D with the shaft A, arranged and constructed to fold up, substantially as herein described and set forth.

75,252.—Jesse S. Edwards, Medford, N. J.—*Machine for Distributing Fertilizers.*—March 10, 1868.—The fertilizer is agitated by radial pins on a vertical crank shaft which is actuated by a crank, or the shaft of a pinion turned by a wheel on the axle.

Claim.—The arrangement of the hopper A, distributing shaft G, wheels C and D, and plows B, as and for the purpose specified.

75,253.—Richard W. English, Buffalo, N. Y.—*Mop Head.*—March 10, 1868.—The cross-head is depressed by turning the thumb nut which rotates in a collar upon the upper bar and engages the screw ferrule in which the lower end of the staff is secured. The lower end of the ferrule has a diametric slot receiving a tenon on the cross head.

Claim.—1. The cross head A and shank B, in combination with a screw ferrule K, provided with a slot R, as and for the purposes substantially described.

2. The thumb nut C, in combination with the parts E E and collar D, substantially as and for the purposes described.

3. The employment of the binding wire for holding the collar D and parts E E together, as herein shown and set forth.

75,254.—Bartholome Essig, Sacramento, Cal.—*Bedstead Fastening.*—March 10, 1868.—The plate attached to the rail has an inclined catch which engages in a suitable groove of a plate secured to the inner side of the post.

Claim.—1. The plate C for attaching the side rail of a bedstead to the post, having an arm *c*, and oblique lug *b*, so as to be firmly secured to the post by the tenon on the end rail, substantially as described.

2. In combination with the plate C, the plate D, fastened to the side rail, having a lug or key *g*, fitting into a slot or groove on the plate C, substantially as and for the purposes described.

75,255.—Green Fenton, Streetsboro, Ohio.—*Hay Knife.*—March 10, 1868.—The shank of the forked cutter is retained in the socket of the handle by a spring pin. The spring has a divergent arm forming a foot rest.

Claim.—The handle A, spring C, pin *a*, arm *c*, and blade B, all constructed and arranged in the manner as and for the purpose specified.

75,256.—E. L. Ferguson, Buffalo, N. Y., assignor to himself and Charles B. Clark, same place.—*Lamp Bracket.*—March 10, 1868.—The jaws are held asunder by a cam and drawn together by an India-rubber spring band. The reflector is joined to a moving collar on an adjustable upright.

Claim.—1. The combination of the two jointed arms A' A'', provided with suitable jaws for holding lamps of different sizes.

2. The India rubber ring E, in combination with the said arms, arranged substantially in the manner set forth.

3. The combination of the arms A' A'', ring E, and cam *f*, or equivalent, for distending the jaws of the clamp, substantially as set forth.

4. The peculiar construction of the jaws D D, provided with shoulder *m*, flange *n*, and contracted bottom, as shown and described, for holding lamps and fountains of different forms and sizes.

5. The peculiarly-formed casting C, constructed and arranged with the plate B, and bracket arm A, so as to secure the latter in its socket, and also form a receptacle for matches, in the manner shown and described.

75,257.—Milton A. Fisk, Springfield, Mass., assignor to Edward M. Wesson, same place.—*Harness Trimming.*—March 10, 1868.—The ends of the wire loop are bent around and the alloy cast thereon in a three-part mold. When a staple or pins are required for attachment the bend is cast in the head.

Claim.—As a new article of manufacture, a rosette or harness trimming, when constructed as herein described, and for the purpose specified.

75,258.—Marshall L. Forbes, West Meriden, Conn., assignor to the Meriden Britannia Company, same place.—*Plating Spoons and Other Articles.*—March 10, 1868.—The spoons are secured to a tilting frame, which is adjusted by a set screw so as to bring any desired portion into the bath.

Claim.—1. The mode, substantially as before set forth, of coating spoons and similar articles with a regulated unequal thickness of the plating metal by immersing different portions of the article for different periods in the bath of the electroplating apparatus with which the article is connected.

2. The combination of a holder, adapted to confine the article to be coated, with regulating mechanism to hold the article partially immersed to the required extent in the depositing bath, substantially as before set forth.

3. The combination of a holder, adapted to confine the articles, with mechanism for tilting the article, so as to vary the extent of immersion in the depositing bath, substantially as before set forth.

75,259.—John Forrest, Lawrence, Mass., assignor to himself, John Archibald, and John Taylor, same place.—*Machinery for Printing Yarn.* March 10, 1868.—The skeins are stretched on hooks upon two endless chains and passed by the revolution of the latter between the coloring rollers or wheels, whose axes are parallel with the threads.

Claim.—1. The combination as well as the arrangement of the two carriers for carrying skeins of yarn, in the manner described, with one or two series of printing wheels, composed of annular disks, their color rollers, and cellular troughs, the whole being provided with mechanism to operate them, substantially as and for the purpose specified.

2. The combination of the drying cylinder or apparatus, the two carriers as above, one or two series of printing wheels, their color rollers, and cellular troughs, the whole being provided with mechanism to operate them, substantially as and for the purpose specified.

75,260.—Guy P. Fuller, Adrian, Mich.—*Indicator for Knitting Machines.*—March 10, 1868.—The indicator is attached to a "Lamb" knitting machine and denotes the number of rounds knit as a direction when to narrow or widen the work.

Claim.—The combination of the finger A, the disk or dial plate B, the geared wheel C, the pinion D, or their equivalents, the frame E, the ratchet F, the lever G, the friction wheel H, the nut I, the shaft J, the plate K, when constructed substantially as described for the purposes herein set forth.

75,261.—Benjamin F. Graves, Groton, Mass.—*Milking Machine.*—March 10, 1868.—The teat cups are upon extensible pipes and the head is connected by a flexible hose to the exhauster, through the lower end of which the milk passes to the discharge pipe. The teat cups are transparent, and as each teat is exhausted its stop cock is closed.

Claim.—The arrangement of the pump with the

flexible tubes, teat cups, glass tubes, stop cocks, devices for adjusting the teat cups to the udder of the cow, all constructed and arranged substantially as described and for the purposes specified.

75,262.—Henry B. Hale and Thomas Flagler, Grass Lake, Mich.—*Attaching Animals to Carriages.*—March 10, 1868.—The traces in the single harness are attached to hooks upon the ends of a single cord which passes behind sheaves from hook to hook. In double harness the outer trace of each horse is attached in this manner to a single cord and the inner traces to a cord doubled around on a single roller.

Claim.—The construction of a draught or extension bar, with or without joints, in connection with pulleys, straps, chains, and rods, arranged in the manner and for the purposes specified.

75,263.—Thomas Harding, Springfield, Ohio.—*Harvester Rake.*—March 10, 1868.—The combined reel and rake arms are under control of the operator, so that one arm in four, or every other one, may be allowed to descend to operate as a rake.

Claim.—1. An automatic device which opens the switch *g* at each revolution of the rake and reel, and at the same time is under the control of the driver to make the raking only when it is necessary, in combination with a revolving reel and rake on a harvester, substantially as set forth and described.

2. The collar O, provided with the clutch pin *n* and lug *o*, in combination with the tripper *l*, clutch lever *u*, and switch *g*, whereby the driver while on his seat may depress said collar and throw the clutch pin *n* out of connection with the head L to stop the rake from sweeping the grain from the platform, as desired.

3. Working the switch *g* automatically by means of the triple lever *l*, and a lug attached to a collar surrounding and revolved by the rake shaft, substantially as set forth.

4. Arranging the tripper *l*, between the guide-way and rake-arm head upon the box or bearing of the rake shaft, substantially as set forth.

5. The combination and arrangement of the switch *g*, provided with the arm *j* and spring *k*, with the tripper *l* and lug *o*, or its equivalent.

75,264.—John Haseltine, Warren, N. H., assignor to himself and Person Noyes, Lowell, Mass.—*Composition for Stuffing Leather.*—March 10, 1868.—Strong alkaline solution, 8 galls., is boiled with fatty oil, 1 gall.; after mixing, rosin 2 to 5 lbs. is added, and then soda ash, 5 oz.

Claim.—The combination of the herein-described ingredients in about the proportion specified, for the purpose and in the manner substantially as described.

75,265.—William Heath, Bath, Me.—*Invalid Bedstead.*—March 10, 1868.—The flexions of the couch are governed by the movement of a pivoted frame which is tilted by a single spur wheel and curved rack.

Claim.—1. The combination of the recesses K K, L L, or their equivalents, with the frame A, the two frames D E, and mechanism for moving and depressing or operating the back frame E, substantially in manner as described.

2. The combination of the folding legs M M, the toothed sectors and their arms *f f*, the frame A, and the parts B, C, D, and E, arranged and connected substantially as specified.

75,266.—Edward Heaton, New Haven, Conn.—*Shank Spring.*—March 10, 1868.—The springs for the right and left boots, which require opposite curves, are cut in like form, the blanks for one having a contrary, vertical bend to that of the other.

Claim.—The construction of shank springs, when cut or stamped out of the sheet without scrap or waste, substantially as specified.

75,267.—John W. Hedenberg, Chicago, Ill.—*Cotton Bale Tie.*—March 10, 1868.—The sides are bent rectangularly and connected by three transverse bars over which the hoop is doubled.

Claim.—A cotton tie buckle made and constructed substantially in the manner described.

75,268.—Charles Hess, Lyons City, Iowa.—*Gang Plow.*—March 10, 1868.—The bolts, by which the tongue is secured to the cross beams, traverse slots in the same to allow of the adjustment of the tongue. The draw bars are pivoted to the pendent arms of the fore cross beam, and are adjustably sustained by pins traversing the pendants of the rear cross beam.

Claim.—1. The slot T in the head piece, and axle to adjust the tongue.

2. The iron beams, when used in a gang plow.

3. The combination and arrangement of the parts, when constructed and used as above set forth.

75,269.—L. B. Hoit, Cedar Falls, Iowa.—*Straw Cutter.*—March 10, 1868.—The knives are carried on radial arms of the balance wheel, the intermediate arms, being set outward to avoid striking the feed as it is thrust forward by the rollers. Motion is communicated through the lower feed roll, which is interchangeable for one of different diameter so as to regulate the rate of feed.

Claim.—1. The balance wheel B, when provided with recessed and bevelled arms *r r* and curved knives E, attached thereto, in combination with the bevel gears *e f*, the interchangeable feed rollers C C D, and crank *g*, as and for the purpose specified.

2. The within described arrangement of the intermediate spokes *r*, of the balance wheel, with reference to the knife-carrying spokes *r* thereof, and the interchangeable feed rollers C C, substantially as and for the purpose specified.

3. The method, herein described, of graduating the feed by the detachable or interchangeable rolls C, of different sizes, arranged to operate underneath the yielding roll D, and operated by the crank *g*.

75,270.—Winfield H. Hoover, North Benton, Ohio.—*Car Coupling.*—March 10, 1868.—The link on entering, raises the drop, and allows the descent of the pin; it then acts as a weight to preserve the horizontality of the link. The pin is connected to a hand bar extending to the car roof, and to two treadles extending transversely to the sides of the car.

Claim.—The combination of the pivoted drop E, link D, pin C, and drawhead B, when operated by the bar F, with its side levers H H, all constructed and used substantially as and for the purposes set forth.

75,271.—Eben N. Horsford, Cambridge, Mass.—*Preparation of Acid Phosphate of Lime.*—March 10, 1868.—Common tribasic phosphate of lime is dissolved to saturation in nitric acid, 1, 2, 3 specific gravity, requiring of the phosphate 3 lbs., to nitric acid 2 lbs., which gives nitrate of lime and monobasic phosphate of lime. To the above is added oil of vitriol, diluted, (HO. Soz.,) 2 lbs., to precipitate any sulphate of lead. The liquid is then siphoned off the precipitate. The nitric acid is then driven off by gentle heat, and may be saved in a condenser. The acid phosphate of lime may be separated from the sulphate by leaching. It may be used, combined with bicarbonate of soda, to lighten bread.

Claim.—1. The method of producing a pulverulent acid phosphate of lime, substantially as and for the purposes above set forth.

2. The product obtained by the process, substantially as and for the purposes above described.

75,272.—Eben N. Horsford, Cambridge, Mass.—*Manufacture of Acid Phosphate to be Used in Food.*—March 10, 1868.—Sulphuric acid is added to tribasic phosphate of lime in proportion of about 10 of the former to 14 of the latter. The acid withdraws a little more than two atoms of lime from the phosphate, leaving a monobasic phosphate of lime and a small proportion of free phosphoric acid in solution with the gypsum. The solution is separated from the gypsum by leaching.

Claim.—The manufacture of liquid acid phosphate of lime, for use as a condiment or article of diet, or ingredient to be employed in beverages or food, substantially as and for the purposes herein set forth.

75,273.—George W. Hubbard and Scott A. Smith, Philadelphia, Pa., assignors to Cresson &

SMITH, same place.—*Grinding Mill.*—March 10, 1868.—The "burr" is trued by a disk, whose periphery is beveled to agree with its inner surface. The concave case is held between two flanged side plates traversed by the spindle. The spindle has movable collars, by which the grinding surfaces are adjusted.

Claim.—1. The burr B, combined with and trued by the disk *a*, substantially as described.

2. The shell D, with its inclined edge adapted to the plate E, substantially as set forth.

3. The spindle A with its burr, when confined in its place within the shell by two adjustable collars arranged upon the spindle, as specified.

75,274.—P. H. HURD, Croton, Mich., assignor to CLARA HURD and E. D. HORTON, same place.—*Baby Creeper or Walker.*—March 10, 1868.—The flexible seat is surrounded by a flat frame, supported on casters.

Claim.—1. Frame A, chair B, and rollers C, in combination, substantially as described.

2. Revolving chair B, with flexible seat D and strap E, in combination with frame A, substantially as and for the purpose described.

75,275.—WILLIAM L. IMLAY, Philadelphia, Pa.—*Closing Fruit Jars.*—March 10, 1868.—The cover is held down upon the rubber gasket by the spiral wire which engages the screw thread upon the neck. The wire is bent over and rests upon the top of the lid.

Claim.—1. Making and adapting the neck of a fruit jar so as to be used for a spiral wire coil, substantially as and for the purposes set forth.

2. A wire coil, arranged and used about or around the neck of a fruit jar, so as to make a fastening for fruit jars, substantially as set forth.

3. The arrangement and construction of a wire coil about the neck of a fruit jar, so as to make an elastic pressure on the cover, as described.

4. The broad seated ring or gasket H, when retained in place by the beveled or inclined top I, substantially as and for the purposes specified.

75,276.—JOHN L. JANEWAY, Flemington, N. J.—*Gate.*—March 10, 1868.—The gate is slid horizontally until it balances, and is then swung around the swivel.

Claim.—The continued arrangement of an ornamental or garden gate B with the stationary posts A A, swivel bar C, pivoted disks *f g*, and caster rolls *m m*, the whole constructed and operating as described, for the purposes set forth.

75,277.—JESSE B. JOHNSON, Indianapolis, Ind., assignor to himself, THOMAS E. JOHNSON, and BENJAMIN F. JOHNSON.—*Grain Drier.*—March 10, 1868.—The furnace has no chimneys, but has upper bars which support tiers, first of large and then of smaller stones. The stones prevent the escape of sparks. Above the stones are deflecting plates, which may be turned to carry the calorie currents in the desired directions.

Claim.—1. Making the top of the furnace of drying kilns of cobble-stones or boulders, or their equivalents, arranged substantially in the manner and for the purpose set forth.

2. The deflecting plates D, in combination with the furnace, constructed as described, substantially as and for the purpose set forth.

75,278.—ARNE D. JUELSON, Wooster, Ohio.—*Rockers for Child's Carriage.*—March 10, 1868.—The double rocker has adjustable metallic hooks at the ends which receive the wheels of a carriage, and the springs hold the wheels to place.

Claim.—The adjustable plate C, hooks D, standard E, and spring F, as arranged, in combination with the rockers A B, for the purpose and in the manner substantially as set forth.

75,279.—PETER M. KAFER, Trenton, N. J.—*Tube of Steam Generator.*—March 10, 1868.—The spiral partition in the annular space between the two concentric tubes causes an even temperature at both sides of the tube and prevents warping.

Claim.—1. The continuous spiral guide, of uniform pitch, forming a continuous channel in vertical or inclined water tubes of steam-boilers, substantially as set forth and described.

2. The V-shaped piece *e*, substantially as described and for the purpose set forth.

75,280.—SYLVESTER LARNED LANGDON, New Orleans, La.—*Locomotive Engine.*—March 10, 1868; antedated February 28, 1868.—The steam is exhausted through the smoke pipe, which is carried backward above the boiler and then upward. The object is to remove to a distance from the passengers the smoke and sound of the exhaust, and to deaden the noise.

Claim.—The arrangement of the cylinder of a street railroad locomotive engine on the under side of the cylindrical portion of the boiler by means of plates J, or their equivalents, formed on the cylinder, one head of which is rigidly secured to the fire box, substantially as and for the purposes set forth.

75,281.—A. D. LAWS, Bridgeport, Conn.—*Lamp Wick Tube.*—March 10, 1868.—The edges of the tube, in place of being merely brought together, are lapped.

Claim.—A flat lamp burner tube, or lamp burner tube adapted to the use of flat wicks, formed of a piece of sheet metal bent round and overlapped along the whole edge, substantially as herein shown and described.

75,282.—JAMES E. LOBDELL, Center Lisle, N. Y.—*Horse Hay Fork.*—March 10, 1868.—The main bar has a cutting point, and the hooks are hinged to it near the lower end. The hooks have side projections knuckle jointed to the sliding bar, which has a lug entering an eccentric slot in the operative lever.

Claim.—1. The sliding bar B with knuckle-head *f* and slots *e e*, when used in combination with the main bar A and hooks or prongs *d d*, substantially as set forth.

2. The arrangement and combination of the main cutting bar and blade A, slide bar B, latch *c*, and cutting hooks *d d*, substantially as and for the purposes set forth.

75,283.—JOSEPH L. LOWRY, Pittsburg, Pa.—*Steam-Engine.*—March 10, 1868; antedated February 20, 1868.—The cylinders are so connected together that the steam, after acting against the under side of the cylinder of the first engine sufficiently to complete the stroke, is then shut off, and allowed to act upon the second cylinder. The communication between the lower part of the cylinder being now closed, the steam above the piston in the second cylinder is allowed to pass above the piston in the first cylinder, and simultaneously therewith the steam from the lower part of the first cylinder passes into a reservoir communicating with the upper part of the second cylinder, until the pressure in the reservoir equals that in the cylinder, when the communication is closed, and the remainder of the steam allowed to escape.

Claim.—1. An arrangement of the cylinders, valves, and passages for the steam, by which I am enabled to use the steam alternately below and above the piston, substantially as herein described.

2. In combination with the above-described arrangement, the reservoir for the reception of steam from the first and primary cylinder, substantially as herein described.

75,284.—JOSEPH L. LOWRY, Pittsburg, Pa.—*Pumping Engine.*—March 10, 1868; antedated February 24, 1868.—The pump pitmen are jointed to the ends of the arc of an oscillating sector; and the connecting rod of the piston is jointed to the center of the arc so that the pitmen move faster in the commencement of the stroke of the piston in the lifting stroke, and so that when the steam is cut off early its expansion may complete the stroke.

Claim.—The herein-described engine, when arranged as shown, and in combination with the pumps for raising water, substantially as shown and described.

75,285.—MORRIS MATTSON, New York, N. Y.—*Nasal Irrigator.*—March 10, 1868.—The nozzle is made in conoidal form to fit the nostril.

Claim.—1. The nasal plug A, so shaped as to fit

and elose nostrils of different sizes, constructed substantially as described.

2. The combination of the nasal plug A, constructed substantially as described, with the syringe B C D, substantially as and for the purposes set forth.

75,286.—Henry McDonough, New York, N. Y.—*Churn-Dasher.*—March 10, 1868.—The dasher has a horizontal perforated disk and vertieal wings. The staff is swiveled to the pitman and has a spiral groove to give it reciprocal rotation simultaneously with its vertical movement.

Claim.—The dasher *b*, eonstructed as specified, and mounted on the rod *c*, to which a revolving movement is communieated by the spiral rib or groove as the parts are reciprocated, as and for the purposes set forth.

75,287.—J. C. McKenzie, Adrian, Mieh.—*Brick-Machine.*—Mareh 10, 1868.—One or both ends of the mold-rack are supported on springs, which yield when a stone enters the mold, and prevent fracture. An adjustable scraper removes any clay from the faee of the plunger. The beveled bars in the bottom of the press-box are removable to allow of pressing different sizes and forms of bricks. The segmental racks operating the plunger are made reversible.

Claim.—1. The springs W, arranged and operating in combination with the bolts X and sliding hangers X^2, to afford an elastic support for the mold-rack, substantially as and for the purpose deseribed.

2. The seraper N, adjustable by means of slots *n* and set-screws *m*, employed in combination with the pivoted plunger E, as and for the purpose specified.

3. Making some or all of the bars L L′ removable by means of the buttons *l′* or their equivalents, substantially as and for the purpose set forth.

4. The segmental racks J *j*, constructed substantially as represented and deseribed, so as to admit of their reversal when worn.

75,288.—William R. McKinley, Lucas County, Iowa.—*Machine for Marking Ground for Planting.*—Mareh 10, 1868.—The frame has four marker wheels, and owing to its extreme length a portion at eaeh end is hinged to the middle portion so as to be thrown over upon the middle section when passing through a gate.

Claim.—The frame *c c*, wheels *a a a a*, rods *f f f f*, in all combined, eonstructed, and arranged as shown and deseribed.

75,289.—Francis Bowyer Miller, Sydney, New South Wales.—*Treating Gold Bullion to Toughen and Refine it.*—Mareh 10, 1868.—The gold is melted in clay erucibles and treated with ehlorine gas to convert the baser metals into chlorides, in which form they are earried off.

Claim.—The process of refining gold by applying chlorine to it while in a molten state, substantially as hereinbefore set forth.

75,290.—Lang Monroe, Lowell, assignor to himself and Charles G. Sargent, Graniteville, Mass.—*Rack for Carding-Engines.*—March 10, 1868.—A series of oseillating slats is arranged beneath and around a eonsiderable portion of the main eylinder or tumbler, the slats being parallel with the axis of said eylinder or tumbler. The slats operate so near to the eard-surface that all the fiber thrown off therefrom may be eaught up by the eard-teeth and carried forward.

Claim.—1. A series of slats or bars *g*, eonstructed and operating substantially as described, for the purpose set forth.

2. The links *d*, in combination with the pivoted slats or bars *g*, as and for the purpose set forth.

3. In eombination with the two series of oseillating bars, the link or rod D, for connecting one series of sueh slats or bars with the other series of similar bars, and for operating the same, substantially as and for the purpose speeified.

4. The eeeentrie *e*, and slotted arm *c*, or the equivalent thereof, combined with the series of pivoted slats or bars, and arranged to operate the same, in the manner and for the purpose substantially as specified.

5. The end connection H, provided with a pivot *a* and stud *b*, for connecting and operating the slats or bars, as set forth.

75,291.—James W. Mortimer, Peoria, Ill.—*Stove-pipe Cleaner.*—March 10, 1868.—The cleaner disk is pivoted to the arm in sueh manner that it will assume a more or less horizontal position when pushed forward in the pipe, but will take a horizontal position on return.

Claim.—A stove-pipe cleaner having disk A, arm B, rod C, and washer D, eonstructed, combined, and operating substantially as and for the purposes herein specified.

75,292.—Joel Moulton, Boston, Mass.—*Manufacture of Elastic Rolls.*—March 10, 1868.—The fibrous web is coated with a sheet of India-rubber and wound spirally on a core, after whieh it is vuleanized.

Claim.—As an improved manufaeture, the elastic roll or tubing, made substantially as herein shown and described, that is, as composed of India-rubber, or other analogous gum, and a suitable webbing, with the fibers of the latter radiating from the center or about the center of the roll outward, as explained.

75,293.—Adolph Ott, New York, N. Y., assignor to Antonio Pelletier, Washington, D. C.—*Extracting the Precious Metals from Ores.*—March 10, 1868.—The operation is carried on in his apparatus, patent of even date herewith, No. 75,294. The ore having previously been separated from a portion of its impurities may be mixed with 2 to 4 per cent. of sodium, potassium, calcium, magnesium, iron, copper, or with their hypochlorites. It may be mixed dry or with water. In the first oven the ore is heated. In the second oven where sulphur is eliminated, the steam and hot air are injected and most of the sulphur is carried off. In the lower oven the ore will be further heated and treated with hydro-carbonaceous vapors from the furnaee to deeompose the sulphates. The volatile metals passing off from this ehamber are condensed in the shower-bath of the diving flue. Hyponitrous aeid gas or oxygen may be introdueed into the furnaee. If the ore be auriferous it is plaeed in the tanks, dampened with steam, and saturated with ehlorine gas, after which it is treated in the centrifugal machine. If the ore be argentiferous it is brought from the furnaee immediately to the centrifugal maehine and treated with hot water returned several times over and over the same ore, and the liquid resulting from that treatment is pumped up from the lower tank to the upper tank, and from thence falls in a fine shower down the diving flue, where the sulphuretted hydrogen produced in the furnaee precipitates the silver in form of sulphite. This is repeated several times. The sulphite is melted with iron, producing sulphuret of iron and silver.

Claim.—1. Roasting sulphurets, tailings, and residua from other treatments, either alone or mixed with ehemieals, in the progressive and eontinuous manner herein deseribed.

2. In the roasting proeess of the ore or tailings, the use of ehloride of iron, eopper, or magnesium, and of hyperehlorites of an alkaline, earthy, or metallie base, mixed with the ore or tailings, and employed as speeified.

3. The introduetion of hyponitrous-aeid gas, or or oxygen gas, obtained as set forth, in the roasting process.

4. Precipitating precious metals from a solution of their soluble salts by means and with the use of the sulphuretted hydrogen gas produeed in the process of roasting said ore, or by a solution of the same in water.

5. The extraction of silver, or of silver and gold, from the roasted ore, by means and with the use of the double sulphite of an alkaline base, (KO $^2SO^2$, or NaO, $^2SO^2$,) and of the hyposulphites of an earthy or metallic base, in the manner specified.

75,294.—Adolph Ott, New York, N. Y., assignor to Antonio Pelletier, Washington, D. C.—*Apparatus for Extracting Precious Metal.*—March 10, 1868.—The pulverized ore is plaeed in the hopper, and by the arms of the rotating shaft is moved first

centrifugally and then centripetally over the floors of the vertical series of ovens. It has discharge into the cooling chamber. While passing through the ovens the ore is exposed to the action of the caloric current, and to injections of cold or hot air or steam. The sulphurous and other vapors escape into the condensing chamber and are condensed in the shower-bath of the diving flue. After this operation the ore is placed in the tanks, where it is treated with gaseous vapors and steam, and the slime run from thence into a centrifugal machine which separates the solid from the liquid parts.

Claim.—1. The ore-roasting furnace A, composed of a series of ovens C D E, with alternate flat and depressed hearths, in combination with the shaft I, arms L L′ L″, flues P P′ P″ P‴ P⁗, flues M and N, and chambers R and F, arranged and operating as set forth.

2. In an oven for roasting ore, the flue S and tank T.

3. The combination of the flue U, holes V V V V, and ovens C D E, with the pipe *x* and *y*.

4. The apparatus B, composed of the apparatus *a*, tank *b b b*, and strainer *h*, arranged together and operating as specified.

75,295.—David A. Parks, Fairview, Ill.—*Penstalk for Underground Drains.*—March 10, 1868.—The vertical partition forces the water up to near the top of the penstock, within reach of cattle. A gate in the partition may be raised to allow the water to run off.

Claim.—The combination of the stock A A, partition D, gate E, and pipes B B, arranged substantially as and for the purpose herein described.

75,296.—Patrick Quinn, South Newmarket, N. H., assignor to himself and Charles R. Paul, same place.—*Steam Generator.*—March 10, 1868.—The steam is superheated by placing upon the top of the generator a spiral pipe which communicates with the steam space of the generator and with the steam pipe of the engine. The flues discharge into a cylindrical chamber within the coil, and the heated current passes out through perforations at its upper end, and from thence downward outside the coil into the annular flue space surrounding the generator. The turning of a damper allows the caloric current direct exit.

Claim.—The combination and arrangement of the coiled pipe *o*, deflector *q*, jacket *g*, and flues *k* and *l*, the whole being arranged and operating together to produce the results before described.

75,297.—Owen Redmond, Rochester, N. Y.—*Harvester Rake.*—March 10, 1868.—The several motions of an automatic sweep rake are accomplished by the action of a simple crank through a rock lever to which it is jointed in such a manner as to allow the necessary flexions.

Claim.—Producing the automatic movements of a sweep rake for harvesters, by the employment of a crank D, and a rock lever E, jointed as described, the whole operating in the manner and for the purpose herein set forth.

75,298.—Timothy Rose, Cortlandville, N. Y.—*Scroll for Water Wheels.*—March 10, 1868.—Within the eccentric scroll is a case concentric with the wheel and having apertures through which the water passes. Guide wings extend from the forward sides of these apertures which serve to turn a certain amount of the water onto the buckets. Curved gates are arranged within the scroll which serve practically to shorten the same when the water supply partially fails.

Claim.—1. Making the curb D, between the guides *b* and openings *a*, concentric with and inclosing the wheel so as to form a closed case to the buckets of the wheel between each guide and opening, in the manner herein described.

2. The hinged gate F, the concentric curb D, with its issues *a* and projecting guides *b*, when arranged and combined as described.

3. The gate F, hinged within the scroll, for the purpose of shortening or diminishing the length of the same, to adapt it to the supply of water, as described.

75,299.—Elias Sanford, Meriden, Conn.—*Yoke for Horses.*—March 10, 1868.—The hames are pivoted in the yoke at their lower ends. The draw ring is secured to a metallic bridge standing upon the yoke.

Claim.—1. The peculiar construction of the ordinary hames, such as are used in draught harness for horses, so as to dispense with traces, and connect them for draught with a beam or yoke passing under the horses' necks, by lengthening and extending downward through mortises in the ends of said yoke, and fastened by pin on the under side, as shown in the drawings.

2. The slide plate D, secured to the under part of the beam, by which means the hames may be adjusted to the necks of the horses, and then firmly secured in position by the set screw, as shown in the drawings.

75,300.—Gottlieb Schreyer, Columbus, Ohio.—*Furnace.*—March 10, 1868.—The escaping caloric current is circumscribed at a point traversed in opposite directions by jets of air from the two transverse ducts.

Claim.—1. The contracted throat *b*, which is formed by two independent air-receiving conduits or chambers G *a*, from which two independent streams of air escape, and meet or cross one another in said throat, substantially as and for the purpose described.

2. The construction and relative arrangement of the independent air-receiving air conduits *a* G, and escape aperture *b* in the fire chamber, in the manner and for the purposes described.

75,301.—William C. Selden, Brooklyn, N. Y.—*Steam and Water Packing.*—March 10, 1868.—Improvement on the patent of William C. Selden and John T. Davis, of July 27, 1867. Alternate layers of cloth and moist paper are put into a press. The paper and cloth may be wound on a rubber or rattan core. The packing should be soaked in melted tallow. When India-rubber is used, the tallow must not be allowed to penetrate to it.

Claim.—1. A packing for steam engines, pumps, &c., made substantially as described, by combining cloth or fibrous material with paper, or with compounds in which paper is an element.

2. Combining vulcanized India-rubber, or other equivalent elastic substance, with paper packing in any of its various forms, or with compounds for packing purposes in which paper is an element, in the manner substantially as described, to secure the results specified.

3. Saturating paper packing with tallow, to accomplish the purposes specified.

75,302.—Frederick I. Seymour, Wolcottville, Conn.—*Metal Top Lamp Chimney.*—March 10, 1868.—The metallic cap is rigidly connected at top by a rivet. The bottom is merely lapped, and has a circumferential groove formed on its inner side, which contains a spring wire to force it outward against the chimney top.

Claim.—1. Connecting the lapped edges of the sheet-metal cap, near the upper or smaller end, by means of a rivet, or its equivalent, for the purposes and substantially as set forth.

2. An expansive ring, introduced in the bead formed near the base of the sheet-metal cone, for the purposes and substantially as set forth.

75,303.—Frederick I. Seymour, Wolcottville, Conn.—*Clamp for Forming Sheet-metal Cones.*—March 10, 1868.—The cap is held in the bell-formed clamp while the groove is formed near its lower edge. The said groove contains the spreading wire. The device is applied in the manufacture of the chimney caps to which the preceding patent 75,302 relates.

Claim.—1. The clamp for sheet-metal cones, formed of the cones *a* and *c* locked together, as and for the purposes set forth.

2. In combination therewith, the sleeve *e*, surrounding the cone *c*, substantially as and for the purposes set forth.

75,304.—Henry Franklin Shaw, West Roxbury, Mass.—*Differential Gear Power Machine.*—March 10, 1868.—The pulleys have respectively in-

terior and exterior cog gears, the inclosing wheel being of so much the larger diameter that the inner wheel only engages upon one side thereof. The inner gear is eccentrically journaled on the shaft, and either pulley being prevented from rotation while the shaft rotates causes a gradual rotation of the other pulley but respectively in opposite directions.

Claim.—The two pulleys or winding barrels in the differential gear power machine, connected by gear as described, eccentrically hung upon a free revolving actuating shaft, operating substantially as described, and for the purpose set fotrh.

75,305.—James Shaw, Ballardvale, Mass.—*Loom.*—March 10, 1868.—The arms supporting the lay have semi-circular slots which receive the wrist pins of cranks on the ends of a transverse shaft, and the motion of the lay is caused by this means. The pickers are connected by cords to the horizontal, oscillating arms of two vertical shafts which are actuated by springs and by the tappets upon the cam shaft which operates the harness.

Claim.—The combination of the short shaft C, pinion D, shaft E, pinion H, shaft F, pinion G, tappets *k k*, roller arm *l*, vertical shaft *g*, spring *i*, and lever *e*, all constructed and arranged with the loom frame, as and for the purpose set forth.

75,306.—Edward A. Smith, St. Albans, Vt., assignor to himself and John W. Newton.—*Seat for Harvesters.*—March 10, 1868.—The seat is attached by a hook and eye bolt at the center, and is supported at the edge by spiral springs.

Claim.—The seat for mowers or reapers, formed with sockets on the under side of the seat, receiving helical or spiral springs, in combination with the sockets on the crown piece or seat supporter, and with the connecting link *i*, substantially as and for the purposes set forth.

75,307.—Scott A. Smith, Philadelphia, Pa., assignor to Cresson and Smith, same place.—*Flour Bolt.*—March 10, 1868.—The bolt is connected to the shaft by metallic rods in such a manner as to admit of vibration, which is communicated by springs. The latter are connected to the spider to which the bolt is attached, and have bearing against the end of the bolt. The springs are raised by a cam, and on recoil strike a projection on the elastic metallic belt surrounding the bolt.

Claim.—1. The bolt, unsupported, excepting at its opposite ends, and having a belt arranged for being struck by recoiling springs or other equivalent devices, all substantially as and for the purpose herein set forth.

2. In combination with the above, a spring or springs secured to the bolt, or to the box containing the same, and operated substantially in the manner herein set forth, and for the purpose specified.

75,308.—James F. Snediker and William F. Bailey, Bristol, Pa.—*Apparatus for Charging Gas Retorts.*—March 10, 1868.—The scoop is sustained on swivel and sliding bearings, upon the truck which runs on a track, and conveys coal from the heap to the bench of retorts. The scoop is run into the retort, and the bottom is drawn back by the rod extending beneath the handle; this discharges the coal.

Claim.—1. The truck A and its swivel bearings *d*, in combination with a series of scoops C, the handles of which rest on and slide in the said bearings, substantially as and for the purpose described.

2. A sliding bottom F, in combination with a scoop C, substantially as and for the purpose specified.

3. A scoop, consisting of adjustable side pieces *m m*, and bottom pieces *o o'*, constructed, arranged, and connected to the handle *f*, substantially as and for the purpose set forth.

4. The wheels *t*, in combination with a scoop C, for the purpose described.

75,309.—Charles W. Stafford, Saybrook, Conn.—*Pavement.*—March 10, 1868.—The metallic sections forming the foundation, and having cavities to receive the tapered ends of the wooden blocks, have side flanges by which they are secured together by means of links which pass through holes in the flanges, and have keys driven through their ends. The adjacent corners of four frames are connected by the crucial spanner which lies beneath the corners, and has studs entering holes in the lower sides of the said sections. The spanner is held in position by a central vertical bolt screwed into it from above.

Claim.—1. The arrangement of the oblong blocks, decreasing in depth from the centre to the sides, so as to form a camber in the street, while resting on a level metallic base C.

2. In combination with the base of a sectional pavement, the spanner G and screw H, operating as described.

3. The combination and arrangement of the flanges *n n*, link *p*, and keys *s s*, substantially as and for the purpose described.

75,310.—Philander H. Standish, Martinez, Cal., assignor to himself and Oliver C. Coffin.—*Steam Plow and Cultivator.*—March 10, 1868.—The engine is carried on the platform of the locomotive plow, and power is communicated from it to the vertical shafts carrying radial arms at their lower ends. The arms have vertical cutters, which, by their revolution, stir the ground as the machine passes along. The machine is guided by a single leading wheel.

Claim.—1. A steam plow, having the rotary knives *i i* operating in a horizontal plane and transversely to the travel of the machine, and the supporting arms *k k*, or their equivalents, together with the vertical shafts *h*, the whole constructed and operating substantially as herein described.

2. The movable frame U and the arms *a a*, together with the chains V and capstans W for raising and depressing the plows, substantially as herein described.

3. Operating the plows, when moving in a horizontal plane, directly from the engine by the belt *b*, or an equivalent device, substantially as described.

75,311.—A. Stankowitch, Philadelphia, Pa.—*Washstand.*—March 10, 1868.—The reservoir is filled from above and has a cock in the lower side.

Claim.—A water reservoir H, secured to the lid of a washstand, and so arranged as to be received by the basin G when the lid is closed, all substantially as described.

75,312.—Alfred Starr, New York, N. Y.—*Solder for Aluminum.*—March 10, 1868.—Composed of silver, 2; zinc, 1; lead, 2; and tin, 2 parts.

Claim.—The compound or alloy specified, as a solder for aluminum.

75,313.—Charles Stein, Philadelphia, Pa.—*Fluid Meter.*—March 10, 1868.—The liquid passes through the vertical cylinder tangentially and impinging on the spheres causes the revolution of the magnet on which they are suspended. The opposite poles of the magnet act through the copper plate in the side of the cylinder, and cause the alternate attraction and repulsion of the oscillating bar, communicating motion to the registering wheels.

Claim.—The combination, substantially as described, of a revolving or oscillating magnet and the registering bar J, or its equivalent, with a fluid meter, for the purpose specified.

75,314.—John Switzer, Lynn, Mass.—*Securing the Ends of Felloes and Spokes in Carriage Wheels.*—March 10, 1868.—The metallic block has a tapering socket to receive the end of the spoke, and half sockets for the ends of the felloes.

Claim.—The improved mode of fastening the ends of the felloes and the spokes in carriage wheels, by means of the metallic block E, constructed and applied and secured by the bolts *d d*, as explained.

75,315.—R. H. Smith Thompson, Georgetown, D. C.—*Device for Preventing Water Pipes from Bursting.*—March 10, 1868.—The water pipe has shoulders at intervals giving increased diameter to the pipe. In the receptacle so formed is placed a double cylinder with an air cushion between. The inner cylinder is flexible, and gives space to the increased bulk of the water when freezing.

Claim.—The arrangement at the joints of water pipes of two concentric cylinders, the interior cylin-

der to be of elastic material, and thus form an air cushion, and to operate substantially as described.

75,316.—Timothy S. Thorn, South Amboy, N. J.—*Folding Fan.*—March 10, 1868.—The wings are hung on a central arbor and may be spread out so as to form a circular fan; or slipped over each other so as to lie side by side. The handle is jointed.

Claim.—1. The combination, with the ribs B, C, and C′, and handle D, of the ferrule G, substantially as and for the purpose set forth.

2. The combination, with the ribs C and C′, of the clasp F, ferrule G, and handle D, substantially as and for the purpose set forth.

75,317.—Edwin J. Toof, Fort Madison, Iowa.—*Lamp Extinguisher.*—March 10, 1868.—The cone is hinged to the burner, and the raising of the former when lighting the lamp raises the extinguisher, and engages it with the detent. The extinguisher is closed down upon the top of the wick tube either by hand or by the shaft operating the wick regulator.

Claim.—1. So combining a hinged cone D, extinguisher or cap B, and a connecting arm C, or its equivalent, that the opening of the cone will remove the extinguisher from the wick tube substantially as herein specified and set forth.

2. In combination with said extinguisher, cone, and connecting arm, the arrangement of a suitable support E, to retain the extinguisher away from the wick tube when the cone is closed, substantially as herein specified and described.

3. The combination of a finger *d*, operating through a slot in the external case of the burner, in combination with the arm E, connecting arm C, extingnisher B, and cone D, substantially in the manner and for the purposes set forth.

4. In combination with the cone D, hinged as described, and the arm E, arranged in connection therewith substantially as described, a stop or rest F, upon the case of the burner, arranged so as to sustain the cone in place, and prevent it swinging over upon its hinge, substantially in the manner described.

5. In combination with the extinguisher B, cone D, connecting arm C, arm E, provided with a suitable rest and a lever *e*, the shaft H and arm J, arranged to operate substantially in the manner herein set forth.

75,318.—Edwin J. Toof, Fort Madison, Iowa.—*Wick Regulator.*—March 10, 1868.—The semi-band lies along one side of the wick tube, and has points which pass through the side of the tube and pierce the wick. The said points are forced into the wick by a spiral spring around their operative shaft and may be withdrawn by retraction of the shaft. The spring also forces out the arm of the engaging ring of the chimney and causes the ring to hold the chimney in place.

Claim.—1. In combination with a wick tube, provided with vertical slots *a′ a′*, the arrangement of a slide *b*, upon the outside of the tube, provided with points *b′ b′*, projecting into said tube through said slots, so as to operate in the manner and for the purposes described.

2. The combination of the slotted wick tube *a*, the slide *b*, provided with points *b′ b′* and the shaft *d′*, or its equivalent, arranged and operating substantially as and for the purposes set forth.

3. The arrangement of a spring, in combination with the above, operating as and for the purposes set forth.

4. The combination of the tube *a*, slide *b*, shaft *d′*, and springs, with the chimney clamp D E F, as and for the purposes specified.

75,319.—William Trowbridge, New Orleans, La.—*Cotton Bale Tie.*—March 10, 1868.—The wire is bent so as to form two hooks, and an eye for securing the two ends of the cord or wire.

Claim.—The device herein described, to wit, a section or piece of wire, so formed as to be provided with the loop or eye C, and the hooks B and B′, as herein described for the purpose set forth.

75,320.—William H. Van Gieson, Passaic, N. J., and John J. Crooke, New York, N. Y.—*Machine for making Butt Hinges.*—March 10, 1868.—Improvement on the patent of Brown and Van Gieson, April 9, 1861. The single blank is carried from beneath the pile in the hopper by a finger which remains beneath the pile and sustains the same until the retraction of the finger. The frame to which the fingers are attached is raised by springs so as to clear the blanks during its backward motion, and is lowered and held down by a cam so as to catch the blanks and carry them forward in its forward movement. The slides which carry the dies are drawn together by the springs and forced apart by the wedge-shaped lower end of the gate. The joint of the hinge is turned by the dies to which the blank is carried by the fingers, and its lower edge is held by the stop while being operated upon.

Claim.—1. The combination of transferring fingers, with dies *e′ e′*, when said fingers and dies are operated by mechanism substantially as and for the purpose set forth.

2. The combination of the levers y^2, cam *a′* and fingers *l*, with the slides *b′ b′*, the whole being arranged substantially as and for the purpose hereinabove specified.

75,321.—Henry B. Walbridge, Toledo, Ohio.—*Bed Bottom.*—March 10, 1868.—The sacking frame is hinged at midlength. The sacking is attached to one end, and passing around the other is rolled on a bar which enters a groove beneath the end; so that the bottom may be doubled, the bar taken out, and more of the sacking taken up thereon. The bar is then replaced, and the unfolding of the frame strains the sacking.

Claim.—1. A bed bottom, which is composed of a hinged sectional frame B B′, having the sacking secured permanently to one section, and applied to the other section by means of a flat bar *c*, and clamps *g g*, substantially as described.

2. Constructing the sacking frame B B′, and applying the sacking thereto, in such manner that, while the sacking can be more or less slackened or tightened at pleasure, one section of said frame will serve as a means for forcibly tightening the sacking, in combination with retaining cleats and removable pins applied to the bedstead rails, substantially as described.

75,322.—C. H. Webb, New York, N. Y.—*Adding Machine.*—March 10, 1868.—The two numerator wheels are inclosed in an opaque case. The unit and ten wheel has two semicircular series of numbers, each from 0 to 99 inclusive; and the hundred and thousand wheel is numbered from 0 to 49 inclusive. The case has a semicircular slot above a series of holes in each wheel, and each indicator finger has a pin traversing the slot and entering the holes to cause the rotation of the wheel. The case is numbered on the arc traveled by the finger of the larger wheel. In use both wheels are set so that 0 comes beneath an aperture in the case, and the finger of the larger wheel is moved to the number on the case which is to be added, and its pin entering the wheel the finger is turned back to number 1 on the case. In this manner one number after another may be added. At each semi-rotation of the larger wheel a pin on the said wheel impinges on the swinging spring sector and moves the smaller wheel one figure. Hundreds or thousands may be added immediately by the smaller wheel.

Claim.—1. The duplicate series of numbers, arranged upon the margin of the numerator wheel B, substantially as and for the purpose specified.

2. In combination with the above, the semicircular slot L, in the dial plate J, corresponding in extent with one of the duplicate series of numbers, for the purpose substantially as described.

3. Arranging, on the dial plate J, a series of numbers corresponding in extent with one of the series of numbers upon the numerator wheel B, substantially as described, and for the purposes specified.

4. The prefix of a cipher, upon the numerator wheel B, to the digital numbers from zero (0) to nine, (9,) inclusive, for the purpose specified.

5. In combination with the numerator wheel B, the revolving multiplying wheel E, when arranged in apposition to the numerator wheel, and having its edge in contact, or nearly in contact, therewith.

6. In combination with the elements of the above,

the slot K in the dial plate J, for the purpose specified.

7. The arrangement of the numerator wheel B, lever G, and multiplying wheel E, all constructed substantially as described and for the purposes specified.

8. In combination with the arrangement above specified, the slotted dial plate J, when constructed substantially as and for the purposes specified.

75,323.—DAVID M. WESTON, Boston, Mass.—*Self Oiling Hub for Pulleys, &c.*—March 10, 1868.—An oil chamber in the hub connects with the shaft in the center of the hub, and has one or more longitudinal partitions which carry the oil over and around the shaft. Annular recesses in the ends of the hub have under-cut outer edges, and holes leading therefrom, which tend centrifugally and inwardly, and communicate with the oil chamber; the centrifugal force of the rotating pulley carrying the oil from the recesses into the chamber.

Claim.—1. A loose wheel or pulley, having its hub provided with the chamber D, and opening E, with the partition *a*, or its equivalent, when constructed and arranged to operate substantially as described.

2. In combination with the chamber D, the dovetailed recess *l*, with the passages *e*, leading into said chamber, substantially as and for the purpose set forth.

75,324.—BENJAMIN F. WHITAKER, Whitestown, Ind.—*Gate and Door Spring.*—March 10, 1868.—One end of the curved rod is secured to the post and the other passes through a hole in the gate. The curved rod supports a coiled spring which serves to close the gate.

Claim.—The application of the circular rod, and also the coil of wire used as a circular spring, as set forth in the drawing.

75,325.—GEORGE F. WILSON, East Providence, R. I.—*Manufacture of Phosphatic Fertilizer.*—March 10, 1868.—The "niter cake" or "salt cake" left in the retort in the production of nitric or muriatic acid, while in a viscid state, is removed from the retort and placed in a cylinder rotating on tubular journals. The cylinder has iron bars projecting from the side toward the center. With the said "cake" are mixed bones, bone ash, bone coal, or spent black, either or all. Steam is applied through the journals and under a high pressure.

Claim.—1. The method of decomposing the said bone phosphates by the said salt cakes, substantially as above described.

2. The fertilizing product, produced substantially as above described.

3. The revolving cylinder, substantially as above described, when used in connection with the manufacture of either nitric, muriatic, or sulphuric acid, or two or more of them, for the purpose of producing the aforesaid fertilizer or compound, substantially as above described.

4. The manufacture of the aforesaid fertilizer in connection with either, any, or all of the aforesaid acids, by the use of the resulting residuary salt cake or cakes, substantially as and for the purpose above described.

75,326.—GEORGE F. WILSON, East Providence, R. I.—*Preparation of Bones for the Manufacture of Phosphoric Acid and Phosphates.*—March 10, 1868.—The bones are burnt to a gray color, (allowing about 12 per cent. of carbon to remain.) The coarse-grained powder is spread to a depth of 3 or 4 inches over the floor of the furnace, which is heated by flues above and beneath it. The mass is occasionally and quickly turned, the exit being closed at the time of turning to prevent the draught. When it has assumed the proper gray tint it is withdrawn. The object is to remove the cyanides, sulphides, &c., and to retain the carbon.

Claim.—1. My new and improved process of burning and roasting bones gray, substantially as and for the purposes hereinbefore described, as preliminary to the extraction therefrom of acid phosphate of lime.

2. As an improvement in the process of preparing acid phosphate of lime, the use of bone coal treated substantially as hereinbefore described.

3. The improved furnace, constructed and operating substantially as and for the purposes as herein before described.

75,327.—GEORGE F. WILSON, East Providence, R. I.—*Manufacture of Phosphates for Agricultural Purposes.*—March 10, 1868.—Unboiled bones and dilute sulphuric acid are put into a lead-lined wooden tank, which is heated by a steam coil of leaden pipe. The matter is kept under heat until the bones are softened, and finally until it is evaporated to dryness.

Claim.—This process of reducing bones with acid, substantially as above described, whereby I have made the manufacture of a fertilizer under the name of superphosphate of lime more economical and more valuable than by any other process heretofore known.

75,328.—GEORGE F. WILSON, East Providence, R. I.—*Manufacture of Acid Phosphates.*—March 10, 1868.—The starch and acid phosphate, already coarsely mixed, are passed between cylindrical rollers having different velocities; one of which is capable of motion to and from the other, and held thereto by springs or weights.

Claim.—1. The improved process, hereinbefore described, of mixing farinaceous matter with acid phosphate of lime, in the manner and for the purpose above described.

2. The improved grinding or disintegrating apparatus, constructed and operating substantially in the manner and for the purposes above described.

3. The application of granite rollers in the manner and for the purpose above described.

4. The combination of the grinding rollers and their connections with the self-adjusting pressure lever, substantially as and for the purposes described.

75,329.—GEORGE F. WILSON, East Providence, R. I.—*Preparing Bones for the Manufacture of Acid Phosphates.*—March 10, 1868.—The bones are distilled in a bench of retorts with fire and smoke flues substantially like those of a gas retort. Vertical pipes conduct the gases to a reservoir which connects with a system of vertical condensers arranged over a receptacle for the condensed gases, including carbonate of ammonia. The uncondensed gases, including ammoniacal gas, are conducted through an agitator containing muriatic or sulphuric acid, so as to abstract the remaining ammonia. The uncondensed gases are conducted to the furnace.

Claim.—1. The new and improved method or process of destructive distillation of bones, whereby the products of distillation are principally condensed, the ammoniacal products thereof preserved, and the remaining gases conveyed to the furnace, thereby adding heat to the flame and destroying the offensive odors, substantially as above described.

2. A new and improved means or method of destructive distillation of bones by the use of horizontal retorts, in connection with the coolers above described, whereby the retorts of the furnace may be continuously used without losing their heat, while at the same time the burned or distilled bone is being cooled and excluded from the air in said coolers.

3. The combination of the retorts A, the reservoir E, the condenser B, and the chamber D, with its mechanical agitator, or its equivalent, and the connecting pipes above described, substantially as and for the purposes hereinbefore set forth.

4. The combination of the retorts A, the reservoir E, the condenser B, and the connecting pipe g^{ii} g^{iv}, for the purpose above described.

75,330.—GEORGE F. WILSON, East Providence, R. I.—*Drying Acid Phosphates.*—March 10, 1868.—For drying the mixture of farinaceous matter and acid phosphate of lime, made according to Horsford's patent. Highly heated air circulates slowly through a chamber, in which the above preparation is maintained in numerous wide, thin vertical sheets, supported each by two parallel frames of lattice work, so arranged that at intervals a quantity of dried acid is discharged at the bottom and a fresh supply received at the top.

Claim.—1. My improved process of drying the granulated acid phosphate of lime by exposing the same to continuous currents of heated air on both

sides of the columns thereof, substantially as and for the purposes described.

2. The application of the improved apparatus, constructed and operated substantially as described for the purpose aforesaid.

3. The arrangement of the revolving troughs, or their equivalent, combined with the vertical lattice flues, substantially as above described, by which the process of drying is rendered uniform and continuous.

75,331.—GEORGE F. WILSON, East Providence, R. I.—*Apparatus for the Manufacture of Acid Phosphates.*—March 10, 1868.—The ground matter is passed into a rotary bolt and the tailings carried by an elevator to the feed hopper to be reground.

Claim.—The improved mechanism for sifting this mixture of coarsely and finely-powdered acid phosphate of lime, as described under Horsford's patents, and separating the coarser parts of the same, substantially as and for the purpose described.

75,332.—GEORGE F. WILSON, East Providence, R. I.—*Burning Bones for the Manufacture of Acid Phosphates.*—March 10, 1868.—The bones, each class by itself, are placed in the fire-brick furnace, which is heated by flues over and beneath it, the latter discharging into the furnace space. The bones are burned to whiteness, being occasionally stirred, but care taken to exclude a superfluity of air which would otherwise cool the bones and prevent their thorough burning.

Claim.—1. The new and improved furnace, substantially as above described, whereby the flame is carried under the hearth thereof, and is introduced into the chamber which contains the bones, where it burns with the combustible products of distillation and atmospheric air, admitted in regulated quantities, and thus, while the offensive odors are destroyed, the heat of the chamber is intensified to the degree required for the production of white-burned bone, without converting the same into an insoluble pyrophosphate of lime, the flame and products of combustion then passing into the flues over the chamber into the escape flue.

2. The new and improved process of burning bones white, whereby I am enabled to obtain from them a pure phosphate of lime, in the manner and for the purpose above specified.

75,333.—GEORGE F. WILSON, East Providence, R. I.—*Grinding and Pulverizing Acid Phosphates.*—March 10, 1868.—The acid phosphate is ground in a "Chilian mill," which prevents the adhesion induced by heat in an ordinary mill.

Claim.—1. An improved process of disintegrating and pulverizing the dried and granulated mixture of acid phosphate of lime and farinaceous matters, substantially in the manner and for the purposes described, whereby the heating thereof is prevented, by causing the pulverizing action of the mill to be applied to any particular portion of the mixture to be at intervals, which allow time for cooling between successive impacts.

2. The application of the above described apparatus to the pulverization of acid phosphate of lime mixed with farinaceous matters, substantially as above described.

75,334.—GEORGE F. WILSON, East Providence, R. I.—*Granulating Acid Phosphates.*—March 10, 1868.—The device bears relation to Horsford's patented mixture of acid phosphate of lime and farinaceous matter. The horizontal wire grating reciprocates beneath a hopper or vertical chute containing the mixture stated.

Claim.—1. The process of dividing the lumps of mixed acid phosphate of lime and farinaceous matter into small lumps, substantially as and for the purpose specified.

2. The combination of the feeding spout and vibrating sieve or grater, constructed and operated substantially as above described, and for the purpose above set forth.

75,335.—GEORGE F. WILSON, East Providence, R. I.—*Apparatus for Conveying Acid Phosphates and other Acid Liquids.*—March 10, 1868.—The pump is formed of lead and fitted with a copper piston rod, vulcanized rubber or gutta-percha ball valves, and connected with the discharging and receiving vessels by flexible, vulcanized rubber hose.

Claim.—1. My improved pump, constructed of lead and vulcanized rubber or gutta-percha, substantially as and for the purpose above specified.

2. The application of vulcanized rubber or gutta-percha hose, in combination with the above described pump, for the transfer of acid phosphate of lime liquor, for the purpose above set forth.

75,336.—GEORGE F. WILSON, East Providence, R. I., and EBEN NORTON HORSFORD, Cambridge, Mass.—*Manufacture of Phosphates, and Extracting Phosphoric Acid from Bones.*—March 10, 1868.—The bones, after calcination to a gray color, (in which state a proportion of carbon remains,) are treated with sulphuric acid and the soluble acid phosphate leached therefrom, leaving the relatively insoluble sulphate of lime and carbon. The remaining carbon assists in retention of the cellular structure of the bone, and prevents the choking of the interstices of the leach. The "dredging" or treatment with sulphuric acid is carried on for about 18 hours, and the mass, which is contained in a lead-lined tank, is kept in continual agitation. When leaching, the mass is tamped down upon the felt, to cause an equal consistence in the material.

Claim.—1. The new and improved process of extracting acid phosphate of lime from bones, as hereinbefore stated.

2. The continuous agitation of the mixture of sulphuric acid, acid phosphate of lime, and pulverized gray bones, by which the action of the sulphuric acid is rendered uniform, and the sulphate of lime, produced in the decomposition of the gray bone, is prevented from setting or hardening in lumps or in mass, which would interfere with leaching, as well as with the perfect decomposition of the gray bones.

3. The distribution of the mass to be leached in broad, shallow pans, in the manner and for the purpose above described.

4. The use of vessels made of lead, or lined with lead, for the purpose above described.

5. The application of the tamping operation or its equivalent to the mixed acid phosphate of lime, carbon, and sulphate of lime, to keep them as nearly as possible of uniform thickness and consistency upon the leach cloth, in order to the more uniform and perfect leaching thereof.

6. The treatment of the burned bones above described with sulphuric acid, diluted to or beyond the point of precipitating the sulphate of lead present therein, this dilution being made with a weak solution of acid phosphate of lime.

7. The apparatus above and substantially as described, as a whole, for the purpose of obtaining liquid acid phosphate of lime, substantially as above described.

75,337.—GEORGE F. WILSON, East Providence, R. I., and EBEN NORTON HORSFORD, Cambridge, Mass.—*Treating the Mixture of Acid Phosphate of Lime and Farinaceous Matters in order to Granulate them.*—March 10, 1868.—The preparation, coarsely disintegrated, is placed under the influence of light and air at a temperature of 75° Fahr., and is stirred and turned twice a day, and the size of the lumps lessened. This is continued two weeks, more or less.

Claim.—The new and improved process of treating acid phosphate of lime when mixed with farinaceous matters, for the purpose of so drying and ageing the same as to prepare it for the successful application of mechanism for granulation, in the manner substantially as and for the purpose above described.

75,338.—GEORGE F. WILSON, East Providence, R. I., and EBEN NORTON HORSFORD, Cambridge, Mass.—*Treating Acid Phosphates in the Manufacture of Yeast Powders, &c.*—March 10, 1868.—This invention relates to the manufacture of Horsford's patent acid phosphate of lime and farinaceous matter. The liquid and calcined bones are divided among the kettles, and after sufficient concentration it is mixed intimately in a common receptacle to insure homogeneity. In this condition it may be mixed

with the farinaceous matters, or the mixture may be made after cooling.

Claim.—The use of the kettle or common receptacle for mixing together the viscid mass resulting from each day's work, after partial crystallization, with farinaceous dilutants, in the manner and for the purpose above set forth.

75,339.—GEORGE F. WILSON, East Providence, R. I., and EBEN NORTON HORSFORD, Cambridge, Mass.—*Apparatus for Concentrating Acid Phosphate of Lime.*—March 10, 1868.—The liquid is concentrated in porcelain-lined iron pots which stand side by side, but each have a separate fire pot whose bottom may be slid out when necessary to allow the fire to drop into the ash pit. The flues all communicate with a common flue leading to the smoke stack.

Claim.—1. The new and improved method or process of concentrating the acid phosphate of lime liquor by means of the apparatus constructed and arranged substantially as and for the purposes above described.

2. The use of metallic evaporating kettles lined with porcelain, for concentrating the solution of acid phosphate of lime, in the manufacture of Horsford's pulverulent phosphoric acid.

3. The improved fire pot, substantially as described, that is to say, consisting of fire brick, lining a short metallic tube, or a short continuous fire-brick tube, with a surrounding air space, in connection with the use of the porcelain-lined kettle, for concentrating acid phosphate of lime liquor.

4. The movable grate, in combination with the fire pot and porcelain-lined kettle, substantially as and for the purpose above described.

5. The arrangement of the series or bench of single kettles above described, having a separate fire for each, in the manner and for the purpose set forth.

75,340.—SYLVANUS C. WILSON, Central Falls, R. I., assignor to himself, EDWARDS MATHEWS, and WILLIAM N. STRONG, same place.—*Egg Beater.*—March 10, 1868.—The perforated dasher is reciprocated vertically and may be milled to beat the eggs.

Claim.—A dasher attached to the lower extremity of the rod C, perforated with round holes and having a concave surface, upon which are soldered narrow strips of tin, passing across the center of the holes, substantially as described, and for the purposes specified.

75,341.—ALEXANDER ALLEN, Chicago, Ill., assignor to himself, W. G. WOOD, JOHN G. WALKER, and W. R. WALPOLE, same place.—*Machine for Cutting Rags.*—March 10, 1868.—The moving jaw of the shears is connected to one arm of a bell crank whose other arm has a stud traveling in a cam groove in the periphery of a rotating wheel.

Claim.—1. The combination of the table A, shears *a b*, and movable bed or guard B, all arranged and operating in the manner and for the purposes described and set forth.

2. In combination with said shears *a b*, the rock shaft *h*, arm *m*, pawl wheel C, when arranged with connecting arms and joints substantially as specified, and for the purposes described.

75,342.—LEICESTER ALLEN, New York, N. Y., assignor to himself and SOLOMON P. SMITH, Waterford, N. Y.—*Fluid Meter.*—March 10, 1868.—The piston is balanced by a spring in such a manner that the flow of water will open the valve and give free passage to the water as long as there is no back flow. In the latter case the valve is closed wholly or in part. The amount of water passing is recorded by a register.

Claim.—1. The combination of the openings *b* and *i*, with valves fixed to a pivoted arm, *v'*, in such a manner that by the movement of the arm the openings shall always be proportionately uncovered or closed, when this combination is used in a fluid meter, substantially as and for the purposes specified.

2. The cylinder C, provided with the piston D and opening *c*, or their equivalent, when used in a fluid meter, substantially as and for the purpose specified.

3. The chamber J, provided with the diaphragm *m*, substantially as and for the purpose specified.

4. The arrangement, in a fluid meter, of the chambers B B', cylinder C, piston and rod D D', arm *v'*, and valves *v v''*, substantially in the manner and for the purposes set forth.

75,343.—E. A. APGAR and A. C. APGAR, Trenton, N. J.—*Map and Chart Holder.*—March 10, 1868.—The charts are stretched on frames which are hinged to and inclosed by a case.

Claim.—The self-adjusting rotary compound hinge, as described, and for the purposes set forth.

75,344.—T. R. BAILEY, jr., Lockport, N. Y.—*Hydrant.*—March 10, 1868.—The lower end of the cylindrical valve is seated on a leather disk. A valve is formed in the center of the disk whose metallic cap has an arm which is depressed by the cylindrical valve when it is upon its seat, and the water in the hydrant is allowed to run out through the escape pipe.

Claim.—1. A hydrant or water plug, constructed substantially as shown and described, that is to say, with the parts A and B connected together as shown, and with a cylinder valve and a waste water valve connected and operated in combination, substantially as herein specified.

2. The arrangement of the parts A B, valve D, case C, and stuffing box H, as herein described, for the purpose specified.

75,345.—WILLIAM C. BAKER, New York, N. Y.—*Railroad Car Heater.*—March 10, 1868.—The water rises in a coil of pipe in immediate proximity to or within the stove and passes into a chamber from which steam and air may escape through a safety valve. The water (which may be mingled with some substance to prevent freezing) circulates through pipes beneath the seat and returns through a course of pipes at a lower level.

Claim.—1. A circulating hot water apparatus, adapted to railroad cars and other vehicles, in which a rising water pipe from the heater opens into a water vessel, in combination with a descending pipe and radiating or heating tubes, substantially as and for the purposes set forth.

2. The heating tubes, arranged as shown, to run from the side of the car, beneath the respective seats, and furnish warmth to the individual passengers, in combination with the aforesaid hot water heating apparatus set forth.

75,346.—RUSSELL A. BALLOU, Boston, Mass.—*Fire-proof Safe.*—March 10, 1868.—A stratum of wood is embedded in the filling.

Claim.—Embedding in the filling of a fire-proof safe a stratum or strata of wood, arranged substantially as described, for the purpose of enhancing the non-conducting power of the safe walls, as specified.

75,347.—FREDERICK BAUMGARTNER, Brooklyn, N. Y.—*Sash Stop for Windows and Doors.*—March 10, 1868.—The sash has spring friction rollers which bear against the inner beading and keep the sash tightly against the outer bead.

Claim.—The combination, with the sash and frame, of a sliding window or door, of a combined spring A, and roller B, arranged and operating substantially as and for the purposes herein specified.

75,348.—N. S. BEAN, Manchester, N. H.—*Self Propelling Engine.*—March 10, 1868.—The balance wheel shaft has chain gear connection with the propulsion wheels. The ends of the fore axle are connected by a chain to a barrel which has a wheel turned by a screw gear to guide the engine.

Claim—1. In a steam fire engine, in which the steam and pump cylinders are arranged as described, operating the wheels of the engine to propel it over the road, substantially as specified.

2. The arrangement, on the shaft driven by the steam cylinders which work the main pumps of steam fire engines, of the driving wheel *d*, or its equivalent, so that it can be made fast or loose on said shaft, substantially as and for the purpose specified.

3. The combination of the axle of the steering wheels with the hand wheel *o*, by means of the chains *s*, windlass barrels *l*, shaft *j*, worm gear *k*, worm *m*, and shaft *n*, substantially as and for the purpose specified.

75,349.—ENOCH BEARD, Salem, Iowa.—*Moth Proof Bee-Hive Portal.*—March 10, 1868.—The platform forms the floor of an appendage to the hive entrance and has slots in it which allow passage to the moth but refuse it to the bee. Beneath the platform is a drawer which contains some attractive liquid in which the moth is destroyed.

Claim.—1. The platform H, with its crevices D D D and E E, and flap F, and crevice G, when constructed and used as set forth.

2. The back I, when combined with the box J, and constructed and used as shown.

3. The box J, separated into stories by the floor U, when constructed and used as set forth.

4. The tubes T T, when constructed and used as herein shown.

5. The drawer C, when combined with the partition N^2, and constructed and used as shown.

6. The slide M, in combination with the movable gauge L, when constructed and used as set forth.

7. The partition N^2, attached to the under surface of the platform H, when constructed and used as set forth.

75,350.—JASON A. BIDWELL, East Boston, Mass.—*Machine for Threading Screws.*—March 10, 1868.—The thread is made by the "threading clamps," which are counterparts of the thread and core, and which are applied to jaws which have a vibrating and rectilinear, reciprocating motion, so that while the blanks are being rotated or oscillated, the clamps will traverse back and forth and so complete the screw. The clamps have elastic connection to half nuts, which allow the jaws adjustment to the diminishing core of the screw while governing their rectilinear, reciprocating movement. The gripping jaws are operated by cams so as to clamp the blank. A scale connected with the gripping jaws denotes, according to the diameter of the blank, the number of rotations required to a certain length. The spindle of the gripping jaws has right or left rotation as desired.

Claim.—1. The construction of the threading clamps or dies E E with cutters and recesses, in such manner as to form counterparts of the screws which they are designed to produce, substantially as described.

2. The application of threading clamps E E to laterally-vibrating jaws or carriers E^1, in combination with a device for holding screw blanks while they are being threaded, substantially as described.

3. The laterally vibrating and rectilinear reciprocating die carriers E^1 E^1 in combination with the leader screw *c*, substantially as described.

4. The application of elastic yielding half-nuts *d d* to vibrating threading die carriers E^1 E^1, substantially as described.

5. The combination of closing cams B B and opening spring *e* with the threading die carriers E^1 substantially as described.

6. The combination with the machinery, substantially as herein described, for producing threads on screw blanks, of the griping jaws *g g* and cams g^1 g^1, applied and arranged so as to operate substantially as herein described.

7. In a machine for producing threads upon screw blanks, the griping jaws *g*, cams g^1, and toggles h^1, combined with a sliding collar H, and applied to a spindle, all substantially as described.

8. The arrangement of the devices specified for adjusting the cams g^1 g^1 in the screw blank threading machine, herein shown and described, for the purpose set forth.

9. In a screw-thread cutting machine, employing an intermittent rotating spindle carrying the blank holders, the index wheel O with its dogs *p p*, applied substantially as described.

10. In combination with the wheel O and its dogs *p p*, the vibrating lever N, latches P P^1, and lever L, said parts being applied to a screw cutting machine, so as to operate substantially as and for the purposes described.

11. The spring arms M M, the lifting lever N, right and left latches P P^1, and the vibrating lever frame L, carrying the shifting gear L^1 L^2, all combined and applied to a screw threading machine, substantially as described.

12. The pitman rod L^3, with its cheek stud *n* and the slotted guide n^1, in combination with the lever frame L, substantially as described.

13. Providing the lever frame L with right and left latches P P^1, for arresting this frame at the termini of its strokes, said parts being applied to a screw threading machine, and operating substantially as described.

14. The driving of the leader screw shaft F and the gripping jaw, carrying spindle G, by means of a single wheel J, which receives intermittent rotary or oscillating motions from shifting wheels L^1 L^2, substantially as described.

15. The adjustable yoke B^1 applied upon the cam rods B B, for the purpose of regulating the amount of lateral vibration of jaws E^1 carrying threading dies or cutters E, substantially as described.

75,351.—JAMES S. BLACK, Oakland, Ill.—*Lamp Chimney Cleaner.*—March 10, 1868.—The springs are attached at the ends to the handle, and to the head of a rod sliding axially in the handle. The contraction of the rod causes the outward movement of the springs, and distension of their cloth covering.

Claim.—The disk D, in combination with the springs B and sliding central rod C, all arranged as described, whereby the springs are prevented from bending inward as they are extended, as herein shown and described.

75,352.—S. C. BLINN, J. J. ALVORD, and H BREWER, Tecumseh, Mich., assignors to S. C. BLINN —*Machine for Cutting Hoops from the Edge of a Board.*—March 10, 1868.—The free side of the pivoted supporting frame of the table rests upon a revolving cam, by which means it is inclined, to cause the hoops to be cut beveling; thicker, alternately on the upper and under sides. The knife has a draw cut by its suspension upon pendulous arms and connection to a crank at one end.

Claim.—The combination of the knife K, arms M and M′, and guides N and N′, with the crank B^2 pitman K′, and rods L, when the parts are constructed and arranged to operate so as to permit the knife to travel with a reciprocating and curved transverse movement, substantially as set forth.

75,353.—HENRY BÖGEL, Watertown, Wis.—*Knitting Machine.*—March 10, 1868.—Two sets of needles, each working independently of the other, may be operated singly or simultaneously. A series of horizontal latch needles are moved back and forth by a reciprocating bar, to which motion is imparted by a belt which passes over two oscillating pulleys, and both ends of which are attached to the bar. To the same reciprocating bar or plate are attached latch openers, which open the needle latches and lay a fresh thread on the hook of the needle.

Claim.—1. The arrangement of the grooves *p*, *q*, *r*, and S, in the lower surface of the plate D, in connection with the movable plate *t*, whereby the groove S may be closed, and the grooves *p* and *r* connected directly with each other, all as set forth.

2. The plate M, sliding on the plate D, and operating the plates *t* and arms *g′* and *h′*, substantially as and for the purposes herein shown and described.

3. The device for taking up the slack of the thread, consisting of the bars *c′* (or *d′*) in combination with springs *e′* and arms *g′*, (or *h′*,) the latter being operated by the plate M, all made and operating substantially as herein shown and described.

4. The elastic extension *b′* of the spools I and the bars *c′* (or *d′*) for taking up the slack of the thread, substantially as described.

5. The slotted latch opener N, in combination with the thread holder *l* and supports K K of the spool, all made and operating substantially as herein shown and described.

75,354.—WILLIAM H. BONNELL, Buffalo, N. Y. —*Lantern.*—March 10, 1868.—Improvement on the patent of Hugh Sangster, May 28, 1867.—The catches pass through the concentric bands of the top and lamp, and are withdrawn by a thumb piece for disengagement.

Claim.—The combination and arrangement of the springs I I with the rims A or B and openings C C, as and for the purposes described.

75,355.—George W. Bowen, Fort Wayne, Ind.—*Well Borer.*—March 10, 1868.—The shank of the hand auger is made in detachable sections so as to admit of use in a deeper or shallower well.

Claim.—1. The circular plate D, for well cleaning, when provided with holes *a*, for the purpose of allowing the escape of water from the dirt or sand being lifted from the well, as herein set forth for the purpose specified.

2. The plate D, having spring cutting edges, all formed in one piece, and provided with holes *a*, as and for the purpose specified.

3. The application of the ropes to the plate D, for the purpose of elevating the tool from the well, as and for the purpose specified.

4. The tool for cleaning wells, constructed as described, consisting of the perforated disk D, having spring cutting-edges, surrounded by the rim F, and provided with adjustable handle A B, as herein shown and described.

75,356.—John Bowers, Clinton, Wis., assignor to Elijah W. Blaisdell, Jr., Rockport, Ill.—*Gate.*—March 10, 1868.—The upper part of the gate is pivoted to the ends of levers which turn on trunnions at their lower ends, and one of which has a counterbalance weight. The gate is swung upward and longitudinally by cords, which extend over pulleys upon an elevated frame. The cords extend along the side of the way, to enable the opening and closing of the gate by the occupants of a conveyance.

Claim.—1. The extension of the main levers F F, and the application to the lower end of the same of the balance weight A.

2. The double pulley block, with dead eyes to keep the cord on the pulleys, suspended on a single rod, or working with journals in the head of the gate, and operating with a swinging or lateral motion on the opening and shutting of the same, as shown by diagram.

75,357.—Alfred Bridges, Newton, Mass.—*Car Truck.*—March 10, 1868.—The car is suspended from the journal box by an auxiliary housing, which is connected to the journal box by metallic links in such a manner as to allow the lateral vibration of the car independently of the journal box. The journal box is so arranged within the housing as to prevent any twisting or longitudinal movement of the said box.

Claim.—The combination of the journal boxes and housings with the links for supporting the car body, and the cross heads upon which said links are held in the manner described, so that the said boxes, while having a free lateral motion, shall be prevented from twisting in their housings, as herein shown and set forth.

75,358.—James H. Burnett, Jr., Newark, N. J.—*Trunk.*—March 10, 1868.—The front portion of the top part of the trunk is hinged to the back part at the lid, and may be turned up thereon so as to expose the falling doors of the hinged and fixed portions of the upper part.

Claim.—In combination with a trunk constructed as described, the lid X X, made in two sections, hinged together, one section being also hinged to the front edge of the trunk at Y, and the other adapted to fit against the vertical part of the trunk, both forming an obtuse angle, the removable partition A^2 in the body of the trunk, and the hat receptacle, as herein shown and described.

75,359.—J. N. Burton, Senoia, Ga.—*Hat Buckle.*—March 10, 1868.—The ordinary buckle has a spring attached to the lower side of the frame, and bearing against the upper side piece. A railway check may be placed behind the spring.

Claim.—As a new article of manufacture, a ticket-holding attachment for hats, consisting of the buckle A, carrying the spring C, all made and operating substantially as herein shown and described.

75,360.—Henry W. Busse, Chicago, Ill.—*Combined Knob Latch and Door Lock.*—March 10, 1868.—The upper side of the bolt has a recess which receives the end of a vertical bar tumbler. The bolt, when thrown forward, operates a bent lever, whose upper end enters a notch in the latch and prevents its withdrawal. The lock has a central plate, and the key is made in two portions, one of which is connected to a rod passing axially through the other part, and turning therein. The tumbler is thrown up by the former part of the key, (which is the only part passing through the central plate,) and the bolt is thrown back by the latter part.

Claim.—The combination, in a door lock, of the latch B, provided with a notch *b*, the bolt C, provided with a slot *c*, and notches *e f*, the bent arm D, the bar F F′, provided with a tongue *t*, the spring *a a′*, and the plate G, all arranged and operating substantially as and for the purposes specified.

75,361.—James J. Butts and A. S. Stone, Plainview, Minn.—*Universal Joint.*—March 10, 1868.—The ball has two flanged ribs projecting rectangularly from its sides, and occupying undercut, curved grooves in the heads of the arms. The heads have a limited longitudinal movement on the arms; and are made in two parts to allow the removal of the ball.

Claim.—The ball B and arms A A, constructed and connected substantially in the manner and used for the purpose specified.

75,362.—L. Caldera and L. Montu Turin, Italy.—*Piano Forte.*—March 10, 1868.—Combined with each pair of strings is a small metallic hammer covered with felt, and having an elastic handle. A rapid oscillatory movement is imparted to the hammer by clock-work, acting through a wave-faced cam. The oscillations of the hammer follow each other so fast that the ear fails to distinguish the separate waves of sound, and receives the impression of continuity.

Claim.—1. The method of prolonging the vibrations of the strings of a piano, substantially in the manner and by the means herein shown and described.

2. The combination, with the ordinary striking hammer, damper, and other parts of the action of a piano, of an auxiliary oscillatory or vibratory hammer and clock-work, or equivalent mechanism for imparting the desired motion to the same, substantially in the manner and for the purposes herein shown and described.

75,363.—George J. Capewell, West Cheshire, Conn.—*Lamp Burner.*—March 10, 1868.—The springs upon the burner steady the chimney.

Claim.—In a lamp burner, such as herein described, the rim B and standard E, provided with the springs *c* and *d*, when the latter are constructed and arranged in the manner as herein shown and specified, and for the purposes set forth.

75,364.—John M. Case, Athens, Ohio.—*Angular Shaft Coupling.*—March 10, 1868.—The shafts are jointed to the different parts of the coupling, and these are linked together and engage by segmental gears so as to make a gimbal joint.

Claim.—The combination of the oblong frames C, having cogs or teeth *c′*, formed upon the ends of their forward sides, and the pivoted connecting bars D, with each other, and with the ends of the connected or coupled shafts, substantially as herein shown and described, and for the purpose set forth.

75,365.—Alfred H. Castle, Ann Arbor, Mich.—*Insulator.*—March 10, 1868.—The hooked insulator pin is screwed into a block of wood inserted in a mass of non-conducting substance in a chamber in the lower end of the downwardly-inclined bracket.

Claim.—1. A telegraph insulator or bracket constructed with a groove E, substantially as and for the purpose set forth.

2. The cavity or chamber B and groove E, in combination with the bracket A, substantially as set forth.

75,366.—Simeon B. Castle, Cortland, N. Y.—*Elevator.*—March 10, 1868.—The "cross-head elevators" are attached to endless belts revolving upon pulleys in a frame which is secured to a wagon which receives the articles raised, whether hay, stones, or other matters.

Claim.—1. The slotted frame A, in combination with the cross-head elevators B, for the uses and purposes set forth.

2. The adjustable table *b*, in combination with the elevator heads, for the purpose described.

3. The quadrant-shaped bars *c' c'*, in combination with the frame A and axle of the driving wheels, for the purpose of raising and lowering the main apparatus.

75,367.—M. L. CHAPPELL, New York, N. Y., and C. H. PETTIT, Jersey City, N. J.—*Bung.*—March 10, 1868.—The dogs slide in radial ways in the lower part of the bung and have lugs entering convolute cam grooves in the upper part; by turning the latter the said dogs are forced out to engage the sides of the bung-hole.

Claim.—1. The sliding dogs C, formed with inclined planes or faces *e'*, and operated by the eccentric grooves *c*, in combination with the two parts or portions A B, substantially as and for the purpose herein set forth.

2. The spurs or projections *f*, formed upon the lower part, B, of the bung, substantially as and for the purpose specified.

75,368.—CHARLES CHRISTIAN, Milwaukee, Wis.—*Corn Sheller.*—March 10, 1868.—The spring claws have spiral feed ribs and teeth by which the corn is shelled from the cob.

Claim.—1. In combination with the hand corn sheller A A, the curved guard plates D D, substantially as and for the purpose set forth.

2. In combination with the hand corn sheller A A, the set screw E, substantially as and for the purpose set forth.

3. A hand corn sheller, constructed with the plates A A, as described, and provided with the guard plates D D, springs *i i*, and set screw E, substantially as and for the purpose set forth.

75,369.—CHARLES B. CLARK, Buffalo, N. Y.—*Clamp for Scrub Brushes.*—March 10, 1868.—The head is flanged to hold the outer side of the brush top. The collar has projections which hold the inner side of the brush. The said collar is forced down by the thumb nut upon the screw-threaded ferrule of the staff.

Claim.—Constructing the sliding collar *c* with the flange *s*, when arranged on the inclined shank *d*, and operated by a nut E, in the manner and for the purpose shown and described.

75,370.—DOMINICUS N. CLARK, Eastport, Me.—*Railway Chair and Fastening.*—March 10, 1868.—One of the jaws of the chair may be cast solid therewith and the other attachable by bolts. The bolts are split at the inner end and spread by a wedge which enters the split by impingement against the bottom of the hole in the stone sleeper.

Claim—1. The chairs C, clamps E, ties F, and sleepers B, when said parts are constructed and combined with each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the iron ties F, having an enlargement or shoulder f^1 upon each end, with the chairs C, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the intermediate ties F, constructed with stationary jaws f^2 and shoulders f^3, formed upon them, and removable jaws f^4, with the rails A and sleepers B, substantially as herein shown and described, and for the purpose set forth.

75,371.—THADDEUS L. CLARK, Mount Vernon, Ohio.—*Head Block.*—March 10, 1868.—The shafts carry the spur wheels which engage the rack by which the head blocks are actuated, and also carry wheels which are spirally grooved at the periphery. The spiral groove receives a plate connected to a sleeve, and sliding on a spindle attached to the housing of the operating shaft. As the head blocks are moved toward the saw the indicator is moved on the spindle and denotes the distance of the head block from the saw.

Claim.—1. The indicating wheels K K, provided with grooves *x x*, and different series of figures on their peripheries in combination with the indicators *j j*, as and for the purpose set forth.

2. The combination of the shafts C C, indicating wheels K K, and ratchet wheels D D, with the housings H H, quadrants I I, and levers E, when constructed and operated substantially as described and used for the purpose set forth.

75,372.—CHARLES COLBY, Madison, Wis.—*Lock for Fruit Boxes, &c.*—March 10, 1868; antedated September 10, 1867.—The single board is angularly grooved in transverse direction, to enable its bending rectangularly, to form the corners. The sides are slotted through to receive tongues upon the "bottom." The ends of the board are lapped, and the outer one being tapered off, its end is bent around rectangularly and passed through the side.

Claim.—1. Fastening and holding the band or cord of the box by means of a single loop *m*, with double grooves *b c*, which double forms a hook which keeps the loop in mortise or slot *k*; also the double groove *d e f*, which, when bent, forms a groove to receive and hold the end *e e* of band or strip, substantially as set forth and described.

2. In combination with the subject-matter of the above, the double bearings or rests *n n*, for the bottom of the box, substantially as set forth.

75,373.—CLAUDIUS O. COLLIGNON, Closter, N. J., assignor to self and NICHOLAS COLLIGNON, same place.—*Cottage Chair.*—March 10, 1868.—The rear brace is hinged to the side pieces and is slotted to receive the ends of the cross bar at the back of the seat. The whole is arranged to fold together.

Claim.—The combination of the back A, seat B, and brace F, with the grooves *h* and bar G, and their several connections, as and for the purpose set forth.

75,374.—WILLIAM S. COOPER, Philadelphia, Pa.—*Water Closet Valve.*—March 10, 1868.—When the plunger is raised the water escapes from the upper chamber, flowing outside the cup-leather packing. When the water re-enters this upper chamber the plunger and the valve attached thereto descend. The water flows through a slot in a tubular stem, and the length of the slot is regulated by turning the stem, when by the screw upon it, it is either raised or depressed to regulate the amount of water passage into the upper chamber, and consequent length of time in which the water flows through the valve.

Claim.—1. The valve D, constructed as described, and provided with the cup-leathers *e* and *e'*, substantially as specified.

2. The fixed hollow central stem *m* of the cap C, with the water passages *k*, in combination with the valve D and chamber B, substantially as set forth.

3. The combination of the regulating screw H, fixed central stem *m* of the cap C, passages *k*, and chamber B, substantially as described and for the purpose specified.

75,375.—WILLIAM S. COOPER, Philadelphia, Pa.—*Water Closet.*—March 10, 1868.—The lifting rod is adjustable in the end of the lever operating the cup. The hand cup is adjustable in the "lug" by a screw upon its cylindrical part. The drippings from the water valve are caught in a basin and discharged into a pan through a pipe which is bent so as to hold a portion of the water and stop the escape of fumes.

Claim.—1. A water closet top plate, provided with lug R, so constructed that the horizontal lever L may be raised higher than the top plate, as and for the purpose specified.

2. A water closet articulated lifting rod R' combined with lever L, piece C D, and thumb screw T' S', constructed and operated in the manner and for the purpose above set forth and described.

75,376.—WILLIAM S. COOPER, Philadelphia, Pa.—*Valve Cock.*—March 10, 1868.—A chamber in the cap has a small waste socket communicating therewith, through which the water at one end of the pipe is allowed to escape when the valve cock is closed. When the valve cock is open the chamber is closed.

Claim.—The combination of the valve *n*, spindle H with its screw S, the cap C with its chamber M and waste passage *t'*, substantially as specified, and for the purpose described.

75,377.—JOHN S. COX, Delaware, Ohio.—*Refrigerator Coffin.*—March 10, 1868.—The head and foot of the coffin communicate with chambers formed on the ends and containing refrigerating material.

Claim.—The double-walled refrigerator coffin, constructed as described, with the ice chambers *a c* at the head and foot of the corpse chamber *b*, said ice chambers having exterior openings *f f* for the escape of the water, and communicating with the corpse chamber containing the rack, by means of openings in the bottom of the inner walls of said chambers, as herein described for the purpose specified.

75,378.—WILLIAM J. CRANE, Carbondale, Pa.—*Creaser for Cloth.*—March 10, 1868.—The implement is clamped to the table or the machine and the crease is made by the adjustable bevel-edged wheel under which the fabric is drawn.

Claim.—The creasers C, *a a'*, and D, constructed as described, combined with the clamp A and set screw *b*, as and for the purpose set forth.

75,379.—ROBERT CRUIKSHANK, Lawrenceville, N. J.—*Desk and Seat.*—March 10, 1868.—One end of the curved brace is hinged to lugs beneath the fore side of the seat, and the other end is hinged to a horizontal sliding bar resting against a rubber block. The seat may be turned up against the desk when desired.

Claim.—1. Connecting the lower end of a curved arm D with the end frames A, by means of sliding blocks E and horizontal guide rods F, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the rubber block G, or equivalent spring, with the guide rod F and with the sliding block E, said spring or rubber block being placed in such a position that the said sliding block will strike against it, both when the seat C is in a horizontal and when in a vertical position.

3. The supporting end pieces A, when cast with dovetailed upper ends, adapted to fit into corresponding grooves formed in the under side of the top B of the desk, as herein shown and described, for the purpose specified.

75,380.—WILLIAM DAGGETT, 4th, Cordova, Ill.—*Corn Planter.*—March 10, 1868.—The seed cavity is in the side of the slide, and is regulated in size by the adjustable plate whose end is bent down and forms the upper end of the said cavity. The seed falls to the bottom of the spout when the slide is raised and is thrust out by the descending end of the slide.

Claim.—1. The gauge a^2 for regulating the size of the cavity a^3 in the plunger E of a hand corn planter, substantially as described.

2. The corn planter constructed as described, and consisting of the box A, having partitions D *d*, spring plate *a*, scraper *d'*, plunger E, having cavity a^3, gauge a^2, and pin a^1, all constructed, arranged, and operating as set forth.

75,381.—ANTHONY G. DAVIS, Watertown, Conn.—*Umbrella Runner.*—March 10, 1868.—The strip of metal is longitudinally slotted and then corrugated to form the head. The inner corners are soldered to the cylindrical part of the runner.

Claim.—The cylinder A and flanged cap *a*, in combination with the head *b'*, the latter being constructed of the slotted strip B, shaped as described, and arranged in such manner that the slots lie contiguous to each other, the bends between being solid metal, substantially as and for the purpose set forth.

75,382.—BENJAMIN J. DAVIS and ISAAC S. CRAMER, Sergeantsville, N. J.—*Cribbing Preventer.*—March 10, 1868.—The device is attached to the throat lap, and acts to pierce the animal's neck when it draws its head backward in the peculiar manner practiced in crib-biting.

Claim.—The parts C and B, the one sliding within the other, in combination with the pricking point *a* and spring *s*, all substantially as shown and described, for the purpose of preventing horses from indulging in the so-called habit of cribbing, all as set forth.

75,383.—JOHN S. DAVIS, Tiffin, Ohio.—*Harvester.*—March 10, 1868.—The fore end of the shoe is secured to an arm by which it may be adjusted to bring the finger bar in line with the pitman. The tongue has longitudinal adjustment on the lower frame which is attached beneath the axle.

Claim.—1. Attaching the adjustable bar G' to a harvester in such a manner that the finger bar H and connecting rod *b* may be held in the same line, or parallel with each other, as and for the purposes set forth.

2. The adjustable arm G, in combination with the frame C and shoe E, as and for the purpose specified.

3. The block *x*, in combination with the adjustable arm G, shoe E, and frame C, substantially as and for the purpose set forth.

4. The arrangement of the seat K with the bar M, so that the middle of said seat is in a line with the middle of the axle A, substantially as and for the purposes set forth.

5. The draw irons L L, in combination with the cross bar N, draught pole T, and arm M, as arranged and for the purpose specified.

6. The arrangement of the frame C beneath the axle A with the draw irons L L, tongue T, and bar M, so that the rear end of the said frame C may be raised or elevated without elevating or throwing up the driver in his seat, substantially as specified, and for the purpose set forth.

75,384.—WILLIAM C. DAY, Mohawk, N. Y., and PARDON B. DAY, Shelby, Minn.—*Wind Mill.*—March 10, 1868.—The outer edges of the doors are operated by two ropes or chains which pass around rollers. The ropes are coiled in contrary directions on a windlass, so that the doors are simultaneously either opened or closed. The ropes are attached to the doors by spring strips.

Claim.—1, The arrangement of chain or rope C, windlass B, and pulleys *e f*, with the doors A, surrounding the wind wheel E, substantially as shown and described.

2. The combination of chain or rope C, doors A, and springs D, substantially in the manner as and for the purpose set forth.

75,385.—JOHN DEAN, Baraboo, Wis.—*Hop Picking Tool.*—March 10, 1868.—The teeth are drawn down the pole and their sharp points cut the vines therefrom. The inner parts of the teeth detach the hops from the vines to some extent and the operation is completed on a sieve.

Claim.—1. A hop-picking instrument, consisting of a rake, having curved teeth C and cutters D D at the ends, substantially as herein shown and described.

2. The diamond-shaped teeth C, with concave front edges, substantially as and for the purpose herein shown and described.

75,386.—JULIUS DEBARY, Offenbach, Germany, assignor to WILLIAM EINSTEIN, New York, N. Y.—*Grain Drier.*—March 10, 1868.—The grain is moved alternately to the right and left, over finely perforated plates, by the slats or endless chains which pass over the plates. Hot air from a blast or other means passes upward through the plates and grain. The grain drops from the end of each plate to the one immediately beneath.

Claim.—In a malt and grain-drying machine, the outer wooden case A, inner metallic case *a*, with an interposed air space, the adjustable endless chain scrapers E, perforated plates G I, imperforate plate H, pipes Ix, and zigzag hot-air flue D, when constructed, arranged, and operating as described, for the purpose specified.

75,387.—EDWARD N. DICKERSON, New York, N. Y.—*Valve Gear for Steam Engines.*—March 10, 1868.—The cut-off is effected by an independent slide. The steam valve is not opened until the piston reaches the end of the stroke, or a little later, and is then opened gradually for a short time. The exhaust valve does not release the steam until its force is expended, and then does so quickly. The exhaust is kept open so long that no cushion is formed.

Claim.—1. A reversing link, vibrated by one eccentric, capable of being moved in the direction of

its length for reversing, suspended at its neutral point by a radius bar, or other equivalent device, upon which it vibrates, and upon the opposite side of which it works the valve for the forward and backward motion of the engine, substantially as described, in combination with an independent cut-off apparatus of any sort, for closing the ports which it opens.

2. An independent cut-off apparatus, adjustable while the engine is in motion, by altering the angular position of the eccentric which works the independent cut-off slide, in reference to the line of the crank, substantially as described.

3. The combination of a pin or block fixed in the main shaft, with a pipe surrounding the main shaft to which the cut-off eccentries are fixed, and with an exterior sliding sleeve surrounding the said pipe, provided with two grooves, one of which receives the end of the fixed pin, and the other of which receives a block or pin fixed upon the eccentric pipe, and one or both of which grooves are spiral, as a device for the purpose of varying the angular position of the cut-off eccentries upon the main shaft, substantially as described.

4. A graduated opening through the main port, or valve, in combination with the exhaust openings, so arranged as that one exhaust aperture will be opened before the other closes, and with an independent adjustable cut-off, for the purpose of preventing a "cushion" of the steam and the shock of sudden admission, without "wire-drawing" through the graduated opening in cutting off, substantially as described.

75,388.—Thomas A. Dickinson, Worcester, Mass.—*Card Setting Machinery.*—March 10, 1868.—The operative parts are actuated by the cams on the main shaft. The wire is inserted in the slide and is held between the slide and the spring. When the wire has completed its forward movement the spring is relieved by the lever, and the wire released. The wire is then held by the jaws while the slide makes the back movement, at the end of which the lever is withdrawn from the spring which closes the jaw upon the wire. As the slide again advances, the wire is thrust through the pipe, and into the leather, to form the card. The wire is automatically cut.

Claim.—1. The round slide M, constructed and operating as described.

2. The combination of the slide M, slide *i*, link P, and lever Q, in the manner described.

3. The mode described of clamping the wire to the slide M by means of the jaw L and spring K, operating as specified.

4. The clamping jaws *c d*, operated by the spring S, substantially in the manner set forth.

5. The cutter cylinder V, constructed and operating as described.

75,389.—William B. Dodds, Cincinnati, Ohio, assignor to Dodds, MacNeale & Urban, same place.—*Door of Fire-proof Safes.*—March 10, 1868.—The back plate of the door is hinged so as to give access to the works of the lock.

Claim.—The provision, in a fire-proof safe, of the auxiliary door C, hinged to, and, when open, affording access to the entire lock and door-bolt movement and filling of the door proper, as set forth.

75,390.—T. B. Doolittle, Bridgeport, Conn., assignor to himself, George Doolittle, and George H. Dimond.—*Lamp Shade.*—March 10, 1868.—The corrugated shade has a spiral spring bearing against the chimney.

Claim.—1. A lamp shade or reflector, formed of sheet metal, adapted to be applied to the chimney of a lamp, and so corrugated or crimped as to be capable of sufficient spring or elasticity to permit it to be sprung on to the chimney, substantially as described.

2. The employment, in combination with a shade or reflector, of a spiral or coil spring or springs arranged in the upper edge of the shade so as to roll over a spring-back, substantially as described for the purpose set forth.

3. Forming a corrugated or crimped metallic shade, with projecting teals or lips *s s*, substantially as described for the purpose set forth.

75,391.—Charles Doty, St. Louis, Mo.—*Apparatus for Tanning in Vacuo, and for Other Purposes.*—March 10, 1868.—The receiver for the leather is connected by a pipe with stop-cocks to a separate steam condenser, by which it is exhausted of air.

Claim.—The vessels A and B, when coupled together with the pipe D, and otherwise provided with the cocks C, *a'*, and *h*, and doors *a b*, all arranged and operated substantially as herein shown and described.

75,392.—S. B. Dougherty, Bordentown, N. J., assignor to himself and John Ashcroft, New York, N. Y.—*Safety Valve.*—March 10, 1868.—The lower end of the close-bottomed cylinder is let down into the steam drum, and has side perforations which admit the steam to an annular space around the valve cylinder. The latter rests on seats in the outer cylinder at the upper and lower ends of the annular steam space. When the valve cylinder is raised from its seats the steam passing through the lower aperture exhausts through the center of the valve cylinder.

Claim.—1. The arrangement of the cylinder A, with its perforations *f f*, annular chambers E *a* H, and valve-seats I I, substantially as described and set forth.

2. The construction of the inner cylinder or double-seat valve K, with its recess L, shoulder *m*, seats *k* and *k'*, and internal steam-exit opening *n n'*, substantially as set forth and described.

75,393.—William O. Draper, Albert C. Sweetland, and George H. Draper, North Attleboro, Mass.—*Imitating Cluster-Jewelry.*—March 10, 1868.—The "stones" are not formed separately, as usual, but consist of bosses disposed on a glass disk of similar material, and are covered by a single metallic plate suitably perforated.

Claim.—The method of constructing cluster-work jewelry, substantially as herein described.

75,394.—A. A. Dunk, Philadelphia, Pa.—*Printing Press.*—March 10, 1868.—The nipper shafts are journaled in wheels of larger diameter than the platen-cylinder and the series of nippers outnumber the platen surfaces. The platen-cylinder has longitudinal recesses in its periphery into which the nipper shafts enter when in proximity to the form-cylinder, and by the larger diameter of the nipper-wheels the sheets are carried to a fresh surface at each revolution to receive the portion put on in fresh color. The inking rollers are moved radially, to bring them to their proper type and to avoid the forms carrying another color, by cam grooves which give the necessary motion to their journal-frames. The distributors have their reciprocation by the obliquity of their motive wheel.

Claim.—1. The combination of the form-cylinder D', the cylinder G separated into as many segmental platens as there are forms on the said cylinder D', and nippers constructed in the manner described, or any equivalent to the same, but, in number, one in excess of that of the forms or segmental platens, and arranged to revolve in a circle larger in diameter than, but eccentric with, that of the platen-roller, all substantially as and for the purpose herein set forth.

2. The grooves or channels *b* of the cylinder G and intervening segmental platens, in combination with the series of nippers, so many in number in respect to the grooves, and revolving in a course so eccentric with that of the cylinder that each set of nippers will transfer a sheet from one platen to the other, and will find its way from one groove to another, all substantially as and for the purpose herein set forth.

3. The said revolving nippers, moving in a circle eccentric with the cylinder G, having segmental platens, in number, one less than that of the nippers, in combination with the devices herein described, or any equivalent to the same, by the aid of which the paper, carried by any one set of nippers, shall be released, but not before it has been carried round as many times as there are platens on the said cylinder.

75,395.—Valmore A. Dunn, West Peru, Me.—*Anvil-Cutter.*—March 10, 1868.—The lower cutter is upon one end of a lever whose other end is elevated

by a spring to open the jaws. The jaws are closed by a blow of the hammer upon the outer end of the lever.

Claim.—The improved shears, composed of the fixed arm *b* and jaw B, lever C′, C, and spring D, combined and arranged in manner substantially as above set forth and described.

75,396.—DANIEL W. DYER and JAMES H. MCVAUGH, Philadelphia, Pa.—*Sash-Bead Fastener.*—March 10, 1868.—The bead is secured by a series of drop-catches pivoted in the frame.

Claim.—The catch E, constructed substantially as herein shown and described, in combination with the slotted plates F and D, beads B and C, either or both, and casing A, as and for the purpose herein set forth.

75,397.—WALTER A. EDDY, East Randolph, N. Y.—*Seat for Vehicles.*—March 10, 1868.—The two sliding bars by which the seat is secured to the side of the box are connected to the lever at different sides of the fulcrum, so as to be simultaneously driven forward or retracted.

Claim.—The arrangement of the lever B with the connecting rods C C, plates D D, when secured or adjusted to the bottom of a seat A, for the purpose of securing the same on a buggy, wagon, or cutter-top, substantially as and for the purpose herein set forth.

75,398.—HENRY ELDRIDGE, Lynn, Mass.—*Boot and Shoe.*—March 10, 1868.—A series of boards or rollers, around which the "lasting" is wound, are suspended on adjustable centers, and the lasting unwound from them in several layers, which rest upon a bench, preparatory to cutting out.

Claim.—Suspending and combining the rolls of material in the manner described, whereby they may be unwound and lapped one upon another, essentially as herein shown and specified.

75,399.—JOHN J. ELLIS, Auburn, N. Y.—*Wrench.*—March 10, 1868.—The axial shank is extended from the end of the handle, forming the fixed jaw of the wrench. The moving jaw has a rectangular ratchet-arm which passes through a mortise in the fixed jaw.

Claim.—The shank B, extending through the handle A, and furnished at one end with a screw-thread, upon which is screwed hammer C, the opposite end of shank B being formed with a jaw, all arranged in combination with jaw D and slide E, substantially for the purpose set forth.

75,400.—D. L. EMERSON, Rockford, Ill.—*Petroleum or Gas-Stove.*—March 10, 1868.—The pipes are so coupled to the main supply-pipe that they can be raised from the stove and thrown over out of the way when desired.

Claim.—The oil-reservoir D and lamp L, (as one vessel,) in combination with the tubes B B, and burners E E′ and F F′, constructed as described, and operating as and for the purposes set forth.

75,401.—E. W. FAIRMAN, Orfordville, Wis.—*Harvester.*—March 10, 1868.—The oscillating bar actuating the cutter, receives motion from a zigzag cam-groove in the periphery of a wheel upon the axle. The said bar is pivoted to a hinged piece which may be thrown up to disengage the bar from the cam-groove.

Claim.—The hinged or pivoted plate A*, combined with the lever E, cam-wheel C, and lever G, arranged and operating substantially as and for the purpose specified.

75,402.—MORITZ FIEDLER, Rochester, N. Y., assignor to himself and JOHN KLEIN, same place.—*Filing Machine.*—March 10, 1868.—The file receives vertical reciprocation from a pitman whose cross-head has a horizontal slot traversed by a crank-pin on a rotating disk. The table is pivoted and has a semicircular rack which is engaged by a screw-gear to incline the table.

Claim.—The combination of the table *a*, toothed segment *d*, and worm *e*, with the slotted pitman *n* and crank *r*, arranged substantially as described.

75,403.—CHARLES FORD, Forest City, Ill.—*Corn-Husker.*—March 10, 1868.—As the machine is pushed before the horses the stalks are drawn down by the inclined rollers, and the ears are either crowded out of the husks or broken from the stem by the spiral snapper. The ears are carried back over the rubber rollers by which the husk and silk are taken from the ear as it passes backward to the elevator which delivers it into the wagon.

Claim.—1. A serrated feed hard roller H, and rubber-roller I, used as herein set forth, for husking corn, by catching the husk and stalks and passing them through beneath, while the ear is left on top.

2. The rollers made, as herein set forth, (Fig. 2,) smaller for near one-third their length at the front end, to admit the stalks between the rollers.

3. The use of the gain-thread J, which increases the acuteness of its angle with the roller, as it runs back (see Fig. 3) from the point to the swell of the rollers, thereby pulling the cornstalk gently over at first, but more quickly afterward. and also keeping the stalks parallel with the threads that pull them, thus avoiding the danger of breaking them off before they get into the hopper.

4. The use of the right-hand gain-thread on the front end of the left-hand roller, and the left-hand gain-thread, (see Fig. 1, J,) on the right-hand roller, in connection with the inward and downward motion of the rollers.

5. The hopper F, made and used as herein set forth.

6. The snapper G, made and used for breaking the ears from the stalks and husk, while the latter are held firmly beneath, between the rubber and serrated rollers, and also for carrying the ears back under the presser.

7. The presser T, for pressing the ears down and rolling them over as it passes them back between the rubber and serrated rollers, so that any remaining husk or silk may be taken off before they pass out onto the dropper.

8. The dropper L, arranged as herein described, in connection with the mouth *m* of the machine, in such manner that the ear-corn is delivered in a wagon, if driven for that purpose, without other assistance.

9. The breaker Z, made and used as herein set forth, to break the tops of the stalks back, so they will pass down between the rollers before they get far back on them.

10. The combination of the gain-thread J, rubber roller I, serrated roller H, fenders S, snapper G, presser T, hopper F, dropper L, gearing N, and frame D, arranged and used as herein described.

75,404.—ANDRE FOUBERT, New York, N. Y.—*Manufacture of Vinegar.*—March 10,1868.—Improvement on his patent, March 19, 1867. The vapor from mash or shavings passes into tubs containing concentrating platforms, and screens that admit a shower of acidulated water to condense the vapor. The liquor runs out, and over the shavings in a vat.

Claim.—An evaporating tub containing platforms and vapor-tubes, in combination with the apparatus for supplying water and vinegar, and with the vat containing shavings, substantially as and for the purposes set forth.

75,405.—JOHN FREELAND and DANIEL WARD, New York, N. Y.—*Machine for Coiling Springs.*—March 10, 1868.—The mandrel turns in its adjusting screw, and has a longitudinal slot which receives the end of the plate of which the convolute spring is formed. The mandrel is rotated by the chuck upon the head-stock spindle. The rest bears upon the under side of the screw-plate, and is automatically drawn downward as the coil of metal increases upon the mandrel.

Claim.—1. The slotted coiling spindle *e* and the sliding screw E, in combination with the chuck *b*, all constructed, arranged, and operating substantially as and for the purpose herein described.

2. The guide-rest H and the sliding block I, in combination with the coiling spindle *e*, constructed and operating substantially as and for the purpose herein described.

3. The combination of the pulleys C, the chuck *b*, the coiling-spindle *e*. the sliding screw E, the guide

rest H, and the sliding block I, constructed, arranged and operating substantially as and for purposes set forth and described.

75,406.—Trefflé Garceau and Edward de la Granja, Boston, Mass.—*Fabric for the Manufacture of Hats, Caps, &c.*—March 10, 1868.—India-rubber, dissolved, from 2 to 20 parts; and paraffine, from 1 to 5 parts, are added to paper pulp, and the same may be rolled out by itself or upon muslin.

Claim.—1. The composition above described, substantially as and for the purpose set forth.

2. The process of manufacturing hats, caps, bonnets, neck-ties, and ribbons, substantially as specified.

75,407.—Benjamin Garvin and R. J. Pettibone, Oshkosh, Wis.—*Joint for Pipes.*—March 10, 1868.—One of the elbows has a socket to receive the end of the other elbow, and they are held by a transverse bolt passing axially through the coupling, and having a head and nut resting against suitable seats at the points of the elbows.

Claim.—The parts A A, constructed as specified, and used with the bolt *a*, which said bolt passes transversely through both of said parts and is suitably secured on both of their outer sides by nuts and washers, or their equivalents, as set forth.

75,408.—George Gibbs and William Gibbs, Canton, Ohio.—*Singletree.*—March 10, 1868.—The end clevices of the doubletree are secured to springs at the rear thereof.

Claim.—The tree *a*, provided with the short disconnected springs *b b*, loops *e e*, and one or more indicators *e*, for marking the numbers on said loops, all combined and used substantially as set forth.

75,409.—Francis M. Gifford, Erie, Pa., assignor to himself and John C. Selden, same place.—*Whip Lock.*—March 10, 1868.—The jaws are drawn together by a screw bolt and engage the handle of the whip. The bolt is turned by a suitable key.

Claim.—1. A lock for securing a whip in the socket upon the dasher of any vehicle, composed of the arms A, forming two sets of jaws operated by a screw D, and key E, and a spring *a*, or its equivalent, substantially as shown and described, and for the purposes set forth.

2. The arms A, in combination with the vibrating nut C and the wire spring *a*, and the vibrating socket B and the screw D, substantially as shown and described, and for the purposes set forth.

75,410.—A. J. Going, Clinton, La.—*Cotton Seed Planter.*—March 10, 1868.—The cotton seed is carried through a laterally adjustable longitudinal slot in the bottom of the hopper by the radial arms of a hub attached to the turning axle.

Claim.—1. The fixed metallic strips *g g*, in combination with the laterally adjustable metallic strips *h h*, placed at the bottom of the hopper I, and the radial arms *e*, attached to the axle C, and working between the strips *g g*, *h h*, all constructed and arranged for joint operation, substantially in the manner as and for the purpose set forth.

2. The furrow opener H and harrow F, in combination with the cotton seed distributing mechanism, all constructed, arranged, and applied for joint operation, substantially as and for the purpose specified.

75,411.—John Grant, Northampton, Mass.—*Grinder for Planer Knives.*—March 10, 1868.—The grinder is splined to a shaft which is secured to the frame of the planer and turned by a hand crank, so as to grind the cutters while in the head.

Claim.—A device for sharpening the knives of planers and similar tools, consisting of the screw H, piece G, wheel D, and ground spindle F, the parts and the whole being constructed and arranged substantially as shown.

75,412.—John G. Hadfield, Cincinnati, Ohio.—*Surgical Cup.*—March 10, 1868.—The edge of the cup has a groove to receive the inner edge of the rubber packing whose outer edge rests against the person.

Claim.—The provision, in a surgical cup, of a groove *a*, to receive and hold an India-rubber lip B, in the manner set forth.

75,413.—Isaac Hall, New York, N. Y.—*Machine for Carving in Wood.*—March 10, 1868.—The pattern is placed on the bed plate and secured in place by the sliding blocks, which are adjusted by the set screws. One or more copies are made either of the same size as the pattern or in any proportion thereto. When carving a copy of the exact size of the pattern, the tracer is arranged directly beneath the cutter. In this case the sliding frame is so adjusted that its central point may be in line with the turning joints of the pivoted frame. When cutting copies of different size the sliding frame is adjusted so that one of its ends projects further than the other, and the tracer is moved outward or inward from the vertical line of the cutter of the frame. This is done by a scale.

Claim.—1. The combination of one or more pivoted or swinging frames I J, constructed substantially as herein shown and described, with the pivoted frame H, as and for the purpose herein set forth.

2. The frame H, adjustable with relation to the pivoting frame C, for the purpose of carving two exact copies of the pattern at the same time, or increasing or diminishing the size of the copy in exact proportion to the pattern, substantially as herein shown and described.

3. The tracer S, adjustably secured to the slotted bar or arm O of the swinging or pivoted frame I by means of the slotted bar V, rods W Y, and sockets T Z X, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the slotted bar V, pivoted rod W, and adjustable pivoting rod Y, with each other and with the tracer S and slotted bar or arm O of the pivoted frame I, substantially as herein shown and described, and for the purpose set forth.

5. The combination and arrangement of the pulleys L and N with the pivoted frame or frames I and J, frame H, and driving pulleys D E, for the purpose of keeping the band or bands F taut while operating the cutters, whatever may be the relative positions of the said frames, substantially as herein shown and described.

6. The arrangement of the holder and frame P with relation to the pivoted frame I, tracer S, and cutter in the arm *i*, substantially as described, and for the purpose specified.

75,414.—James H. Hall, Maysville, Ky.—*Attaching Colters to Plow Beams.*—March 10, 1868.—The side plate against which the colter is clamped has longitudinal adjustment on the beam, to allow a similar adjustment in the colter.

Claim.—The said wrought-iron sliding plate, with its flanges, mortises, and adaptation to the purpose of regulating the position of and holding fast the cutter to a plow beam.

75,415.—R. Henry Hall, Taunton, Mass.—*Furnace for Smelting Ores of Lead and other Metals.*—March 10, 1868.—The receiver is constructed of iron, lined with fire-clay, and is placed beneath the spout extending from the tamp hole. The receiver has a hood of similar construction. The metal, slag, and flame are allowed to issue from the tamp hole. The slag flows away through the spout at the upper part of the receiver, and the metal is drawn off through the tamp hole communicating with the lower part of the receiver.

Claim.—The application of a receiving basin, as herein described, to furnaces used for smelting ores of gold, silver, or lead.

75,416.—John Harper, Hillsboro, Iowa.—*Hay Raker and Loader.*—March 10, 1868.—The turning rake head has tangential teeth which engage the hay, and the back rotation of the head is prevented by the ratchet and pawl. The head is supported on pivoted derrick arms, which are raised by a windlass.

Claim.—1. The revolving rake head G attached to arms E E, and used in combination with the elevating cords I and spool C, and the ratchet F′ and pawl H, said parts being arranged to operate substantially in the manner and for the purpose set forth.

2. In combination with the frame A and elevating arms E, the pieces D, pivoted to the frame, and held extended by the pins D′, so as to permit the width of

the frame to be diminished when necessary, substantially in the manner set forth.

75,417.—SAMUEL HARRIS, Springfield, Mass.—*Grain Separator.*—March 10, 1868.—The sieve is longitudinally reciprocated by a rotating tripart cam, which turns in a slot of the stem and impinges upon anti-friction rollers at the ends of the slot. The sieve has vertical agitation by projections upon its bottom, which strike upon rollers journaled in the frame.

Claim.—1. The combination of the slotted rod E, having rollers *c*, with the triangular surface cam D, when used and arranged upon a sifter, substantially as herein described.

2. In combination with the above, the double-inclined agitators *e e*, &c., arranged as described.

75,418.—HENRY M. HARTSHORN, Malden, assignor to himself and DANIEL FOBES, Boston, Mass.—*Lamp Shade.*—March 10, 1868.—The shade admits of folding into small compass for carriage or putting away.

Claim.—1. As my invention, the folding shade made of trapezoids, connected at their edges by strips of cloth, or the equivalent thereof, so that the several sections may be either folded on unfolded as specified.

2. The combination, as well as the arrangement, of the series of sectional supporters *c*, and a folding shade composed of a series of trapezoids *a*, arranged and connected or hinged together at their edges substantially in manner as specified.

75,419.—CHARLES HAYDEN, Collinsville, Conn.—*Subsoil Attachment for Plow.*—March 10, 1868.—The subsoil share is at the foot of a standard which slides in a plate upon the beam and another at the sole of the plow.

Claim.—1. The share standard F, fitted in the plates E G, and retained at the desired height by the pin *d*, in one of a series of holes *c*, substantially as and for the purpose specified.

2. The combination of the lever I and pins *e* with the share standard F, all constructed, arranged, and applied substantially in the manner as and for the purpose set forth.

75,420.—G. W. HAYNIE, Olney, Ill.—*Car Coupling.*—March 10, 1868.—The pivoted rack block engages a rack upon the coupling pin, and raises the same as the said block is swung up by the entering link. When the link has passed the block and pin the latter drops down and the car is coupled. The falling of the pin and block is assisted by a spring, against which the latter impinges when thrown up.

Claim.—1. The combination of the segmental cam pinion B *b* and coupling pin E *e*, when the same are adapted to be operated by the coupling link, substantially as described.

2. The spring F, applied and operating substantially as and for the purpose specified.

75,421.—DANIEL E. HAYWARD, Malden, Mass.—*Scrub Brush.*—March 10, 1868.—The brush has alternate transverse rows of rubber and bristles.

Claim.—As an article of manufacture, the brush as described, viz, when composed of alternate rows of rubber and bristles.

75,422.—D. K. HICKOK, Morrisville, Vt.—*Clothes Pin.*—March 10, 1868.—One of the blocks has a shoulder which has a recess, into which the cord enters and is retained by the spring block, which is drawn toward the shoulder by embracing rubber bands.

Claim.—The blocks A and B, constructed substantially as described, and connected together by means of the bands or elastic straps C C, as and for the purpose set forth.

75,423.—GEORGE HOOVER, Richmond, Ind.—*Trammel for Stair Rails.*—March 10, 1868.—The "tram" turns on an adjustable rod, and when the stuff is placed upon the draught board in an oblique direction, the irregularly curved lines are traced upon it by the tram.

Claim.—1. The herein-described tram, composed of the cylinder F and arm E, in combination with rod I, substantially as described, and for the purpose set forth.

2. The horizontal rod I, vertical adjustable rods G and H, in combination with the collars K and K, clutches J and J, and draught board A, substantially as set forth, and for the purpose specified.

75,424.—WILLIAM L. HORNE, Batavia, Ill.—*Steam Water Elevator.*—March 10, 1868.—Improvement on his patent of May 28, 1867. An upturned siphon pipe emanates from the lower part of the cylinder and furnishes means of escape for air. The upper part of the valve chamber communicates with the upper part of the siphon pipe when the valve is closed against the admission of steam.

Claim.—The combination of the siphon *n* with the steam water elevator, constructed and operated substantially as herein set forth.

75,425.—ROBERT B. HUGUNIN, Cleveland, Ohio.—*Clothes Wringer.*—March 10, 1868.—The upper roller is depressed upon the other roller by wooden springs extending from one follow-block to the other, and borne upon at mid-length by a temper screw.

Claim.—The arrangement of the right and left helical gear wheels B and B′, in combination with the elastic rollers A and A′, end pieces C and C′, journal blocks E and E′, spring bars F and F′, stop H, and adjusting screw J, substantially as and for the purposes specified.

75,426.—C. S. HUNT, Parish of Terre Bonne, La.—*Stopping and Starting Cars.*—March 10, 1868.—The loose pulleys have bevel gears which engage a bevel wheel turning loosely on a vertical arbor. This wheel insures the opposite rotation of the loose pulleys upon the axle. The outer sides have crown ratchets, by which they are clutched to ratchet collars sliding upon the axle, but having diametric pins traversing a slot in the axle to insure their rotation therewith. Chains connected to a spring are wound on the pulleys, when they are caused to rotate, by clutching to the axle, and the car is stopped by this means. When starting, the other clutch is brought into operation; and the first clutch being disconnected, the force of the spring is expended upon the axle in starting the car.

Claim.—1. The loose pulleys F F′ on axle C, in combination with chains E and E′ and spring D, arranged and operating substantially as and for the purpose set forth.

2. The loose pulleys F F′, chains E E′, and spring D, in combination with clutches G G′ and their actuating levers, arranged for joint operation substantially as described.

75,427.—JOHN HYSLOP, Jr., and CHARLES E. PHILLIPS, Abington, Mass.—*Lifter and Tongs.*—March 10, 1868.—The tongs have vertical and horizontal jaws, and a notched projection on one jaw forms a cover lifter.

Claim.—The lifter and tongs, constructed as described, consisting of the parts A B pivoted together, the part B provided with a longitudinal slit for the passage of the part A, and having at its forward end the double lips *d d* and *e e*, the part A having the lip *b* and the lip *c* provided with the shoulder *dx*, all arranged and operating as described for the purposes specified.

75,428.—JOSEPH B. JOHNSON, Lynn, Mass.—*Machine for Shaping the Sole of a Shoe.*—March 10, 1868.—Improvement on his patent, November 26, 1867.—The sole is pressed into form between an upper fixed mold block and the last upon the platen, which is raised by toggle levers actuated by a treadle. Upon the platen is a turning bar, each end of which has a post with a last at its upper end. When operating, one sole is clamped upon one last, while another sole is being subjected to pressure upon the other last.

Claim.—1. The combination of the rotary bar *u*, or the same and the auxiliary last *v*, with the main last *u′*, the mold A, and the press.

2. The application of each last *u v′* to the rotary bar *u*, so as to be capable of being revolved on an axis passing through or extending from the last.

3. The application of the mold A to the arch bar

of the press, by means substantially as described, or the equivalent thereof, whereby such mold is enabled, under pressure of the sole against it, to adjust itself to the sole.

4. The combination and arrangement of the facing plate *z*, with the last and its elastic cushion *y* applied thereto, as represented.

5. The combination of the slide bar *k*, the wedge *m'*, and the auxiliary treadle lever *o*, with the toggles and their operative pitman and treadle lever.

6. Each last, as made with the extra or lower foot, arranged with the main foot, and being for the purposes as set forth.

75,429.—Daniel Kellogg, Jackson, Mich.—*Gas Heater.*—March 10, 1868.—The air-regulating dish is formed in the segment of a sphere, and has its concave side upward. The influx of air is regulated by the vertical distance between the edge of the dish and the bottom of the stove. Above the frame is a rotating disk, consisting of a series of inclined sectoral wings which distribute the heat.

Claim.—1. The employment of a revolving disk, substantially as shown and described, for the purpose of spreading the flame of a gas or oil stove, all as set forth.

2. The adjustable dish H, in combination with the burner *b* and disk K, substantially as and for the purpose shown and described.

3. The rod *e*, and elevating screws *m m*, for adjusting the height of the disk above the burner, substantially as shown and described.

4. Providing the rod *e* with a screw thread or other equivalent device, for the lateral adjustment of the disk, substantially as and for the purpose shown and described.

5. The ring damper G, in combination with the disk K, substantially as shown and described, and for the purpose specified.

75,430.—George Kinney, Bristol, Ind.—*Horse Hay Fork.*—March 10, 1868.—The bar, by whose movement the hooks are thrown out, is operated by a bell-crank lever. The central stem is flanked by two long, vertical tines.

Claim.—The combination of the stem or central prong A, cross bar B, side prongs C, arm D, pivoted hooks or fingers E, shield F, and trip lever G, with each other, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

75,431.—Almas A. Knowlton, St. Albans, Vt.—*Artificial Teeth.*—March 10, 1868.—After the closing of the mold upon the teeth, small screws are inserted, which enter the lingual side of the tooth. The screws are extracted after the teeth are baked, leaving a screw-threaded socket in the same. The vulcanite enters the cavity and serves to secure the tooth to the plate.

Claim.—Artificial teeth, provided with holes *c*, formed with a screw thread, when secured to a vulcanite or rubber base *b*, by means of screws *d*, of the same material, all constructed and arranged substantially as and for the purpose set forth.

75,432.—A. E. Lazell, West Meriden, Conn.—*Hygrometer.*—March 10, 1868.—A semi-circular strip of wood, having the grain running transversely, has its convex side coated with water-tight cement. The free end of the strip is connected to a registering apparatus which indicates the humidity by the expansion of the exposed side of the strip.

Claim.—The curvilinear strip of wood, constructed as described, and having one of its surfaces rendered impervious to moisture, in combination with an index, substantially as and for the purpose specified.

75,433.—William Leighton, Wyandott, Mich.—*Fagot for Railroad Rails.*—March 10, 1868.—The steel has a dove-tail, longitudinal rib which enters a suitable groove in the iron, and the line of division extends from the thinnest part of the rib to the upper corners of the fagot. The steel by successive rollings is made to cover the sides of the tread in the finished rail.

Claim.—The Y or dove-tail shaped piece of steel, with V-shaped top, in conjunction with any suitable fagot which will make a rail, as shown in Fig. 2.

75,434.—H. W. Libbey, Cleveland, Ohio.—*Catamenial Sack.*—March 10, 1868.—The sack is of oil silk, and its edges spread out by elastic binding. It is connected by an elastic band to an adjustable elastic belt.

Claim.—The sack A, having the elastic pieces *a a* in each side to give it shape, and the elastic band B, in combination with the adjustable belt D, all constructed in the manner described as and for the purpose set forth.

75,435.—Noyes Liddell and Morris Liddell, Lafayette, N. Y.—*Corn Planter.*—March 10, 1868.—The seed tube has a hinged side which is operated by a lever, and a pin on the rotating feed wheel, and acts to drop the seed which rests at its lower end. A bell is automatically rung by the said wheel to indicate the time of dropping.

Claim.—1. The combination and arrangement of the tube C, lever E, pin D, and bell H, for the purpose described.

2. The slide J, as described.

3. The method described of adjusting the feed wheels on the shaft O.

4. The method described of throwing the shaft O in and out of gear.

75,436.—M. F. Lowth and T. J. Howe, Owatonna, Minn.—*Cultivator Tooth.*—March 10, 1868.—The standard and brace are made in one piece. The former is hinged to the beam and the latter passes through a vertical slot in the same. The brace passes through a link resting in a horizontal transverse slot in the beam and the brace is clamped by the link which is drawn against it by a wedge inserted between one of its ends and the beam.

Claim.—The combination of the beam A, having the mortises *m n*, as described, with the link *c*, wedge *w*, and hinged tooth T, having the brace B, substantially as and for the purposes set forth.

75,437.—C. A. Lundy, Marshalltown, Iowa.—*Straw Cutter.*—March 10, 1868.—The V-shaped knife is bolted to the frame and the fore end of the box secured to a sash reciprocated vertically by pitman connection to the crank.

Claim.—The box A, provided with the V-shaped knife, in combination with the spring N, feeder L, gate H, and spring gauge *m*, all arranged in the manner herein set forth and described.

75,438.—Major B. Marshall, Draw Bridge, Md.—*Animal Trap.*—March 10, 1868.—The spring pole is connected to two loops which hang through slots in the table. The spring pole is tripped by a movement of the bait, and the animal is drawn up by the loop.

Claim.—1. In an animal trap, a table A, having two slots *a a*, and a central aperture B, and provided with legs *c c c c*, and standards D D', substantially as and for the purpose specified.

2. The combination of the spring pole O, cords C, *e e*, bar N, rods R and T, and chokers *o o*, substantially as and for the purpose set forth.

3. The notched and graduated bar N, when used in a trap of this description, substantially as and for the purpose set forth.

75,439.—Canceled.

75,440.—W. W. Mathews, Yates City, Ill.—*Trebletree.*—March 10, 1868.—The inner ends of the two doubletrees are double the length of the other ends, and the singletree of the middle horse is connected to them.

Claim.—1. The staple attachment *d e* of the inner ends of drawing bars *a a*; and

2. The curved hook *b*, shown in Fig. 2, each and all substantially as shown, and in combination as and for the uses and purposes herein expressed.

75,441.—James W. Maxey, Plymouth, Ind.—*Producing Motion for Sawing Machines.*—March 10, 1868.—The drag saw is driven by a crank on the main shaft and the circular saw by a belt from the

same. The mechanism is driven by a pair of hand levers.

Claim.—The hand levers F F, operating alternately, and connected to wheels D and R by pitmen E E, and combined with shaft B, wheel G, shaft C, drums H, and balance wheels I I, when constructed to operate substantially as described.

75,442.—THEODORE MCDOWELL, Light Street, Pa., assignor to T. MCDOWELL and A. MCDOWELL. —*Producing Hot Blast in Furnaces.*—March 10, 1868.—The air engine and air pump pistons are connected to opposite ends of a walking beam; both have double action and are connected to a serpentine pipe in a chamber at the top of the cupola and communicating therewith. The engine cylinder has double the diameter of the pump so that the force will be double upon its piston to what it is upon that of the pump, and consequently will drive the latter. The pump and engine have suitable valves and communicate respectively with the outer air and the blast pipe.

Claim.—The engine c', pump c, pipes I, vessels F, and chamber H, when combined substantially as and for the purpose explained.

75,443.—JOSEPH P. MILBURN, Washington, D. C.—*Tumbler Washer.*—March 10, 1868.—The pressure of the tumbler upon the valve stem opens the valve and the water is ejected from the perforation of the annular pipe to wash the outside of the tumbler, simultaneously with the jet of water from the central tube to wash the inside.

Claim.—1. The combination, with the central pipe over which the tumbler is placed, of an annular pipe or a series of pipes for discharging water upon the exterior of the tumbler, and a valve mechanism operated by the weight of the tumbler, so as to admit water to both the central and the exterior pipe or pipes, substantially as and for the purposes herein shown and set forth.

2. The arrangement of the nozzles or orifices through which water is discharged upon the exterior of the tumbler in the manner described, so that the jets of water shall be discharged tangentially or thereabouts to the tumbler, substantially as and for the purposes herein shown and set forth.

3. The combination, with the central pipe, of the annular or exterior pipe and adjusting screws or equivalent mechanism for regulating the pressure of water in the said pipe, substantially as and for the purposes herein shown and specified.

75,444.—CHARLES G. MILLER, Springfield, Ohio. —*Harvester.*—March 10, 1868.—Upon the hub of the driving wheel and free to turn thereon is a spur wheel which engages with a wheel of double its diameter. The latter wheel is connected to an eccentric whose strap is connected to the split wedge, which forces the pitman crank into contact with the catch, so that it is caused to revolve with the wheel. As the thin part of the wedge is brought between the crank and the wheel, the spring forces the crank from the catch, and the hub is left free to turn within it, allowing it to remain stationary. This takes place when the rake is at the back of the platform and allows it to remain there during one rotation of the driving wheel.

Claim.—1. Stopping the rake automatically at the rear of the platform during each alternate revolution of the driving wheel, by means of the herein-described mechanism, or the equivalent thereof, for the purpose set forth.

2. The combination of the strap s'', eccentric n', and pinions p' and A', with the hubs of the driving wheel and rake's crank, substantially as described, for the purpose of throwing the rake in or out of gear automatically, as described.

3. The combination and arrangement of the foot lever g'', collar g', clutch pin h', running through the arm of the driving wheel into the driving pinion A, for the purpose of throwing the rake out of gear at the will of the attendant.

4. The combination of the catch b'', on the end of the hub of the driving wheel C, the collar f', provided with the catches c'' and d'', and the catch a'', on the hub of the rake crank, substantially as and for the purpose set forth.

5. The shoe P, constructed as described, so that it may be adjusted and fixed at its forward end in the manner set forth.

6. The reel post Q, mounted upon the inner shoe, and curved forward, so that the attendant may grasp its upper end as a lever to raise the outer end of the cutting apparatus from the ground, as set forth.

7. The sliding carriage t, connected with the rake head by the arm u and link v, arranged substantially as set forth, so as to push the rake backward with the teeth vertical, and draw said rake forward again with the teeth horizontal.

8. The reel sliding head t'', constructed with the loose nut bar p'', as and for the purpose set forth.

9. The spring latch s', constructed as described, and for the purpose set forth.

10. The construction or arrangement of the cutting apparatus, shoe P, automatic reciprocating rake, reel P', and their operative mechanism, in relation to the main frame, so that the cutting apparatus, with its rake and reel, may be folded and so maintained while being moved from place to place, substantially as shown and described.

11. The guide rods d' and b', for the outer end of the rake, constructed and arranged as set forth and described, combined with the outer or guide tooth u'' of the rake.

12. The hook s and flange v'' to retain the rake upon its side while being drawn forward, as set forth and described.

75,445.—J. E. MILLIKEN, Bridgeton, Me.—*Bedstead Fastening.*—March 10, 1868.—A metallic hinge is attached to the upper edge of the side rail and the post. The pintle is removable. The post is turned down against the end of the rail and secured by a brace hook.

Claim.—The hinge C, constructed as described, its leaves pivoted together at their upper ends, P—one leaf extending across the edge of the rail B, and beneath it, and fitting at its angle upon the shoulder a of the vertical leaf secured to the post A, all arranged as described, whereby the post A is adapted to swing up or down upon the pivot P, as and for the purpose specified.

75,446.—JACOB B. MOORE, New York, N. Y.—*Window Shade Fixture.*—March 10, 1868.—The roller is suspened on the ends of a weighted cord in such a manner that the end of the shade counterbalances the weight, and the shade may occupy as much space as required, and stand at any elevation.

Claim.—1. Rolling or unrolling the curtain automatically by means of the cord, and the small axes of the roller substantially as described.

2. Creating an equilibrium between the roller of the window shade and the lower rod F, through the medium of the suspended cord and small axes D, whereby the shade is rolled or unrolled, substantially as herein shown and described.

3. In combination with the shade suspended upon axes D and the lower rod F, the weight H, whereby said shade is held at any desired point, substantially as described for the purpose specified.

75,447.—H. B. MORRISON, Le Roy, N. Y.—*Car Mover.*—March 10, 1868.—The wheels of the machine are grooved circumferentially to increase the tractional hold on the rail. The machine is secured to the end of the car and the attachment mechanism raised so as to throw a portion of the weight of the car upon the main wheels of the machine to give sufficient friction between the motor wheels and the rails. The machine is moved by spring pawls which enter lantern gear in the wheels, and have movement by levers. The pawls may have a half rotation in the sockets so as to turn the wheel in either direction.

Claim.—1. In a car mover, constructed as described, the two driving wheels D and E, placed in line with each other, so as to run upon the same rail of the track, and connected to each other with an endless chain F, substantially as herein shown and described, and for the purpose set forth.

2. The combination of a side wheel U', with the projecting end of the axle B of the car mover, substantially as herein shown and described, and for the purpose set forth.

3. The driving wheels D and E, constructed with

grooves of peculiar shape for the reception of the endless chain F, and to enable them to hug the rail more closely, substantially as herein shown and described.

4. The combination of the elbow lever G′ R′, bars F′ D′ and O′ K′, and pawls A¹ and H′ with each other, and with the cog wheel *d′*, formed upon or attached to the driving wheel D, substantially as herein shown and described, for the purpose of operating the machine.

5. The combination of the adjustable slide E′ with the bars F′ and D′, substantially as herein shown and described, and for the purpose set forth.

6. The combination of the adjustable slide P′ with the lever G′ and bar O′, substantially as herein shown and described, and for the purpose set forth.

7. The combination of the reversible pawl A′, having a handle a^2 attached to its upper end, and coiled spring C′, with the socket B′ and cog wheel *d′*, substantially as herein shown and described, and for the purpose set forth.

8. The combination of the pawl H′, having a handle *h′* attached to its upper end, spring J′, arm M′, coiled spring L′, and socket arm I′, with each other and with the cog wheel *d′*, and bar K′, substantially as herein shown and described, and for the purpose set forth.

9. The combination of the bar K, slide blocks N and O, screw P, adjustable bars M U, slide V, adjustable standard R, and pivoted socket S, with each other and with the elbow lever T W and frame G, substantially as herein shown and described, and for the purpose set forth.

10. The combination of the slide-bar T′ with the frame A of the machine, substantially as herein shown and described, and for the purpose set forth.

11. The combination of the guide stays A^2 with the shaft H, ferrules B^2, and sockets S, substantially as herein shown and described, and for the purpose set forth.

75,448.—Richard Murdoch, Baltimore, Md.—*Suspending Scale Pan.*—March 10, 1868.—The arms of the scale are jointed at their lower ends, so as to lie down upon the dish.

Claim.—1. A dish for spring balances, constructed with two or more bowed arms, *a′ a′*, so operating that they can be folded together when not in use, substantially as described.

2. The combination of the standards *s s*, sliding rings *t t*, and pivoted arms or bails *a′ a′*, substantially as and for the purposes set forth.

75,449.—Peter Naylor, New York, N. Y.—*Tinning.*—March 10, 1868.—A sponge saturated with a solution of muriate of zinc is drawn through the lead pipe to insure the adherence of the molten tin.

Claim.—The means, herein specified, for applying flux to the interior of a length of lead pipe previous to tinning the same with melted tin, as specified.

75,450.—W. T. Nichols, Rutland, Vt.—*Hay Raker and Loader.*—March 10, 1868.—The teeth are long, and mounted upon wheels so that the points will run upon the ground, rising therefrom with a gradual incline, and will gather the hay which passes backward upon the frame until a load is accumulated on the bars. The team is then backed, which causes the lever to stick into the ground and raises the forward end of the teeth above the clapper, which then falls, and the forward ends of the teeth rest upon it. The loaded machine may then be driven off.

Claim.—1. The combination of the gathering and loading rake *q′ q′*, &c., and the supplementary elastic teeth *q q*, substantially as and for the purposes set forth and described.

2. The combination of the vibrating gathering rake, and the auxiliary loading frame *f f*, substantially as set forth and described.

3. Driving the auxiliary loading frame *f* by the carrying wheels *a*, or their equivalent, said wheels being attached to and vibrating with the gathering frame *q′ q′*, substantially as set forth.

4. The combination of the land wheel *a*, pinions *b* and *c*, cranks *d*, and rock-shaft *e*, substantially as and for the purpose set forth.

5. The small wheels *n n* located between the teeth *q′ q′*, and having their bearing attached to said teeth, substantially as set forth.

6. The connecting frame *i i i*, attached to rake frames, as and for the purposes set forth and described.

75,451.—Peter H. Niles, Boston, Mass.—*Lunch Box.*—March 10, 1868; antedated March 6, 1868.—The ends of the box are hinged so as to be collapsing, and the bottom, top, and sides are hinged together, so that the whole may be folded into a flat form.

Claim.—A portable collapsing lunch box, composed of a top and bottom, in combination with double-acting end-pieces and single-acting sides, substantially as described.

75,452.—Samuel Page, McAlisterville, Pa.—*Horse Hay Fork.*—March 10, 1868.—The curved hooks are hinged to a rod sliding in the case, and are thrown out radially by depression of the rod. The case has a cutting point. Flanking tines hold the hay from falling off sideways.

Claim.—The strap D, provided with slots *x x*, in the upper ends of which is a jog or offset, the rod or bar F, and its hooks G G, the frame E, tines J J, and lever H, with its cord, the several parts being constructed, used, and operating in the manner and for the purpose set forth.

75,453.—William P. Patton, Harrisburg, Pa., assignor to James M. Foster, same place.—*Skate Buckling Tongs.*—March 10, 1868.—One of the jaws is grooved to enable the better holding of the strap. One of the cross handles has a pivoted drill to form the hole in the heel.

Claim.—The within described tongs, when constructed substantially as and for the purpose herein set forth.

75,454.—Ira T. Payne, Chester, Conn.—*Auger.*—March 10, 1868; antedated February 28, 1868.—The projection is made beneath the floor lip to render filing easy; it practically leaves a recess behind the projection and leaves less metal to cut away in sharpening.

Claim.—The projection C on the floor-lip, for the purposes set forth.

75,455.—John D. Peck, Triangle, N. Y.—*Plow.*—March 10, 1868.—An inclined metallic plate extends from the top of the mold-board to the beam, and prevents matters falling between the mold-board and landside.

Claim.—The application of a cap or roof to the common farm plow, as herein described, and for the purposes herein set forth.

75,456.—Charles H. Perkins, Providence, R. I.—*Forming Horseshoe Blanks.*—March 10, 1868.—The bar of iron is rolled into a double blank, which is divided longitudinally to form two shoes.

Claim.—The improved double blank for horseshoes herein described, as an article of manufacture.

75,457.—William P. Porter, Pittsburg, Pa.—*Machine for Rolling Axles.*—March 10, 1868.—The axle is rolled between three rollers which are parallel with it, and two of which are adjustable.

Claim.—The combination of the adjustable rolls A and B and the roll C, constructed and arranged in relation to one another, and to the frame which supports them, as and for the purpose herein described.

75,458.—Aaron W. Pratt, Pultneyville, N. Y.—*Armlet Port-monnaie.*—March 10, 1868.—The adjustable armlets enter slots in the box, and are held by pins therein. The lid is locked down. The box is curved to suit the arm.

Claim.—The combination of the retaining bolts I, lock *f*, slotted box A, *c c*, and retaining bands B B, as herein shown, and for the purpose described.

75,459.—Robert L. Reaney, Jersey City, N. J., and John S. Cornell, Brooklyn, N. Y., assignors to John S. Cornell and H. F. Pease, Brooklyn, N. Y.—*Valve Gear for Steam Engines.*—March

10, 1868.—The connecting rod is secured to the piston rod at the mid-length of the latter, which acts as a pump plunger. The slide-valve chest is in one piece with the cylinder head, and the valve is reciprocated by ears which embrace an eccentric roller upon one end of the main shaft which enters the said chest.

Claim.—1. The arrangement of the cylinder B, the valve passages *b c d e*, and inlet and outlet pipes I J, so that the steam chest K and cylinder cover being in one piece, may cover both the end of the cylinder, its valve, and passages, substantially as shown and described.

2. The construction and arrangement of the valve L, the shaft C, and its eccentric pin *g*, relatively to the cylinder B, connecting rod F, and rod or ram G, essentially as shown and described.

3. The slide valve L, with its ears *h h*, acted upon by an eccentric pin or roller on the end of the main shaft *c*, as shown and described.

75,460.—Edmund D. Reynolds and O. Bradford Reynolds, North Bridgewater, Mass.—*Wheel Hoe.*—March 10, 1868.—The wheeled hoe has a central and two side hoes, which are horizontal and incline backward.

Claim.—1. In combination with the center blades *h*, (made vertically adjustable,) the rear blades *l*, made adjustable, both vertically and laterally, substantially as shown and described.

2. Supporting the vertically-adjustable standards between guide-lips *g*, substantially as described.

3. In combination with the plate to which the blades *l* are secured, the laterally sliding supports *m*, substantially as described.

4. Forming each hoe blade and its standard from a plate, bent both at right angles and with an inclination rearward, substantially as shown and described.

5. Forming the standard of the two forward blades, by welding together the two vertical plates, substantially as described.

6. In a hoe in which the blades are made adjustable, as described, applying the handle with provision for vertical adjustment, substantially as set forth.

75,461.—E. S. Roberts, Columbus, Ga.—*Cotton Bale Tie.*—March 10, 1868.—The open box has two transverse pins which hold restrictively the two ends of the binding hoop.

Claim.—The cotton bale tie, constructed as described, and consisting of the open box B, provided near each end with a transverse removable pin, *b*, around which the hoop A passes, the extremities of said hoop, after passing around the pins, being bent back between the bale and the hoop, in which position they are held by the outward pressure of the bale, all arranged as described for the purpose specified.

75,462.—D. C. Robie, Springfield, Mass., assignor to himself and H. E. Bostwick, same place.—*Lathe for Turning Buttons.*—March 10, 1868.—The moving jaw of the clutch is forced against the blank by a spring, and drawn back by depression of the treadle. The bits are brought singly against the blank, being moved thereto by the bell-crank hand lever.

Claim.—1. The two spindles B and C, operated by a shipper, so as to bring them alternately against the stock at opposite sides, when constructed and arranged substantially as described.

2. The clutch, consisting of the stationary jaw *m*, and pivoted jaw *n*, operated by the treadle K, and spring L, arranged and constructed substantially as shown, when used in connection with my device, in the manner described.

75,463.—George Frederic Roskopf, Chaux-de-Fonds, Switzerland, assignor to himself and Jules D. Huguenin Vuillemin, New York, N. Y.—*Changeable Escapement for Watches.*—March 10, 1868.—The escapement mechanism is carried by a detachable plate, which is so arranged that the escape wheel is adjustable in relation to the pallets, and that the escape wheel pinion may remain properly in gear with the other mechanism of the watch under any adjustment of the escape wheel.

Claim.—1. Placing or attaching the escapement of a watch to a separate or independent plate or frame, applied or fitted to the plates or frame which contain the "train," or other portion of the watch movement, in such a manner that the escapement attached may be removed at will, and another escapement substituted therefor, substantially as shown and described.

2. The slot *i*, in the escapement-plate B, and the screw *k* inserted therein, or an equivalent means, for the purpose of adjusting the 'scape-wheel and the lever pallets in a proper relative position with each other, substantially as set forth.

75,464.—Robert P. Ross, Bethlehem, Pa.—*Basin Faucet.*—March 10, 1868.—The valve turns freely in the head and has a socket on its lower side which receives a rubber block that packs against the top of the water pipe.

Claim.—1. The cap C, when made hollow for the reception of the stem of the valve D, said valve having its seat upon the tube A, within the chamber B, as herein described, for the purpose specified.

2. The loose valve D, in the tight cap C, fitting into the upper end of the chamber B, the packing E of said valve resting upon the upper end of the stem A, when the water is shut off by turning down said chamber, and lifted above the end of the stem A when the water is turned on, by turning up said chamber, as herein shown and described.

75,465.—Thomas J. Rowley and William Poland, Chillicothe, Ohio.—*Lubricating Box.*—March 10, 1868.—A thimble is fitted on the wrist pin, and the thimble has radial oil holes communicating with an annular oil chamber at its outside.

Claim.—The lubricating box C, when provided with the central annular chamber *a* surrounding the central portion of the thimble box B, and communicating with the wrist A by means of the transverse openings *c*, all constructed and arranged as described for the purpose specified.

75,466.—Andrew Runstetler and Albert Windeck, Peoria, Ill.—*Machine for Planting Cotton Seed and Corn.*—March 10, 1868.—The box in the hopper bottom is removed when planting corn, in which case an oscillating cylinder is placed in the hopper and the corn allowed to drop through an upper and a lower adjustable opening in the sides of the cylinder. The cotton seed is operated on by arms on a rock shaft similar to that carrying the corn dropping cylinder. The cotton seed is forced down between the bars of an upwardly extending V-shaped frame attached to the removable bottom of the hopper. The rock shaft is actuated by a rack bar connected to a crank upon the axle. A harrow precedes the planting device and a roller follows it.

Claim.—1. In a convertible corn and cotton planter, the movable metallic box O, having separating wires *w*, *x*, and *y*, in combination with the revolving forks *d e f*, and the stirrer P, substantially as set forth.

2. The combination, in such a machine, of the perforated block Q, drill R, cut-off S, and tongue T, so constructed and arranged that they may be, alternately with the cotton seeding mechanism, attached substantially as set forth.

3. The combination of the reciprocating cogged slide I, rollers *o g*, adjustable crank K, and driving rod J, for communicating motion from the roller F to the seeding mechanism of either the corn or cotton planter, substantially as set forth.

4. The combination of the drill teeth *b*, track clearers *a*, and harrow *q*, arranged substantially as set forth.

75,467.—Lewis L. Sagendorph, Boston, Mass., assignor to himself and Samuel C. Moore, same place.—*Lamp.*—March 10, 1868.—The air, after passing through the perforations of the brass plate, is deflected to the space beneath the cone by an annular plate whose upwardly extending cylindrical flange loosely surrounds the cone, allowing an annular air passage between them.

Claim.—1. The blaze-cap C, so arranged with reference to the imperforate base plate B, as to direct the air to the flame through an annular passage or

opening around the blaze-cap, in the manner and for the purpose specified.

2. Supporting the blaze-cap by pins resting in slits in the upright flange B′ of the base plate, in the manner described.

75,468.—James Sangster, Buffalo, N. Y., assignor to himself and Daniel H. Burtis, same place. —*Machine for Carburetting Air.*—March 10, 1868.—The spiral wheel, by its rotation, causes the flow of air through its axial tube. The air passes through a pipe extending to the bottom of the carburetter and issues through the corrugated pipe by which it is divided into small bubbles so as to cause its thorough carbonization. The air may be driven through a tube furnished with a stop cock and leading immediately into the gas holder so as to mix air with the contents when sufficiently carbonized to cause smoke. The coupling of the exit tube has a catch basin to arrest any liquid condensing from the carburetted air as it passes beneath the partition whose lower edge enters the said basin.

Claim.—1. The construction and arrangement of the air wheel A in combination with the guard B, substantially as and for the purposes herein described and set forth.

2. The arrangement and form of the frame M, as and for the purposes described in clause third of this specification or description.

3. The combination of the weight A^4 and tube C^4, as and for the purposes described.

4. The coupling R^5, as and for the purposes herein set forth and described.

75,469.—James Sangster, Buffalo, N. Y., assignor to himself and Daniel H. Burtis, same place. —*Machine for Carburetting Air.*—March 10, 1868.—The stationary tube connects the upper part of the annular "non-air-forcing chamber" with the inverted cup beneath whose edge the air flows into the carburetting liquid. The said chamber has openings which rise above the surface of the water after the air-forcing chambers are closed by their edges passing into the water. The inverted cup is inclosed in a cylindrical case which communicates at its lower end with the hydro-carbon liquid and whose top extends above the surface of the same.

Claim.—1. The combination of an air-forcing wheel with a stationary air tube and a non-forcing air-chamber I, provided with openings K, the whole being constructed to operate substantially as and for the purposes herein set forth and described.

2. The combination of an air floating vessel D, and an air-discharging tube, the discharging end E of which projects above the carburetting liquid, as and for the purposes substantially described.

3. The supplemental tube F^2, as and for the purposes substantially as described.

4. The tapering movable gas holder A, as and for the purposes substantially described.

75,470.—William Shilling, Baltimore, Md.—*Apparatus for Distilling Spirituous Liquors.*—March 10, 1868.—An auxiliary condenser is so arranged as to intercept the passage of the vapor and condense the low wine and prevent the flow of fusel oil through the cooling worm. A reservoir receives the low wine until it is turned back into the doubler.

Claim.—1. The combination of the condenser J and the low-wine reservoir L, or their substantial equivalents, with the doubler and the cooler C, essentially as described.

2. The combination of the low wine reservoir L and condenser J with the cooler C and the meter, substantially as described.

3. The low-wine reservoir L, arranged, in relation to the doubler, for the purposes substantially as described.

4. The combination of the low-wine reservoir and the condenser, or their substantial equivalents.

5. The condenser, having its bottom sunk and its top raised, in the manner and for the purpose substantially as described.

6. The perforated disk *p*.

7. The condenser, having a collar *d*, essentially as described.

8. The combination of the supply pipe *s*, and cock S, and draw-off cock *x*, or their equivalents, with a condenser constructed substantially as described.

75,471.—George Scott, Steubenville, Ohio.—*Holder for Razor Strops.*—March 10, 1868.—The leather strap forms the chord of the curved spring.

Claim.—As a new article of manufacture, the razor strop, when the leather thereof is secured to the curled ends of the spring-steel back, whereby said leather is prevented from slackening by stretching, and is kept in a constant state of tension, as herein shown and described.

75,472.—Emel Selbach, Columbus, Ohio.—*Stove Drum.*—March 10, 1868.—The drum has a movable tray which contains water and which has flanged-sided apertures to allow passage to the air, which is dampened by the steam generated from the water in the pan.

Claim.—The pan D, in combination with the drum C, operating and arranged substantially as and for the purpose set forth.

75,473.—Albert M. Shaw, Lebanon, N. H.—*Composition Cement for Pavements, &c.*—March 10, 1868.—Composed of tar, 100 galls.; "Albert" coal, 50 lbs., and rosin 50 lbs.; three inches of pebbles is saturated with the above. Then one inch of gravel and the same of sand are spread on and saturated. The matters are compacted thoroughly in the different stages.

Claim.—A cement for pavements and flooring, roofing, and other purposes, composed of the ingredients above named, mixed, applied, and finished in the manner above described.

75,474.—Abram Shoemaker and Wallace Phelps, Conesville, N. Y.—*Frame for Hop Vines.*—March 10, 1868.—Four strong stakes are set rectangularly in the ground and connected by horizontal pieces. From the top of each of the stakes proceed three hoop-poles which are bent over and enter the ground at a distance from the stakes, forming sixteen points at which plants may be set.

Claim.—An improved hop-vine frame formed in squares of four stakes, *a a*, joined together at top by the cross-ties *b b*, in combination with the bent poles *c c*, arranged as and for the purposes herein described.

75,475.—Walter S. Shotwell, Paterson, N. J.—*Railroad Chair.*—March 10, 1868.—The chair is of wrought iron and has flanges bent up rectangularly upon it to embrace the base of the rail. A bridge is formed at the middle. The said bridge enters transverse horizontal slots formed in the ends of the rails. The spikes are driven through holes in the chair.

Claim.—In chairs for railroad rails, holding the rails by sheet metal presented edgewise to the rails, substantially as and in the manner herein set forth.

75,476.—Walter S. Shotwell, Paterson, N. J. —*Railway Truck.*—March 10, 1868.—The upward pressure of the axles is against the periphery of antifriction rollers which are journaled in the frame, and having a spring bearing.

Claim.—1. The wheels D, with grooved periphery, in combination with shaft B, provided with a flange or flanged collar *a*, substantially as and for the purpose specified.

2. The arrangement of the bars H H with the cross-ties K K, the wheels D D, and the axles B B, whereby I am enabled to have a double number of bearings, and to have said bearings at any desirable point between the wheels A, or outside of them if necessary, as is herein fully set forth.

75,477.—Frederick H. Smith, Baltimore, Md. —*Bridge.*—March 10, 1868.—The longitudinal rods of the lower chord are in clusters and pass through the nut plates. The bolts connecting the nut plates to the angle blocks traverse the nut plates centrally, and have a nut on each side of the angle blocks by which the said blocks may be moved longitudinally to loosen any of the timbers for repairs.

Claim.—1. A bottom chord, formed of clusters of rods connected, as described, in the panels, and connected to each other, through the brace blocks, by a

single rod, substantially as and for the purpose specified.

2. The combination of the clusters of rods D, nut plates E, single rods G, angle blocks B, and nuts H with each other, with the horizontal cross rods M, by which the various lines of clusters are connected to each other and with the vertical rods I, by which the bottom chord and superstructure of the bridge are connected together, substantially as herein shown and described, and for the purpose set forth.

75,478.—Canceled.

75,479.—WILLARD H. SMITH, New York, N.Y.—*Lamp.*—March 10, 1868.—An upturned flange around the upper end of the wick tube collects the condensed oil and returns it to the wick at a point some distance below. The edges of the longitudinal slot of the argand burner (by which, in combination with the spiral groove, the feed motion is communicated to the wick) are folded over so as to form a stiff and smooth edge to the said slot. A small hole is made in the side of the reservoir which just allows passage to the proper quantity of air to take the place of the oil outflowing to feed the lamp wick.

Claim.—1. The round wick tube A, provided with a flange K on its outside, and a passage B, in combination with the worm-pipe D, constructed with an inward flange at its top, substantially as herein shown, and for the purposes described.

2. Constructing the wick tube A with a slot B, made in the manner and for the purpose substantially as herein shown.

3. Providing the two openings *e* and *f* on the tube M, arranged in relation to each other, substantially as and for the purpose herein set forth.

4. The construction and arrangement of the top edge of the spiral tube D, being below the edge of the tube A, for the purpose of preventing the flame reaching the tube D and heating the burner, substantially as herein shown.

5. The tube F, tightly jointed, and uniting with the wick tube A, substantially as and for the purpose herein described.

75,480.—ALBERT SNYDER, Jackson, Mich.—*Fly Trap.*—March 10, 1868.—The dish has an inside and outside horizontal rim and a gauze dome emanating from the rim and perforated around its bottom to allow passage to the flies.

Claim.—The combination of the dome A and platform C with the holes I I, dish D, and rim B, as and for the purpose set forth.

75,481.—HARVEY B. STEELE, West Winsted, Conn.—*Horse Hay Fork.*—March 10, 1868.—The two bars of the stock are inclosed in a scabbard to prevent clogging by hay.

Claim.—The shield or scabbard A, constructed as described, in combination with the lever B E, connecting rod F, and prong G, arranged and operating substantially as and for the purposes set forth.

75,482.—JACOB STEHMAN, Lancaster, Pa.—*Photographic Printing Apparatus.*—March 10, 1868.—As fast as the photographs are printed they are placed on the printing board and the halo-former adjusted over the figure. The light will strike around the beveled edges of the disk. The effect will be to render the outside dark, and the color will gradually fade toward the likeness.

Claim.—The additional printing process, substantially in the manner specified.

75,483.—CORNELIUS ST. JOHN, Charlestown, Mass.—*Lamp Burner.*—March 10, 1868.—The burner is supported at the tops of standards which serve as guides to a cross bar attached to the wick tube. The wick tube may be depressed so as to bring its top beneath the burner for lighting or trimming.

Claim.—1. In combination with the wick tube applied to the cap screw or lamp body, so as to be movable vertically, relatively to the air deflector or chimney supporter, substantially in manner as specified, the foraminous cup or guard D, made and arranged with the chimney supporter and the air deflector, substantially as specified.

2. The combination and arrangement of the guide K, with the standards E E, and the chimney supporter C, and the part D, applied thereto as specified.

3. The improved lamp burner, as composed of the chimney-holding springs *l l*, the chimney-supporting cone and air deflector C, the perforated cup D, the standards E E, the screw cap B, and the wick tube A, and its guide K, arranged as described, and having the wick movable in the cap B and guide K, by means and in manner as described.

75,484.—FREDERICK A. STOHLMANN, Brooklyn, N. Y.—*Truss Pad.*—March 10, 1868.—The pad is made like the human hand, with spring-fingers that conform to the movements of the body.

Claim.—A truss pad, formed with spring fingers, padded and attached to the truss spring, as and for the purposes set forth.

75,485.—FREDERICK A. STOHLMANN, Brooklyn, N. Y.—*Syringe.*—March 10, 1868.—The nozzle is at the end of the tubular piston rod.

Claim.—A syringe with a hollow piston rod *d*, piston *e*, screw-head or cap *b*, and neck *g*, as and for the purposes set forth.

75,486.—HIRAM C. STOUFFER and ABRAHAM STOUFFER, Beaver Township, Ohio.—*Horse Hay Fork.*—March 10, 1868.—The tines are arranged to fold together and form a single point for insertion in the hay, but are spread out horizontally to engage the same in raising the load.

Claim.—The tines B C, links E D, and shaft A, in combination with the lever F, all constructed and arranged to operate in the manner as set forth.

75,487.—O. W. STOW.—Plantsville, Conn.—*Machine for Forming Tubular Beads on Sheet-metal Gutters.*—March 10, 1868.—The jaws have pendent arms which are expanded by a lever-operated cam, to cause the contraction of the jaws upon the bead of the gutter whose edge enters a radial, longitudinal groove in the turning "former" around which the bead is bent.

Claim.—The combination of the cam-lever F G with the pivoted jaws D D, whereby the jaws are closed to form the bead, substantially as described for the purpose specified.

75,488.—ENOCH E. STUBBS, West Elkton, Ohio.—*Bolt Fastening.*—March 10, 1868.—The spring-dog has a projection which is forced by the sliding, wedge-shaped key into the recess in the bolt, and prevents its retraction.

Claim.—The combination of key *d*, dog *a*, and spring *e*, with the clasp D and recessed bolt A, when the several parts are constructed, arranged, and operate conjointly in the manner and for the purpose specified.

75,489.—ASHER W. SULLENBERGER, Laurel, Ind.—*Car Coupling.*—March 10, 1868.—The link is directed into the draw-head by a crank, and releases the pin by a trigger which trips a sectoral block sustained by a turning shaft, the pin being held up by a chain connected to the sector.

Claim.—In combination with the shaft E, segment D, and pin C, suspended therefrom, the yoke H and trigger G, for holding the pin suspended in a vertical position and dropping it automatically, on the entrance of the link into the draw-head, substantially as described.

75,490.—RICHARD TATTERSHALL, Beloit, Wis.—*Spring Bed Bottom.*—March 10, 1868.—The ends of the slats rest in rubber loops surrounded by metallic rings which have sufficient diameter to allow a limited movement to the slats. The loops rest upon hooks which are riveted to bars resting in hook-brackets secured to the head and tail boards. The slats rest at their midlength upon a cross slat whose ends are supported similarly to the longitudinal slats.

Claim.—1. The employment of the device herein described for securing the supporters C to the bedstead D, as set forth.

2. The guard bands H, or their equivalent, in combination with the supports C, brackets E,

locking pins *e*, hooks *b*, the transverse slat I, rubber springs B, and slats A, when constructed and arranged substantially as herein set forth and described, for the purpose specified.

75,491.—JASPER VAN WORMER and MICHAEL MCGARVEY, Albany, N. Y.—*Coal Stove.*—March 10, 1868.—The hopper is detached from the magazine cylinder, whose top is disconnected from that of the stove. The air passes from the ash pit upward through the grate, and through a register in the fore part of a horizontal plate on a level with the grate bottom. The caloric current circulates around the magazine and passes through a register in the aforesaid plate to the exit flue emanating from the base.

Claim.—1. In base burning or magazine stoves, a funnel or hopper attached to or supported by the top or outside casing of the stove, in combination with the open-top magazine cylinder K, as and for the purpose set forth.

2. The perforated check-draught plate *l*, in a downward-draught flue, provided with a register X, so arranged as to pass the soot and ashes that collect upon them, through the register and plate, into the escape flue, when the register is traversed for that purpose.

75,492.—CROMWELL FLEETWOOD VARLEY, New York, N. Y.—*Telegraph Pole.*—March 10, 1868.—The insulators are connected with the ground, so that a leak from any one of the wires shall not affect the others.

Claim.—The combination of a conducting wire, running to the ground, with the telegraph pole and the insulators attached thereto, substantially as and for the purpose set forth.

75,493.—H. VOGEL, Berlin, Prussia, assignor to Wilson & Hood, Philadelphia, Pa.—*Photometer.*—March 10, 1868.—The box has a spring bottom and a glass and wooden cover. On the under side of the glass are secured a series of thin strips of paper, arranged in layers so that each layer projects over the edge of the strip above it; thus producing a graduated semi-transparent medium. The number of layers at any particular point is indicated by black figures on the lowest strip. Upon this false bottom is spread a series of strips of paper rendered sensitive by saturation with alkaline chromate. The apparatus is then exposed to the light, and the strips of sensitive paper will be successively darkened according to the depth of overlying paper.

Claim.—1. The arrangement of the transparent paper strips C, which are arranged in steps, and which are divided into sections, each section having an opaque portion, substantially as herein shown and described.

2. The box A, when provided with a cover B, having a glass plate *b*, and the step-formed paper C, and with the sliding false bottom D, pressed against the paper C, by means of a spring E, as set forth, all made and operating substantially as herein shown and described.

3. The paper strips, saturated with alkaline chromate, when they are applied to a photometer, substantially as herein shown and described.

75,494.—JOHN WAGNER, Washington, D. C.—*Attaching Horseshoes.*—March 10, 1868.—The metallic straps or curved plate are attached by screws to lugs projecting upward from the shoe.

Claim.—Attaching the bands C and D to a horseshoe B, in the manner substantially as shown and described, and for the purpose set forth.

75,495.—EATON WALKER, Dundee, Ill.—*Converting Rotary into Reciprocating Motion.*—March 10, 1868.—The pitman is connected to the arm of the lever, which is pivoted at the middle, and whose ends carry rollers which travel cam-tracks on the inner side of the wheel rims. The cams are so arranged as to cause the retraction of each end of the lever, alternately.

Claim.—The combination of the wheels A, provided with the cams *a*, the oscillating lever D, provided with the friction-rollers *f*, and the arm F, all constructed and arranged to operate substantially as described.

75,496.—THOMAS WARD, Columbus, Ohio.—*Vapor Burner.*—March 10, 1868.—The pipe leads from an elevated reservoir to the burner, and is curved over the latter. Two packings, the first of cotton wicking, and the last of brass wire, prevent the too quick flow of the hydro-carbon liquid and gas respectively. The gas issues from the side of the burner, and is confined between the pipe and deflecting plate so as to flatten the flame.

Claim.—1. The application of the double packing H and I, to regulate the fluid and gas, as set forth in the above specification.

2. The brass or metal plate F, having the lower end formed into a cup D, attached to the burner, and its upper end bent inward toward the generating chamber, all constructed as herein shown, and arranged in relation to the aperture *g*, substantially as and for the purposes set forth.

75,497.—WILLIAM WARD, Cleveland, Ohio.—*Oil for Paint, &c.*—March 10, 1868.—The waste liquor from the bleaching of paper stock is purified by filtration and mixed in equal proportion with linseed oil. It may be thinned by a dryer and used as varnish, or may be mixed with pigments to form paint.

Claim.—1. The herein-described compound, consisting of the waste and linseed oil, or its equivalent, when compounded in the manner, and in any proportion, for the purpose substantially as set forth.

2. The cement, consisting of waste, linseed oil, and lime, or its equivalents, when compounded in the manner and for the purpose substantially as described.

3. The utilizing of the waste from the bleaching apparatus of paper-mills, by compounding the said waste with linseed oil, or its equivalents, or with crude petroleum, or with its distillates; also, in compounding the same with lime in its various conditions, and with the pigments used for paint, in the manner substantially as described.

75,498.—WILLIAM H. WARREN, Worcester, Mass.—*Planer's Chuck.*—March 10, 1868.—The sliding jaw is set up by screws traversing removable pins, whose position may be altered to suit larger or smaller objects. The said jaw has a central vertical bolt whose head slides in an under-cut groove of the disk, and which has a handle nut by whose rotation the jaw is clamped in position. The slotted blocks may be moved between the set-screw points and the jaw to avoid the necessity of moving the pins in some instances.

Claim.—1. The improved planer's chuck, herein described, when its several parts are constructed and arranged substantially as set forth.

2. The sliding jaw G, having the slotted blocks E E attached thereto, in combination with bed-plate and set-screws, all constructed as and for the purpose set forth.

3. The subject-matter of second claim, in combination with the movable pins C C, when arranged to operate in the manner substantially as specified.

75,499.—LAWRENCE B. WATERMAN, Indianapolis, Ind., assignor to JOHN CARLON & CO.—*Inking Apparatus for Color-Painting.*—March 10, 1868.—The inking surfaces consist of the convex edges of curved plates, which are secured to a longitudinal rod at the surface of the cylinder. The plates are adjustable on the rod, and may be associated in any number to regulate the width of the ink surface.

Claim.—1. The screw-rod D and nuts *e e*, in combination with sectional plates *c c*, having slots *c' c'*, all combined and arranged substantially as and for the purpose set forth.

2. The inking roller I provided with the removable shaft K, working in a sliding bearing H, in combination with the distributing roller J, having fixed bearings J', substantially as and for the purpose set forth.

75,500.—G. A. WATKINS, Proctorsville, Vt.—*Weaving Chair-Seats.*—March 10, 1868.—The end of the splint is clamped in the jaws so as to lie beside the needle. The latter acts as a follower through which the splint may be beaten up.

Claim.—A needle or shuttle, of flat shape or bar

form, constructed, as described, to hold the splints at their one end in such manner as that the splint may be readily detachable therefrom after it has been passed through the warp, and shaped to form a batten for beating up the filling, substantially as specified.

75,501.—James White and Thomas Lingle, South Amboy, N. J.—*Car-Brake.*—March 10, 1868.—A counter-shaft is hung beneath the rear part of the locomotive, and is caused to rotate by belt connection with the rear axle of the same. A chain, by which the brakes are applied to the whole train, is coiled around the clutch-sleeve upon the said shaft.

Claim.—1. The suspended frame C, in combination with the shaft E, axle A, and band *d*, and the devices for preserving the tension of the band, substantially as described, for the purpose specified.

2. The sliding clutch and sleeve F, with brake-chain G attached, substantially as described, for the purpose specified.

3. In combination with the sliding clutch, the rod *e*, pin *f*, bell-crank *g*, and rod *h*, substantially as described, for the purpose specified.

4. The self-acting gauge, when the same is arranged for the purposes set forth, and when consisting of the adjustable bar *j*, arranged as described, in combination with the bar *e*, bell-crank *g*, (or its equivalent,) and rod *h*, all made and operating substantially as and for the purpose herein shown and described.

5. The adjustable gauge *j*, in combination with grooved sleeve F and rod *e*, substantially as described, for the purpose specified.

6. The device for operating the brakes by the chain G, said device consisting of the arrangement and combination with the lever K of the lever O, (having an arm *r*,) the sliding bar N, spring *s*, and pulleys *p*, *p*, all made and operating substantially as and for the purpose herein shown and described.

7. The lever K, in combination with the lever O and chain L, for the purpose of combining the hand-brake with that which is operated from the locomotive, substantially as set forth.

8. The ratchet wheel *k* and spring pawl *l*, in combination with the sleeve F, all constructed as described, for the purpose specified.

75,502.—T. B. White, New Brighton, Pa.—*Bridge.*—March 10, 1868.—Rectangular metallic frames are made by welding to both sides of longitudinal bars of flat iron cross pieces of the same or of angle-iron, and letting the cross pieces into the opposite sides of adjacent chord-timbers of the bridge.

Claim.—The clamps and packing blocks E, F, and G, made of wrought iron, and constructed and arranged for use substantially as described, and for the purposes set forth.

75,503.—Jonathan Whitney, Fort Winnebago, Wis.—*Hop-Drier.*—March 10, 1868.—The tilting drying frame runs on a track extending through the drying and store rooms, so that the hops, after drying above the furnace in the former room, may be deposited in the latter.

Claim.—1. A hop-drier, consisting of a drying room E and store room F, and provided with a curbed frame B, having tilting drying floors, mounted on a track D, all constructed and arranged to operate substantially as described, and for the purpose set forth.

2. The curbed frame B, and tilting drying floors A, constructed and arranged to operate substantially as described, and for the purpose set forth.

75,504.—C. Williams, New York, N. Y.—*Pavement.*—March 10, 1868.—The blocks are rabbeted at the edges and a certain distance down the side. The rabbets of the adjacent blocks form vertical grooves, in whose sides horizontal dovetailed grooves are formed; these are filled with concrete and serve to cement the blocks together. Beneath the blocks are arranged slabs of the same superficial form and so placed as to break the joints of the upper course.

Claim.—The construction and arrangement (in a wooden pavement) of the blocks A A, in such a manner that double dovetailed grooves shall be formed between said blocks, so that when the same are filled with cement, as herein described, such filling will operate as a tie to said blocks, substantially as herein set forth.

75,505.—Gile J. Willson, Reading, Pa.—*Watch Case.*—March 10, 1868.—The upper edge of the ring forms a shoulder to receive the watch movement, and the lower edge finds its bearing in the lower side of the center of the watch case, thus excluding dust from working into the movement through or around the pusher to the cap spring. The key-hole protector is in form of a tube, which passes from the cap to the upper plate of the movement and has bearing in the said plate in some elastic material. The cylinder is either inside or outside the usual dust cap.

Claim.—1. The application of a separate entire ring to the center of an ordinary watch case, (new or old,) which the movement of the watch will connect with, in the manner set forth, made of any convenient material, and of any size, shape, or form, to answer the purposes set forth.

2. The application of a conical-pointed tube, with its bearing or packing on the movement of a watch or some elastic substance, and connected with the cap of the watch in any convenient manner, to answer the purposes set forth.

75,506.—Robert Wolf, Burlington, Iowa.—*Dovetail Machine.*—March 10, 1868.—Intended specially for dovetailing drawer stuff. The side piece is secured to an oscillating carriage, and brought in contact with the circular saw at the required angle. The front and back pieces are secured to the carriage and dovetailed by chisels. The upright chisel cuts the back of the recess and makes the inclined face, owing to its inclined position. The horizontal chisel determines the depth of the recess and prevents splitting. The machine is adjusted to move the stuff regularly and dispense with laying off.

Claim.—1. The combination of the cam F and jointed lever G with the fork *f*, pin *g*, and carriage I, all made and operating so that a suitable oscillating motion is imparted to the carriage I, substantially as and for the purpose herein shown and described.

2. The longitudinally-movable frame H, in combination with the oscillating carriage I, and laterally-movable bed J, all made as described, and operating with the saw E, substantially as and for the purpose herein shown and described.

3. The combination of the lever K, pawl *j*, slotted adjustable pawl *k*, spring catch *i*, and bed J, all constructed, arranged, and operating substantially as described.

4. The combination of the oscillating plate P, slide *u*, levers M O, and chisel N, substantially as described for the purpose specified.

5. The levers *o* M and chisel N, in combination with the cam L, operating substantially as described for the purpose specified.

6. The combination of the bed T, tripping levers *b' c'*, sliding rack U, and the slide V, constructed and operating substantially as described for the purpose specified.

75,507.—W. Inck Adams, New York, N. Y.—*Card Holder.*—March 17, 1868.—The frame is attached to a trunk, and has one end open for introduction of a direction card, which is retained by the spring-back plate.

Claim.—The removable spring-back plate D, when provided upon its sides, near one end, with the lugs E, fitting into the inclined grooves F upon the under side of the frame A, the free end of said plate pressing against the under side of the shoulder *a*, as herein described, for the purpose specified.

75,508.—Truman P. Allen, Gowanda, N. Y.—*Feed Cutter.*—March 17, 1868.—The two knives, which are respectively above and below the throat, are connected at their ends by parallel, pivoted bars, and are operated by the same forked lever, so as to have draw cuts in opposite directions.

Claim.—1. Arranging the two knives C and D, substantially as herein shown and described, so as to obtain a drawing stroke with each knife.

2. Applying the power directly to the knives, sub-

stantially as herein shown and described, and for the purpose set forth.

3. The combination of the knives C and D, pivoted connecting bars E, and branched operating lever F with each other, substantially as herein shown and described, and for the purpose set forth.

75,509.—William Anheuser, St. Louis, Mo.—*Extracting Saccharine Matter from Malt.*—March 17, 1868.—After infusion of the malt the liquid is extracted by pressure.

Claim.—1. The process of extracting the saccharine malt liquid from the malt by pressing.

2. The process of pressing the malt refuse left after infusion, for the purpose of obtaining an additional quantity of saccharine juice.

75,510.—Ellis S. Archer, New York, N. Y., assignor to Archer, Pancoast & Co., same place.—*Lantern.*—March 17, 1868.—The top is formed of an arched corrugated cap and a centrally-perforated plate, to which the cap is attached by the guard wires. The corners of the said plates are cut out, so that when the sides are turned downward the rounded projections of the corners may be passed through slits in the upright corner pieces of the frame. The upper ends of the guard wires are formed into eyes, to which the handle is hinged.

Claim.—1. The combination of the top piece or plate E, constructed and formed as described, with the frame and side plates of a lantern, substantially as and for the purpose set forth.

2. The passing the spring through the side of the lamp, and soldering it upon the inside of said side, substantially as described.

3. The forming the catch of the spring by punching and striking out a portion of the spring itself, substantially as and for the purpose set forth.

4. The combination of the spring O, constructed and attached as described, with the lamp and frame of a lantern, substantially as described and for the purpose set forth.

75,511.—Jearum Atkins, Washington, D. C.—*Smoke Stack for Locomotive Engines.*—March 17, 1868.—The lower end of the smoke stack has an inverted, truncate-conical portion which descends into the smoke box and contains a number of flaring tubes supported between two horizontal perforated disks. The exhaust pipe passes up centrally through this portion and ends in seven (more or less) nozzles, pointing to as many circular or hexagonal flaring tubes, inclosed in a case and forming the smoke exit.

Claim.—1. Providing a series of conical or tapering tubes or passages, through which the products of combustion are made to pass on their way from the furnaces of steam generators, arranged substantially as shown and described.

2. The combination of the divided exhaust nozzle and the tapering tubes or passages, substantially as shown and described.

3. The arrangement of blast tubes M, with reference to the tubes or passages J J J and F F, substantially as shown and described.

75,512.—Solomon S. Avis, Pennsgrove, N. J.—*Stump Extractor.*—March 17, 1868.—The lower plate of the lever has a series of notches to receive the fulcrum-bar of the trestle, and the upper plate has a forked end to engage the hoisting chain which is attached to the lifting claw.

Claim.—1. The trestle horse A *c c c c*, *e e*, and lever B, substantially as shown and described, in combination with the chain *i*, as and for the purpose set forth.

2. The plates *b* and *d*, substantially as shown and described, in combination with the lever B and trestle horse, as and for the purposes set forth.

3. The pedestal planks *e*, in combination with the trestle horse and lever B, substantially as and for the purpose shown and described.

75,513.—Joseph Baysore, Freeport, Ill.—*Car Truck.*—March 17, 1868.—The circle plate attached to the under side of the car bed rests upon rollers, upon a transverse, sliding bar which is supported between the two central cross bars of the truck, and on springs beneath its ends, which rest on a cross bar secured by hanging straps to the said central cross bars. The end cross bars of the truck have brackets embracing the circle plate and giving bearing to rollers tracking thereon. These rollers and brackets serve to support either corner of the truck when an axle or wheel is broken.

Claim.—1. The arrangement and method of connection of the axles A of the truck to the car bed K, through the medium of the straps F, bars D, rollers L, and circle plate J, arranged substantially in the manner as and for the purpose set forth.

2. The springs C E, arranged and applied to the truck substantially in the manner as and for the purpose specified.

75,514.—Henry L. Beach, Montrose, Pa., assignor to Beach Wheel Horse Rake Manufacturing Co.—*Horse Rake.*—March 17, 1868.—The shoe is formed to run easily over the ground without perforating the same. It is made of wood or iron and may be applied to the ends of common, metallic teeth, or to those formed purposely, having their ends curved around for engagement of a key.

Claim.—1. A shoe or foot, constructed and operating substantially as described, for the purposes specified.

2. Attaching the shoe or foot substantially as herein described, for the purpose specified.

75,515.—H. H. Bent, Antwerp, N. Y., assignor to himself and E. Sims.—*Cheese Vat.*—March 17, 1868.—The water, after passing around the milk pan, runs into one end of a tilting box, which then descends and raises the emptied end of the box. The water then runs out of the full side, and the same movement is repeated. The tilting box is connected to the pendulous frame which is thus oscillated, and the milk agitated by its adjustable horizontal bar.

Claim.—The box L, provided with partition R and discharge pipes S, in combination with the standard P, vibrating bars K H H, and the adjustable paddle or agitator I, the several parts being constructed and operated substantially as and for the purpose herein fully set forth.

75,516.—John Q. Birkey, Philadelphia, Pa.—*Gas and other Heaters.*—March 17, 1868.—The noxious vapors arising from combustion of gas or other fuel is collected in a conical receiver and conducted through a pipe to a vessel containing liquid to condense the said vapors.

Claim.—1. The receiver D, for collecting the noxious vapors, deleterious gases, and other impurities arising from the combustion of fuel, in combination with a pipe, tube, or outlet, for conducting the said gases and impurities to the vessel where the same are neutralized, substantially as set forth.

2. Neutralizing or destroying the impurities arising from combustion in water or chemical agent, substantially as described.

75,517.—William Brown, Addison, Mich.—*Farm Gate.*—March 17, 1868.—The gate is suspended on rollers which track on a bar in an upper frame. The bar is inclined by toggle levers connected to and operated by cords which extend up and down the track for convenience of the occupants of conveyances. The inclination of the bar causes the gate to slide open or shut, as the case may be.

Claim.—1. The levers J, when constructed and operating for the purposes hereinbefore described.

2. The combination of the above levers with the gate A, the upright bars B C, the wheels D, the horizontal bar E, the double posts F G H, the horizontal bar, described as being hung upon rods near the top of the posts G H, the cranks I, the rings or blocks M N, the cords or chains L, the posts and arms O, the guides P, and the latch R, when constructed, arranged, and operating substantially as and for the purposes herein set forth.

75,518.—William H. Burke, Brighton, Mass., assignor to himself and James E. Wilson, Springfield, Me.—*Car Brake.*—March 17, 1868.—The brakes are applied by cams which are connected to wheels turned by screw gears upon a shaft operated by bevel-wheel engagement with the shaft of the hand wheel.

Claim.—The combination and arrangement of the

three shafts F F I, their screws H H, worm gears G G, cams E, and the bevel gears L M, and vertical hand-wheel shaft N, arranged at either or each end of the carriage, and with respect to the brakes D, substantially in manner as specified.

75,519.—EZRA CASWELL, Lyons, N. Y.—*Bed Bottom.*—March 17, 1868.—The ends of the slats are secured in a metallic frame. A rubber loop is secured by a wedge in a transverse slot of the frame, and the loop is secured by the hooked link to the hooks of the bracket.

Claim.—The bed bottom constructed as described, and consisting of the slats C, frame D, having slotted cross-bar *f*, plate *a*, having hooks B, link F, elastic strap E, wedge *g*, and screw *e*, all arranged and operating as described, and for the purpose specified.

75,520.—W. T. CHAFFEE, Richmond, Va., assignor to himself and SAMUEL M. DRINKER, same place.—*Grain Separator.* — March 17, 1868.—The two beveled bars are placed side by side so as to form an inclined trough through which the grain passes by the longitudinal, reciprocal motion imparted to the bars by connection to a compound crank shaft. The bars have downwardly flaring perforations to allow the escape of obnoxious seeds.

Claim.—1. The combination of the perforated, sliding, triangular bars B and C, with each other and with the frame A, substantially as herein shown and described, and for the purpose set forth.

2. Connecting one of the triangular bars, as C, to the cross-bars *a'* of the frame A by the dovetailed bars E and G and hand screws F, or by equivalent means, so that it may be moved back and forth or adjusted laterally, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the crank shaft H and pitmen I with the sliding triangular bars B and C, and with the frame A, substantially as herein shown and described, and for the purpose set forth.

75,521.—S. BALDWIN CHAPMAN, New York, N. Y.—*Car Wheel.*—March 17, 1868.—The tread of the wheel is a wooden annulus made in sectional blocks, so arranged that the grain of the wood runs radially. The annulus is inclosed at every point but the periphery, by the metallic part of the wheel.

Claim.—A wheel for railway cars, composed of the metal plates A E, wooden sections C, and the elastic ring Ax, all being secured together by bolts, and used with or without rings D D, substantially as herein shown and described.

75,522.—DANIEL G. CHASE, Boston, Mass.—*Shuttle for Looms.*—March 17, 1868.—The bobbin spindle is hinged to its head, and is raised for insertion in the bobbin. The spindle is drawn down into working position by a spiral spring, and the flange of the bobbin is engaged by the upturned end of the flat spring to hold it in place upon the spindle.

Claim.—The combination of the open slotted spindle-head *c*, coiled spring *h*, and plate spring *e*, with the shuttle A and stop pin *g*, the whole being constructed and arranged for operation as herein shown and described.

75,523.—DANIEL L. F. CHASE, Boston, Mass.—*Steam Engine Governor.*—March 17, 1868. — The governor valve stem carries the sectoral rack lever which is acted on by a spur wheel on a shaft which receives rotation from the motive shaft, and has vertical movement by connection to a lever actuated by the changing movement of the governor balls. The vertical movement of the spur wheel brings it in engagement with the upper or under rack upon the sectoral lever, to cause the increase or decrease in quantity of steam by the partial rotation of the valve.

Claim.—1. The combination of the valve stem and sectoral rack or lever with the vibratory arm *k*, pinion *h*, and shaft *i*, receiving motion directly from the driving shaft *o*, substantially as and for the purposes shown and set forth.

2. The combination of the valve stem, the sectoral rack or lever, and its actuating pinion and vibratory shaft of the gear *m n*, shaft *o*, and lever *v*, link *z*, and sleeve *s*, substantially as and for the purposes herein shown and specified.

3. The construction of the sectoral lever *d*, as composed of the eccentric slot *e*, with its enlargements a^1 a^2 and its toothed racks *f* and *g*, essentially as before set forth and explained.

4. The combination, with the arch *l*, of the vibrating arm or bracket *k*, the shaft *i*, and the gears *m* and *n*, the bracket being pivoted to the arch, as before explained.

75,524.—JUSTUS CHASE, Jr., Watertown, N. Y.—*Bake Pan.*—March 17, 1868.—The pan has a tight cover which is considerably raised, and receives the steam from the bread, which can only escape by passing back again through the bread.

Claim.—The bread pan, consisting of dome D and base A B, with suitable connecting devices, constructed as herein described, and for the purposes set forth.

75,525.—SYDNEY E. CHASE, Mendon, Mich.—*Covering for Shaft Coupling.*—March 17, 1868.—The two parts of the conical-ended, cylindrical case are hinged together, and are made to cover a shaft coupling which may be in an exposed situation.

Claim.—The construction of a coupling cover, as hereinbefore described, and operating substantially as and for the purposes set forth.

75,526.—JAMES A. CLARKE, New York, N. Y.—*Ferry Bridge Guard.*—March 17, 1868.—The draw is upon a rock beam which is rolled by weighted cords so as to raise the draw, and is rolled so as to lay down the draw, by the inward movement of the fender, when a landing is made.

Claim.—The self-acting draw *k*, actuated by the fender *c*, substantially as and for the purposes set forth.

75,527.—JOHN C. CLIME, Philadelphia, Pa., assignor to himself and J. MOORE HENDRICKS, same place.—*Bedstead.*—March 17, 1868.—The slats are supported by springs at the ends and near the middle. The bar supporting the head springs is made adjustable by thumb screws. The springs are coiled around perforated tubes intended to contain a disinfectant.

Claim.—1. The arrangement of the notched slats A, coil springs B, middle supporting bar C, and adjustable head bars D, when these several parts are constructed substantially as shown and described, for the purpose specified.

2. The perforated hollow tube F in combination with the coil springs B, substantially as set forth.

75,528.—JOHN S. COFFMAN and MANASSAH GRAYBILL, Greenville, Ind.—*Hay Raker and Loader.*—March 17, 1868.—The hay is dropped from the endless elevator upon a tilting platform, from which it is deposited in heaps.

Claim.—1. The loose teeth F and bar G, in combination with the pivoted arm H, rods J *i*, jointed connecting bar *k*, and lever P', all arranged to operate as herein shown and described.

2. The receiving platform E, when adjusted upon the frame D by means of the cord *o*, ratchet and pawl, and the crank *p* upon the rod *n*, as herein described, for the purpose specified.

3. The arrangement of the frame D, burden wheel A, caster wheels B, adjustable apron E, loose teeth F, and their operating mechanism, the endless apron C, and shaft G, all operating as described, for the purpose specified.

75,529.—NOAH L. COLE, Norwich, Conn.—*Lamp Lighting Device.*—March 17, 1868; antedated February 28, 1868.—The wrench is used for turning on the gas. The draw pin is drawn back until the spring catches over the end of the cylinder and the piston is drawn to the end of the turning cylinder; then, by pushing down the thumb spring, the piston is advanced and forces the match through the lighting device.

Claim.—1. The within-described combination of devices for ejecting matches, consisting essentially of the revolving chambered cylinder *g*, piston *e*, catch spring *f*, draw pin *d*, spring *b*, cylinders *a* and *l*, and handle *e*, or their equivalents, arranged and operating substantially as described.

2. In combination with the elements of the preceding clause, the igniting and holding spring *k*, applied and operating substantially as described.

3. The wrench *i*, applied to a match-ejecting instrument, in the manner and for the purpose described.

75,530.—GEORGE CROMPTON, Worcester, Mass.—*Loom.*—March 17, 1868.—Immediately before the operation of the pattern cylinder upon the heddles, the levers are clamped between the eveners, so as to insure the proper alignment of the levers, and to cause the slots not only to be brought into line but into such relation to the elevator or depresser lever, that their upper and lower surfaces are carried out of line with the edges of the said levers. Each set of shuttle boxes is mounted on a vertical rod and supported on a spring which rests upon the top of the stirrup. The stirrup is operated by the tappets by means of the tappet lever which is fulcrumed on the frame and connected to the stirrup.

Claim.—1. In combination with angular lifter and depresser levers, working upon fulcra the plane of the cloth-making line, horizontal rigid evener bars fixed to the slide rods and operating to even the jacks, substantially as described.

2. In combination, horizontal rigid eveners, secured to slide rods, angular lifter and depresser levers, and the slotted jacks, substantially as described.

3. The slotted angular lifter and depresser levers, working on stationary fulcra, combined substantially as described with the slide rods.

4. Angular lifter and depresser levers, vibrating on stationary but adjustable fulcra, and fixed by sliding or yielding connections to the actuating rods, substantially as described.

5. In combination with the movable shuttle boxes and mechanism for supporting and for changing them, the stirrup *s*, arranged to operate substantially as described.

6. In combination with the tappet lever and stirrup, constructed as described, the link *b*, connecting the lever and stirrup, and arranged relatively thereto, substantially as described.

75,531.—WILLIAM GEORGE CROSSLEY, Cambridge, England.—*Velocipede for Land and Water.*—March 17, 1868.—The body is formed as a boat, and has side wheels and paddles, which are upon a double crank-shaft turned by treadles and hand levers.

Claim.—1. The velocipede, in which the body is made so as to serve as a boat or car, as the same is used upon land or water, and constructed substantially as herein described.

2. The combination of treadles B and levers *a*, *b*, *e*, &c., for operating the shaft, arranged substantially in the manner shown.

75,532.—B. W. DAVIS, Fort Madison, Iowa.—*Horse Rake.*—March 17, 1868.—The stirrups are adjustable on the handle frame and lap around the descending arms of the shaft frame.

Claim.—A band or stirrup, A, for connecting the shaft B to the handle C of any rotating horse-rake D, furnished with the slot or holes *a*, substantially as shown and described, and for the purposes set forth.

75,533.—L. L. DAVIS, Springfield, Mass.—*Spirit Level.*—March 17, 1868.—The frame has an upper and under straight edge, and a circular portion to which the ring is pivoted. The ring has at its periphery two studs at a distance of 90° from each other, and the studs impinge against the conical ends of stop screws in the case when the straight edges are vertical or horizontal.

Claim.—In combination with the screws *d d'*, having the conical points *e e'*, the studs *i i'*, placed in the ring D, which has a reciprocating rotary motion, all constructed and arranged substantially as herein described and set forth.

75,534.—L. L. DAVIS, Springfield, Mass.—*Adjustable Spirit Level.*—March 17, 1868.—The spirit glass is in a frame adjusted by temper screws.

Claim.—1. The adjustable bubble-glass case *h*, having the elastic adjusting ears *i i* and projection *o*, when constructed and arranged substantially as described and for the purposes herein set forth.

2. In an adjustable spirit level, the case *h*, having the elastic adjusting ears *i i* and the projection *o*, and operated or adjusted by means of the screws *f f*, in combination with the plate *a* and pin *n*, substantially as herein described and set forth.

75,535.—JONAS DIEHL, East Freedom, Pa.—*Tanning and Coloring Sheep Skins.*—March 17, 1868.—Composed of a strong solution of stable manure strained through a linen cloth, 8 galls.; alum, dissolved, 3 lbs.; salt, 1 qt.; chamber lye, 1 gall; solferino crystal, ¾ oz.; water, 3 galls. The above is sufficient to tan and color three sheep-skins.

Claim.—A tanning and coloring liquor, composed of the ingredients and mixed in the proportions about as specified, for tanning and coloring sheep skins, as set forth.

75,536.—OSCAR G. DITMARS, New York, N. Y.—*Medical Compound.*—March 17, 1868.—For treatment of coughs, and as a tonic. Composed of Jamaica rum, 1 gall.; loaf sugar, 1 lb.; balm of Gilead buds, ½ lb. The strength of the buds is extracted by slow distillation, the liquid is then filtered.

Claim.—The medicine herein described, called "The American Cough Balm."

75,537.—OSCAR G. DITMARS, New York, N. Y.—*Medical Compound.*—March 17, 1868.—For treatment of dyspepsia, &c. Composed of whisky, 1 gall.; wild cherry bark, ½ lb.; peach tree bark, ½ lb.; spikenard root, ½ lb.; sarsaparilla root, ½ lb. The medicine is distilled from the ingredients.

Claim.—The medicine herein described, called "The American Dyspepsia Cure."

75,538.—CYPRIEN MARIE TESSIÉ DU MOTAY, Metz, France, and EDOUARD KARCHER, Saarbruck, Prussia.—*Manufacture of Fluoride of Silicium.*—March 17, 1868.—An intimate mixture of silica, 11 equivalents; and fluoride of calcium, 18 equvalents, are dissolved in a closed crucible in presence of carbon. The carbon acts as a reducing agent of part of the oxygen contained in the silica and aids the direct union of the fluorine and silicium.

Claim.—The manufacture of fluoride of silicium, by reducing the oxygen of silica by means of carbon or carbonated compounds in presence of fluoride of calcium, substantially in the manner herein described.

75,539.—GEORGE C. FITCH, Randolph, N. Y.—*Churn.*—March 17, 1868.—The ends of the radial dasher arms give journal bearing to the curve-lipped buckets, which have free rotation as the dasher is turned.

Claim.—The arrangement of the buckets D D, provided with four elongated lips, as described and used upon the arms C C, in the box A, substantially as specified.

75,540.—THADDEUS FOWLER, Seymour, Conn., assignor to the UNITED STATES PIN COMPANY, New Haven, Conn.—*Machine for Preparing Pins.*—March 17, 1868; antedated March 7, 1868.—The spring cut-off has a series of points which pass in between the first and second pins in each row, and hold up all but the cut-off pins, which are allowed to fall into the sticking apparatus. The latter has a series of grooves, in front of which is a spring door that is swung down by the action of a rake that enters the grooves and forces the pins into the paper.

Claim.—1. The pointed cut-offs *s*, applied at the lower ends of the conductors, in combination with the stop bar *r*, substantially as and for the purposes set forth.

2. The grooved breast *c*, and spring door *i*, in combination with the rake *k*, substantially as and for the purposes set forth.

75,541.—E. A. GOODES, Philadelphia, Pa., assignor to himself, E. L. MILLER, and W. H. MORFORD, same place.—*Funnel and Grater.*—March 17, 1868.—The edge of the cylindrical nozzle is serrated to form an apple corer. The upper edge of the flare is corrugated to form a fancy cake cutter and a

pie crimper. The handle has a grater, and its ring has a serrated side which serves to remove green corn from the cob when passed through it.

Claim.—1. The corrugated rim *f*, around the top of the funnel, and the serrated edge *e* of the nozzle B, in combination with a funnel, substantially as and for the purposes described.

2. The handle C, with the perforations or grater *g*, and the wing *h*, with the serrated edge, in combination with a funnel, substantially as and for the purposes set forth.

75,542.—WILLIAM A. GRAHAM, Carlisle, Pa., assignor to himself and CHARLES CARR, Trenton, N. J.—*Brick Machine.*—March 17, 1868.—The mold and pressure wheels rotate together. After having contact with the pressure wheel the side of the brick is trimmed by a knife, and then passes on opposite to the presser block, which is upon the arm of a rock shaft. Pins on the side of the mold wheel impinge against a projection upon a curved arm of the rock shaft, and cause its movement. The presser block slides on the arm, bearing against a spiral spring surrounding the arm, so as to allow its movement with the revolving molds.

Claim.—1. The combination of the shafts N R, knife P, and rollers *n n*, with the wheels C C′, when constructed and operating as specified.

2. The rock shaft I with its upper and lower curved arms L M, presser O, and spring *m*, when used with the wheel C′, as set forth.

3. The combination of the solid-faced wheel C, brick-mold wheel C′, plungers *i i*, segment K, rock shaft, with its arms L M, shafts N R, knife P, cam F, and belt E, the various parts being constructed and operating substantially as and for the purposes set forth.

75,543.—ARTHUR HADWEN, Rochester, N. Y.—*Potato Digger.*—March 17, 1868.—The potatoes, after raising, are carried over the longitudinally barred screen, and then divested of the earth upon the rotating screen. The cams near the fore end regulate the inclination of the scraper at the fore end of the fixed screen.

Claim.—1. The arrangement of the rotary screen F, arm A′, pulley S, in combination with the belt T, substantially in the manner herein shown and described, and for the purposes set forth.

2. The arrangement of the scraper D, eccentric cam *y*, in combination with the shovel plow E, substantially in the manner and for the purposes herein shown and described.

3. The arrangement of the latch B in combination with the sides C, for the purposes herein shown and described.

75,544.—URI HASKIN, Jr., Pittsburg, Pa.—*Spiral Gearing.*—March 17, 1868.—The gear wheels have connecting spiral ribs and grooves.

Claim.—Spiral-toothed gearing, consisting of teeth which run around the periphery of the gear wheel, and meet in an angle on a line midway from either edge of the wheel, constructed and arranged substantially as hereinbefore described.

75,545.—FRANKLIN HASKINS, Ware, Mass.—*Shuttle Binder.*—March 17, 1868.—The shuttle binder is made in two parts, one of which is supported on the shuttle box, and in turn supports the other part, the face of which is curved and acts as a friction piece, it having a longitudinal motion in reference to the supporting part, and also a lateral motion in reference to the lathe. These adjustments are controlled by set screws. The longitudinal motion governs the place of applying the friction, and lateral motion regulates the amount of friction.

Claim.—The tapering supporting piece A, in combination with the friction piece B, screws *d* and *e*, and nuts *b* and *f*, the whole arranged and operating substantially as described.

75,546.—ISAAC W. HENDERSON, Leavenworth, Kansas.—*Pen Holder for Ruling Machines.*—March 17, 1868.—The pens are clamped to the arms and rule parallel lines. The jaws are adjustable to regulate the distance of the lines.

Claim.—1. A holder for pens, consisting of the two arms B and C, hinged together, substantially as and for the purpose described.

2. The set screw I, in combination with the above, substantially as and for the purpose specified.

3. The combination of the arms B and C, each adapted to receive a pen or pens, and set screws G L, substantially as and for the purpose described.

75,547.—PATRICK HICKEY, Philadelphia, Pa., assignor to himself and ROBERT PORTER, same place.—*Can for Putting up Alkalies.*—March 17, 1868.—The top of the side has a compound flange having a flaring and cylindrical portion, and the head has a flaring flange which lies fairly on that of the side. A collar is placed around the can, beneath the flanges, and the cylindrical portion of the side flange is closed down upon the head.

Claim.—Setting the heads into alkali, paint, or other similar cans, by means of the flanges 2, 3, 4, and a collar, D, encircling the body, so that said heads may be permanently and tightly set into the body whilst full, and sitting in an upright position, substantially as described, and for the purpose set forth.

75,548.—JAMES N. HICKS, Barre Center, N. Y.—*Horse Rake.*—March 17, 1868.—The ratchet is upon the rake shaft, and has two teeth, which engage the pawl when the same is not raised by the lever. The teeth act upon the pawl so as to stop the rake each time at a half rotation, and in a vertical position.

Claim.—1. The revolving wire-toothed rake head, formed of the bar A and the teeth B B, &c., in combination with the arms C C and the lever G, substantially as shown and described, and for the purpose set forth.

2. The ratchet K and the pawl L, in combination with the lever O, operating for the purpose and in the manner shown and described.

3. The lever G, in combination with the arms C C, operating for the purpose and in the manner above shown and described.

75,549.—JAMES INGRAM, New York, N. Y.—*Privy.*—March 17, 1868.—The sink is made in two cast-iron sections bolted together, and has a rounded bottom. The mouth of the over-flow trap pipe is protected by a grating on which slide clearing bars operated by a handle rising through the privy floor.

Claim.—A sliding clearer, combined with a stationary grating in a privy vault or sink, for the purposes and substantially as set forth.

75,550.—JOB JOHNSON, Brooklyn, N. Y.—*Oyster Tongs.*—March 17, 1868.—The serrated jaws are connected to toggle levers, and operated by two cords, so as to lower the jaws in an open position, and cause them to be drawn together in lifting.

Claim.—1. The pair of toggle bars *g h*, jointed to the ends of the tongs *d e*, substantially as specified, so that the tongs will be closed by drawing up the joint between the bars *g h*, or opened by drawing the joint between the bars *d e*, toward the said joint, between the bars *g h*.

2. In combination with the toggle bars *g h* and tongs *e d*, as aforesaid, the pole or bar *m n*, and the ropes or chains *k l*, substantially as and for the purposes specified.

75,551.—SEBASTIAN KELLER, Elizabethtown, Pa.—*Portable Fence.*—March 17, 1868.—The fence is inclined toward the stakes which pass the upper aperture, and are secured to the fence by traversing pins.

Claim.—The mode of supporting portable fencing as herein described.

75,552.—HENRY N. KING, Adrian, Mich.—*Adjustable Jaw for Vises.*—March 17, 1868.—The face of one jaw is socket-jointed so as to conform in inclination to the other jaw.

Claim.—The combination of the stationary jaw A, the movable jaw B, the plate C, the bolt D, the ball E, the collar F, the plate G, the face plate H, the adjustable stops I, and the projecting standard, when constructed, arranged, and operating substantially as and for the purposes herein set forth.

75,553.—JOHN KOCH, Brookline, Mass.—*Furniture Drawers and Fastenings.*—March 17, 1868.—The lower drawer has a usual lock, and at the rear end of its bottom is a roller, which, when the drawer is closed, depresses a vertical bar at the rear of the drawers. The bar has a series of hooks which engage all the drawers except the lower one.

Claim.—1. The combination of the inclined plane, or lever *k*, the spring *e*, and the bolt H, made with hooks arranged to catch upon the drawers, as specified, such combination being arranged in manner and so as to operate with the drawers, as explained, and being what I term the primary or bolting or fastening mechanism.

2. The combination of the bar I, the spring K, the notch L, the knob *o*, the ratchet *p*, and the pawl *q*, as arranged with a drawer and its case, substantially as set forth, such combination being what I term the auxiliary fastening mechanism.

3. The arrangement of the primary and auxiliary fastening mechanism with the series of drawers and their case, all as described, for the purposes set forth.

75,554.—H. LEMAISTRE, Brussels, Belgium.—*Belting.*—March 17, 1868.—The forward end of the lap is in each case covered by a lip on the body of the belt so as to leave no forwardly-inclined corner to become folded back.

Claim.—1. The manner herein shown and described of uniting pieces of leather for making belts, by tapering their ends and leaving a lip *a* on every other end, as described, and uniting them by the means hereinafter described.

2. Cutting the ends of leather straps, substantially in the manner described, so that they can easily be united for belting, as set forth.

75,555.—WILLIAM LILLEY, Washington, D. C.—*Propagation and Treatment of House Plants.*—March 17, 1868.—The saucer has a central, raised portion which supports the pot, and an annular outer trough containing water to moisten the air around the plant.

Claim.—Propagating and treating house plants in the manner and by the means substantially as and for the purposes herein set forth.

75,556.—JOSEPH LINESS, Chicago, Ill.—*Window Sash.*—March 17, 1868; antedated February 28, 1868.—The filling, or cross-bar work, of the sash consists of an outer and inner frame, secured together by screws inserted from the inside. The glass is held in by strips, its edges being packed with rubber to insure tightness and lessen jar.

Claim.—1. Construction of a sash with a filling of bars and mullions, with a removable outer section I F, and a removable inner section E D, so that one or both may be removed without disturbing the frame, substantially as specified.

2. The cross bar or plate H, when placed across the intersection of the bars and mullions on the inside, so as to be concealed when the sash is put together, substantially as shown.

3. The method of securing the removable bars and mullions in the frame, by means of the strips D, made with beveled or coped ends, to fit over the corresponding bevel or molding of the bars and mullions, substantially as specified.

75,557.—WILLIAM I. LUTHER, Rochester, N. Y.—*Bottle Faucet.*—March 17, 1868.—The faucet has a pointed valve at its lower end which closes the tube against the entrance of small pieces of cork while passing through the cork, and which springs out after insertion to allow flow of liquor.

Claim.—1. An automatic faucet for champagne bottles, &c., in which the passage at the end of the screw self-closes in entering the cork, and self-opens when passed through the cork, substantially as herein set forth.

2. The combination of the independent stop-cock *d* with the automatic point *f* and screw *b*, operating substantially as and for the purpose specified.

3. The special construction and arrangement of the parts, consisting of the case A, cock *d*, screw *b*, point *f*, shank *g*, cross head *h*, and spring *k*, operating as described, and for the purpose set forth.

75,558.—JAMES B. MACDUFF, New York, N. Y.—*Forming Raised Ornaments on Wood.*—March 17, 1868.—The outlines of the letter or ornament are cut by a knife of suitable form which is forced into the face of the wood. The letter is then depressed by the follower, and the salient surface sawn off. The letter is then raised by moisture applied to the wood.

Claim.—Raising ornaments upon wood by means of the knife A and follower B, operated as described, whereby the knife is forced into the wood and removed, and the follower B applied to compress the ornaments, which, after the blank is sawed off, are raised to the desired height by steaming, as herein shown and described.

75,559.—WILLIAM C. MCBRIDE, Somerville, N. J.—*Machine for Dressing Flax.*—March 17, 1868.—Improvement on his patent, January 25, 1859.—The upper end of the flax is inserted between the rope and the periphery of the wheel. The portion of flax above the rope is folded over upon the top of the wheel by an inclined guide plate.

The flax is first carried to the beaters of the first scutching chamber. At the center of the scutching chamber the flax is presented to the combs which lighten up the fibers. At the end of the first scutching chamber the unscutched top is combed out, and the whole passed through a slot in an upright plate. The lower end of the flax is then grasped by another rope, and the top dressed out by the upwardly operating scutchers in the second chamber.

Claim.—1. The toothed wheels I, in combination with the revolving disk E′ and feeding rope F′, all constructed, arranged, and operating as herein shown and described.

2. The arrangement of the oblique finger above the carrying disk E′ and cord F′, for the purpose of depositing the upper end of the fiber upon the surface of the disk, substantially as set forth.

3. The beaters G G, constructed as described, having two opposite straight sides and two curved sides, convex in the center and concave at the edges, all arranged and operating as described, for the purpose specified.

4. Providing the straight sides of the beaters G G with oblique rounded teeth *e e*, as herein described, for the purpose specified.

5. The revolving comb wheels *f* and *f′*, arranged so as to straighten the fibers after they are discharged from the scutching chamber, substantially as and for the purpose herein shown and described.

6. The toothed disk J, when arranged as described, for the purpose of taking the dressed flax from the rope F, and depositing the same upon the table L, as set forth.

75,560.—ALEXANDER MCKENZIE, Henry, Ill.—*Insect Destroyer.*—March 17, 1868.—Fence nails are immersed in a solution composed of acetic acid, 2 oz.; oil of wormwood, 1 oz.; oil of fireweed, ½ oz. The nails are then driven into the tree both below and above ground.

Claim.—The solution, composed substantially as herein described, and applied in combination with iron, substantially as and for the purposes specified.

75,561.—JOHN MCKINSEY, Millville, N. J.—*Vermifuge.*—March 17, 1868.—Composed of worm seed, 1 oz.; "catgut," (a medicinal plant,) 1 oz.; and aloes, ½ oz.; white sugar, 1 lb.; essence of sassafras, 5 drops.

Claim.—A vermifuge or worm medicine, composed of the ingredients (and in about the proportions) named, or substantially as described.

75,562.—BEVEL S. MORGAN, Delhi, Iowa.—*Clothes Pounder.*—March 17, 1868.—The levers and jaws of the clothes tongs may be closed to form a cylindrically-ended pounder.

Claim.—The construction of the two pieces of wood D D and E E, the hollowed surface of each of the two sections of the head C C, forming the cavity C when closed, as and for the purpose specified.

75,563.—JAMES MORTON, Philadelphia, Pa.—*Cutting Saw Teeth.*—March 17, 1868.—The disks

have counterpart, angular projections and depressions at the sides of their peripheries which form a zigzag-edged cutter.

Claim.—A tooth-cutting machine, consisting of the two-toothed revolving circular dies D and E, geared together and moving in opposite directions, substantially as herein shown and described.

75,564.—Hezekiah Munroe, Fall River, Mass.—*Caster for Furniture.*—March 17, 1868.—The lower part of the spindle has side bearing against antifriction rollers.

Claim.—The construction and arrangement in the case E of the friction rollers *c c* upon the vertical screws *a*, and adapted to bear and revolve against the shank of the spindle B, below the collar *d* and above the bottom plate *b*, without contact with the top or bottom of the case E, as herein described, for the purpose specified.

75,565.—George Neilson, Boston, Mass.—*Lamp Burner.*—March 17, 1868.—The lower end of the air supply tube is turned outward to form a chimney rest which, in combination with the springs, supports the chimney.

Claim.—1. The combination, with the wick tube, of a deflector, and an air supply cylinder for supporting the same, when the said cylinder constitutes at the same time the rest or seat for the lamp chimney, as herein described.

2. The combination, with the wick tube and elevated deflector, of a cylinder, forming at once the rest for the deflector and the lamp chimney, and supported upon a perforated air distributing plate or diaphragm mounted upon a wick tube, substantially as herein described.

3. The combination, with the wick tube and air distributing plate or diaphragm mounted thereon, of the deflector and combined air supply cylinder and chimney rest, when the latter is detachable and removable from the said diaphragm and wick tube, substantially as herein shown and described.

4. The combination, with the air supply cylinder, when constituting at the same time the chimney seat or rest, of springs for supporting the chimney in position, substantially as herein specified.

5. The combination, with the wick tube, of the air distributer or diaphragm and the receptacle or cup formed in that part of the said diaphragm immediately surrounding the wick tube, as and for the purposes herein shown and set forth.

75,566.—George Neilson, Boston, Mass.—*Lamp Burner.*—March 17, 1868.—The periphery of the lower part of the burner has a beveled seat upon which the globe frame rests, by a circular flange which is forced thereon. The seat may be either detachable or made in one piece with the burner.

Claim.—The combination, with a lamp-burner in which the base or chimney rest is combined with an elevated deflector, as herein specified, of a globe frame, adjustable upon or permanently united with the said chimney rest, substantially in the manner and for the purposes shown and set forth.

75,567.—William Nelson, Cacherville, Cal., assignor to himself, C. E. Moore, and A. J. Praster.—*Gang Plow.*—March 17, 1868.—The beams are adjustably pivoted on the axle and may be thrown up so as to raise the plows clear of the ground or regulate their depth.

Claim.—1. The attaching of the plow beam N N to the axle A by means of the boxes L L, constructed substantially as shown, in combination with the frame C, to which the draught-pole D is attached, said frame being connected to the axle A, as shown, and all arranged to operate in the manner substantially as and for the purpose set forth.

2. The notched segment bar G, in combination with the lever H and arm J, connected by the chain I, and attached respectively to the draught-pole D and the axle A, and all arranged to operate in the manner substantially as and for the purpose specified.

3. The yokes or frames O, provided with the screws *f*, and attached to the lower plates *b* of the boxes L L, with the plow beams N passing through them, substantially as and for the purpose set forth.

75,568.—Hiram B. Nickerson, Boston, Mass., assignor to himself and Stillman B. Allen, same place.—*File.*—March 17, 1868.—The obliquity of the teeth is intended to increase their efficiency.

Claim.—A rasp having the teeth of each range of teeth disposed obliquely to the edges of the rasp, and so that the cutting face of each tooth shall have its obliquity arranged in a direction opposite to or about at right angles with that of each of the teeth of the next adjacent range, the whole being substantially as exhibited in Fig. 1, and as hereinbefore described.

75,569.—Hiram Norton, Delton, Wis.—*Door Lock.*—March 17, 1868.—The tumblers have a catch at each end, and one end is depressed by a spring; they are raised by a key which is inserted transversely, and has its upper surface curved, so as to clear the tumbler from one notch without engaging the other.

Claim.—The employment of two or more tumblers *a*, having their centre of movement at or near their middle points, and having their ends catching into notches *n n'''*, on the bolt B, all substantially as and for the purpose shown and described.

75,570.—Elias Ogden, Lynchburg, Va.—*Harvester Rake.*—March 17, 1868.—The rake extends at right angles from a bar which is supported on the wrist pins of two cranks which give it a backward movement in a lower place than that of its forward movement, thereby sweeping the platform during its back stroke.

Claim.—The combination of the two crank wheels B, two cranks F H, staple or slotted arm G, and L-shaped rake E with each other, substantially as herein shown and described, and for the purpose set forth.

75,571.—S. J. Patterson, Bridgeport, Conn.—*Apparatus for Leaching Bark and Other Materials.*—March 17, 1868.—The cylindrical case has manholes for the introduction of bark and water, and has a perforated diaphragm which acts as a strainer. The cylinder turns on a perforated shaft through which steam may be introduced. The cylinder is supported at midlength on rollers.

Claim.—1. A horizontal cylindrical revolving leach A, constructed with a removable screen or strainer C, and with openings a^1 and a^2, substantially as herein shown, and for the purpose set forth.

2. The combination of the perforated hollow shaft D with the cylinder A, substantially as herein shown and described, and for the purposes set forth.

3. The combination of the supporting friction rollers G with the revolving cylindrical leach A, substantially as herein shown and described, and for the purpose set forth.

75,572.—Philetus Phillips, Matawan, N. J.—*Musical Notation.*—March 17, 1868.—The seven primary notes are represented by seven lines which are made so different as to be easily distinguishable from each other. Five of the lines and four intervening spaces form a staff, for which purpose the alternate lines are taken. The lines are numbered from the bottom. Leger lines may be added. If the lowest line of the staff be number 3, the second is 5, the third 7, the fourth 2, and fifth 4, which is the natural scale. In the scale of two sharps the lowest line is 2, and the others are in order, 4, 6, 1, 3. With one flat the lines are 7, 2, 4, 6, 1.

Claim.—The combination of the ordinary staff on which music is printed with bars (which separate the measures) intersecting small portions of the staff formed on the principle of the patent of May 27, 1856, as above described.

75,573.—John W. Pierce, Millbury, Mass.—*Mowing Machine.*—March 17, 1868.—The lower of the two levers is attached by one end to the shoe and operates by depression of its free end to raise the outer end of the finger bar. This lever is depressed by a hand lever which is held in position by a ratchet.

Claim.—The pivoted bent lever L, finger bar K, rod M, lever N, and irons I, in combination with the lever G, all operating as described, whereby the inner end of the finger bar is raised by the lever G, and its

outer end by the lever L, the whole constructed and arranged in the manner and for the purpose set forth.

75,574.—JOHN W. POLLOCK, Cross Bridges, Tenn.—*Wagon Hub, Axle, and Box.*—March 17, 1868.—The spindle is firmly secured within the hub and turns in a box attached to the under side of the axle.

Claim.—1. The combination of the hub A and the box D with each other and with the axle C, substantially as shown and described, and for the purposes set forth.

2. The combination of the box D with the axle C, substantially as shown and described, and for the purposes set forth.

75,575.—O. M. POND, Independence, Iowa.—*Combined Seeding Machine and Cultivator.*—March 17, 1868.—The width of the longitudinal slot in the hopper bottom is regulated by the adjustable part of the bottom, which is moved by screws extending to the outside of the hopper. A stop-off slide is moved by a lever extending outside the hopper. The seed is fed to the discharge slot by a fluted roller which has rotation by a belt.

Claim.—1. The seed box D, provided with an adjustable bottom E F, and slide G, in combination with the fluted feed roller I, for the purpose and in the manner as set forth.

2. The cultivators O, adjusting bar P, cheek bar C′, as constructed and arranged to operate in relation to the seed box D, for the purpose substantially as described.

75,576.—MASON PRENTISS, Cambridge, N. Y.—*Vise.*—March 17, 1868.—The inner jaw of the vise is arranged to turn so as to accommodate itself to tapering objects.

Claim.—The improved vise herein described, its several parts being constructed and arranged substantially as set forth.

75,577.—DANIEL C. RIPLEY, Pittsburg, Pa.—*Manufacture of Glass.*—March 17, 1868.—The top and handle are cast in one piece, and under pressure. The body is blown separately, and the parts cemented together.

Claim.—A glass or porcelain pressed top, for sirup or cream jugs or pitchers, substantially as described.

75,578.—ELEAZER B. ROBERTS, Rochester, N. Y.—*Cultivator.*—March 17, 1868.—The rotary hoes are driven by gear connection with the axle, and their axes are adjustable in inclination.

Claim.—1. The application, to cultivators, of rotary weed cutters hung on a vertical shaft, and operating substantially in the manner herein shown and described, and for the purposes set forth.

2. The application, to cultivators, of rotating hoes hung on a vertical shaft, and operating substantially in the manner herein shown and described, and for the purposes set forth.

3. The arrangement of the arm M, in combination with the rotary hoe D, substantially in the manner and for the purposes herein shown and described.

75,579.—J. G. ROUX, Crystal Springs, Miss.—*Extension Wardrobe.*—March 17, 1868.—The wardrobe has two sections which may be slid apart by turning a crank shaft, connecting by gear wheels and racks with the said sections. The separation of the sides exposes the uprights upon which the clothes are hung.

Claim.—1. An extension wardrobe, constructed substantially as shown and described.

2. The drums or boxes A A′, sliding horizontally, substantially as and for the purpose, shown and described.

3. The movable uprights G G′ G″, substantially as and for the purposes shown and described.

4. The frames B B′, supported by a post D, substantially as and for the purposes shown and described.

5. The hollow post D, substantially as and for the purpose shown and described.

6. The vertical shaft *a*, with its pinions *s s c*, in combination with a wardrobe, substantially as and for the purposes shown and described.

7. The channels H, in combination with the racks *r r*, substantially as and for the purposes shown and described.

8. The uprights G G′ G″, in combination with the notched feet *u u′ u″*, substantially as described, for the purpose specified.

9. Connecting two parts A A′, of a wardrobe with racks *r r*, substantially as and for the purposes shown and described.

75,580.—JOSEPH G. RUST, Xenia, Ohio.—*Lasting Boots and Shoes.*—March 17, 1868.—The two pairs of jaws engage the sides of the leather, being drawn thereupon and inward simultaneously, by the action of the cam lever.

Claim.—The piston D, and the lever H and click L, in connection therewith, in combination with the piston D, all arranged substantially in the manner as and for the purposes herein set forth.

75,581.—L. SAVAGE, Ashtabula, Ohio.—*Railroad Freight Car.*—March 17, 1868.—The car bodies are made to roll off the trucks upon spherical rollers, which follow transverse channels in the body, truck, and receiving stand.

Claim.—1. The construction and arrangement of freight cars in two parts, the upper part or freight receptacle B being made separate and removable from the lower or running part, A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the metallic grooves or channels D and friction wheels E, with either or both the parts A and B of the car, and with the trestles or platform C, for the purpose of diminishing the friction in moving the said part B, substantially as herein shown and described.

75,582.—A. D. SCHNACKENBERG, Brooklyn, N. Y.—*Vessel for Mineral Water.*—March 17, 1868.—The liquid has ingress and egress through a side tube. The stopper is a downwardly-opening spring valve, depressed by a thumb knob.

Claim.—A cap C for mineral water bottles or jars, when provided with a valve, *d*, and upright or nearly upright tube F, substantially as herein shown and described, so that the use of a draught tube is dispensed with, as set forth.

75,583.—M. SEAMAN, Middleport, N. Y.—*Railroad Rail Fastening.*—March 17, 1868.—An intermediate section of rail is fitted between the ends of the rails; the said section having longitudinal side extensions which are let into and bolted to the rails.

Claim.—The construction and arrangement of the intermediate section B, provided with the head *b′* resting upon the flanges *d d* of the rails A A, its sides or ends *a a* projecting from the middle in opposite directions, one over the outer side of one of the rails A, and the other over the inner side of the opposite rail A, the point of connection of the ends of the rails A and intermediate rail B fitting into each other at an oblique or diagonal angle, when all are constructed and arranged as herein set forth, for the purpose specified.

75,584.—MATHEW SENIOR, Frankford, Pa.—*Lubricating Device.*—March 17, 1868.—The cap has a vertical, central oil hole, and the sleeve has two oil holes upon the opposite sides of the journal, and on the opposite sides of the oil hole, which communicates with the spline shaft.

Claim.—Lubricating the feather D upon the shaft C from each side of said feather, through the holes *e e* in the tubular journal B, and the hole *f* in the hollow cap *g*, as herein described for the purpose specified.

75,585.—S. B. SEXTON, Baltimore, Md.—*Base Burning Stove.*—March 17, 1868.—The fire pot is surrounded by an air-heating chamber, which may communicate with the registers of different apartments. The sides of the fuel reservoir are exposed to the outer air.

Claim.—1. The flaring or funnel-shaped chamber H, constituting the magazine and intermediate outer

wall of the stove, in combination with the contracted passage J, substantially as and for the purpose described.

2. The arrangement of the air-heating chamber E, applied around the fire pot D, between the base and top of said pot, with a coal reservoir, which constitutes the single exposed outer intermediate wall of the stove, and is united to the fire pot by an inclined illumination ring G, substantially as and for the purpose described.

3. An upwardly flaring coal reservoir, exposed as described, provided with a supporting ring G, having door or window openings through it, and arranged over a flaring fire chamber or pot, substantially as described.

75,586.—Henry H. Seys, Oil City, Pa.—*Surgical Suppository.*—March 17, 1868.—The suppository acts as a valve within the anus and gradually melts away, communicating to the part the medicaments of which it is partially composed.

Claim.—1. A suppository, which, while it acts in the rectum as a pessary and valve upon the blood-vessels, shall impart the medicinal properties of which it is composed to the diseased vessels, substantially as described.

2. A suppository, composed of linseed meal or pulverized oil-cake, or the two combined in proper proportions, or other similar oleaginous or mucilaginous vegetable material alone, or mixed with suitable anodyne and astringent medicines, formed into a conoidal-shaped mass, so that when introduced into the rectum it shall produce the effects as herein shown and described.

75,587.—Samuel Shea and E. W. Gillman, Long Island City, N. Y.—*Lamp.*—March 17, 1868.—The burner has an open sleeve sprung upon it, and the opening in the sleeve may be brought in conjunction with an opening in the burner, and allow the removal of the wick-feed shaft.

Claim.—1. Providing a lamp burner with a removable ratchet and arbor, substantially as herein shown and described.

2. The sleeve E, when arranged around a burner A, in which a hole *a* is provided, to allow the insertion and removal of the ratchet and arbor, substantially as herein shown and described.

75,588.—Calvin W. Sherwood, Chicago, Ill.—*Portable Book Clamp.*—March 17, 1868.—The cross-bar of the windlass is engaged by sliding stops to prevent the unwinding of the cord which serves to clamp the books between the bars.

Claim.—1. A book grapple, consisting of the bars A and C, with the cord E, and windlass F, with the stops *a*, all constructed and arranged to operate substantially as described.

2. In combination with a grapple for holding the books, the box B, constructed and arranged for use, substantially as herein described.

75,589.—A. W. Shidler, South Bend, Ind.—*Cider Press.*—March 17, 1868.—The presser-head moves horizontally, and slides upon perforated tubes through which a portion of the juice escapes.

Claim.—The tubes G and head C, in combination with the perforated or open sides A, bottom B, and screw D, arranged and operating in the manner and for the purpose substantially as set forth.

75,590.—James H. Sperbeck, Warsaw, N. Y.—*Horse Collar.*—March 17, 1868.—The traces are connected to ears which extend backward from the body of the collar.

Claim.—The combination of the elongated ears E D with the hameless horse collar, as described, when constructed substantially as set forth.

75,591.—Morris F. Spore, Preble, N. Y.—*Mechanical Movement.*—March 17, 1868.—The train of clock gear is run by a weight, and is regulated by a pendulum escapement. A rotary or reciprocating movement may be communicated.

Claim.—1. The arrangement of the escapement pallets upon a pivoted arm or lever, and employing the same thus arranged in combination with a clock-mechanism, as a means for operating a pump, churn, or other similar machine, substantially as herein described.

2. The arrangement of the shaft which carries the pinion and spur-wheels which transmit the power of the clock-movement to the crank-shaft, upon the frame A, and upon a hand lever, in such a manner that said wheels can be thrown out of and in gear with the clock movement, substantially as described.

3. The arrangement of the train of gearing herein described, hand-adjusting levers, pendulum, weight, and reciprocating slide, all substantially as and for the purpose set forth.

75,592.—Edmund Stair, Harrisonville, Mo.—*Washing Machine.*—March 17, 1868.—The clothes are placed in a swing-basket whose transverse ribs enter slots in the corrugated semi-cylindrical wash-board, forming the bottom of the suds box.

Claim.—A washing machine, consisting of the tub A, corrugated washboard C, grooved transversely at F, pivoted end pieces D, connecting rod *d'*, notched connecting bars E, and ribs F, all constructed, arranged, and operating as set forth.

75,593.—Robert J. Steele, Jr., Rockingham, N. C.—*Harness Trace.*—March 17, 1868.—The traces are formed of thin strips of iron.

Claim.—A harness trace A B, made of flat bars of metal, coated or covered with any suitable material, the extremities of the trace being provided with links *a f*, and the parts A B being coupled together by means of the hook *c* and eye *d*, substantially as described, for the purpose specified.

75,594.—David L. Stiles, Rochester, N. Y., assignor to Augusta P. Stiles, same place.—*Fire Pot for Stoves.*—March 17, 1868.—The fire pot is made of staves, and has a series of upright passages in the wall; the said passages are open at the lower ends, and communicate with the interior.

Claim.—1. The combination, with a fire pot formed of a series of staves, of passages formed in said staves, which will allow air to pass directly through the wall of the fire pot from the base, as herein set forth.

2. In combination with the fire pot, made of a series of staves, and having air passages passing directly through the walls of the fire pot from the base, a series of perforations, slots, or equivalent passages, opening through the whole interior of the fire pot to admit air to burn the gases, as herein set forth.

75,595.—Stephen D. Stone, Warwick, R. I.—*Cattle-Stall.*—March 17, 1868.—A cross bar has vertical adjustment above the cow's back and somewhat before the mid-length of the animal; so that when she raises her back in the act of urinating, it will come in contact with the bar and cause her to step backward, and deposit the evacuations upon the lower platform.

Claim.—Placing the bar A, or its equivalent, in the position with regard to the animal in the stall, substantially as herein described, and for the purpose set forth.

75,596.—John Taggart, Roxbury, Mass., assignor by mesne assignments to Sarah P. Taggart.—*Brick Machine.*—March 17, 1868.—The pug-mill has three mixing shafts, and at the ends of the receptacle are plungers which force the clay into the molds of the endless flexible frame traveling beneath. The plungers are operated by a working beam actuated by a cam. The bricks are carried forward and compressed against a gradually narrowing surface, and are discharged by a roller.

Claim.—1. The combination of the endless former H, constructed substantially in manner as described, the top and bottom covering plates *y* K and one or two plates or reducers I I, arranged in manner and so as to operate with it, as explained.

2. A clay-reservoir A, as made with the plunger and semi-crescential clay-receiving recesses or chambers V, arranged at its ends, and provided with discharging openings leading therefrom, as explained.

3. The combination of the two plungers F F and their operative mechanism with the clay-reservoir

A and its mechanism for stirring and mixing the clay.

4. The combination, as well as the arrangement, of the endless former H, constructed substantially as described, the platform K, one or more reducers I, the reservoir A, and mechanism for mixing the clay therein, and mechanism for expelling it therefrom into the molds and pressing mechanism, substantially as described.

5. The combination of the discharging roller U and its operative mechanism with the platform K, the endless former, and the reducer or reducers I I, applied thereto, substantially in manner and so as to operate as described.

75,597.—HENRY TARPLEY, Wesley, Ky.—*Horse-Power Sawing Machine.*—March 17, 1868.—The ground wheels are connected with the main shaft, and form fly-wheels when the saw is operated.

Claim.—The combination of the endless platform horse-power C with the cart A and the reciprocating saw H, all arranged in such a manner that the horse-power may be rendered available for propelling the machine along from place to place, and also for driving the saw, as set forth.

75,598.—WALDEMAR THILMANY, Cleveland, Ohio.—*Steam Engine Balance Slide-Valve.*—March 17, 1868.—The head steam passes through the central chamber in the slide-valve, and, when exhausted from the cylinder, passes into the steam chest. The slide-valve is steam balanced. A chamber outside the steam chest contains two pistons sliding with a steam-tight surface in a cylindrical case, and an open space between the two pistons communicates with the head steam in the chamber of the slide-valve, so as to make an equal pressure on both sides of the plate. The space within the outer chamber and outside the said cylindrical case, communicates with the portion of the valve chest through which the steam is exhausted.

Claim.—1. The arrangement of the valve J, plate K, lugs *e*, and passages *d d'*, with reference to the cylinder A, substantially as specified.

2. The pistons A', as constructed and arranged in relation to the plate K, substantially as set forth.

75,599.—SAMUEL THOMPSON, Ballston Spa, N. Y.—*Hanging Sieves and Screens.*—March 17, 1868.—The screen is suspended on chains or divergent, pivoted rods, and is reciprocated longitudinally by a pitman. The compound motion required is produced thereby.

Claim.—Suspending or supporting a frame *c*, or tray, or box, or other vessel by two or more pairs of diverging rods or chains, substantially as shown and described, or the equivalent thereof, for the purpose of producing in the said frame, tray, box, or other vessel the peculiar compound agitating motion, as above set forth.

75,600.—FREDERICK W. TILTON, Moline, Ill.—*Seed Planting Machine.*—March 17, 1868; antedated March 7, 1868.—The axle is tubular and contains a core which has longitudinal adjustment therein. Surrounding the axle and engaged thereto is a collar with equal longitudinal projections and recesses; sliding on the axle, but connected to the inner core, is a similar collar. The projections of one collar enter the recesses of the other, and the amount of interlocking regulates the size of the recesses which form the seed cavities.

Claim.—The adjusting screw-bolt C, having a recess or groove e^3, as represented, in combination with the section or crown D, fixed on the outer shaft A, and section or crown E, having an inward connection to the interior shaft A', all arranged substantially in the manner and for the purposes herein set forth.

75,601.—FREDERICK W. TILTON, Bristol Station, Ill.—*Seed Sower.*—March 17, 1868; antedated March 7, 1868.—The wheels are carried upon the sleeve which covers the central shaft from wheel to wheel, and has adjustable seed cavities upon it.

Claim.—In a seed-planting machine, so arranging the sleeve E as to perform the double function of carrying the seeding devices, and of supporting the weight of the machine, substantially as above set forth.

75,602.—G. G. TOWNSEND, Rochester, N. Y.—*Shoe-Knife Guard.*—March 17, 1868.—The guard is secured to a common shoe-knife, and follows the groove between the sole and upper, to prevent the nicking of the latter in trimming the former.

Claim.—The skeleton guard G for shoemakers' trimming knives, consisting of the lip *g*, shank *s*, frame *f*, and encircling bar *b*, in combination with the binding screw *s'*, substantially in the manner and for the purposes set forth.

75,603.—GEORGE W. TRIMBLE, Bloomsburg, Pa., assignor to himself, E. HUGHES, and WESLEY BUCKEL, same place.—*Miner Lamp.*—March 17, 1868.—The feeder plate has two angular corners upon its upper end, which engage the wick when the plate is raised, and release it when the plate is moved downward, so that the reciprocation of the plate will feed the wick.

Claim.—Providing the tube or spout of a mining and furnace lamp with a feed-device for the wick, substantially as described.

75,604.—DAVID TURPIE, Sandwich, Mass., assignor to BOSTON AND SANDWICH GLASS COMPANY.—*Glass Mold.*—March 17, 1868.—The hollow-slotted cylinder is added to the usual parts of the mold, and pieces are attached to the outer shell and extend into the slot of the cylinder and nearly through it. A part only of the handle is formed by the outer shell, and all the vertical outside of the glass is formed by the inner surface of the cylinder.

Claim.—A glass mold, constructed and arranged to operate substantially as and for the purpose described.

75,605.—CARL VIGNAL, New York, N. Y.—*Vegetable Mashing and Cutting Machine.*—March 17, 1868.—The object is placed upon the rest, and sliced or grated according as the cutter or grater is upon the shaft. The grated matter runs out of the larger end of the truncate-conical grater and into the concave recess of the shield, by which it is gathered and discharged in a heap.

Claim.—The combination of the removable truncated cone D, provided with the graters or cutters *c*, the revolving, curved gathering shield E, rest F, and hinged bearings *b*, said cones and shield revolving upon the shaft B independently of each other, all constructed and arranged to operate as herein described for the purpose specified.

75,606.—LORENZO WALLACE, Leavenworth, Kansas.—*Harvester.*—March 17, 1868.—The spokes and intermediate pins act on the inclined ends of the bell-crank levers to operate the cutter bar. These levers are moved into proximity with the wheel by a hand lever.

Claim.—1. The spokes *a b*, in combination with the bent levers I I', adjustable hand lever H, connecting rods J J', vibrating rod K, connecting rod L, and cutter-bar M, as herein described for the purpose specified.

2. The attaching of the bent levers I I' to the hand lever H, arranged substantially as shown, and provided with a spring catch *g*, for the purpose of rendering the cutter bar inoperative whenever desired.

75,607.—WILBER S. WANDELL, Battle Creek, Mich.—*Gate.*—March 17, 1868.—The weighted top and bottom bars are pivoted to the tilting bar which turns in a vertical plane upon a central arbor. The fore end of the gate is engaged by two pins which are attached to a spring bar secured to the bottom of the post and extending up its side.

Claim.—The pins *m m'* upon the spring *h*, in combination with the weighted gate A and pin *n*, whereby, as the pin *m'* is withdrawn by the spring *h*, the gate is permitted to swing into a horizontal position upon the pins *m n*, for the passage beneath it of hogs or sheep, as herein shown and described.

75,608.—GARDNER WARREN, Roxbury, Mass.—*Extracting Tannin from Bark.*—March 17, 1868; antedated March 6, 1868.—The bark is steamed,

and while hot is immersed in water, after which it is passed between pressure rollers. This is repeated as often as required, and the decoction concentrated by evaporation.

Claim.—1. The method of treating bark, for the purpose of obtaining its tanning or other qualities, by the three operations of steaming, soaking, and squeezing the same, substantially as described.

2. The method of preparing several qualities of extracts from the same bark, by preserving the products of the several successive pressings separate from each other, substantially as described.

75,609.—JOSEPH W. WATTLES, Canton, Mass.—*Clearer for Ring Spinning Machines.*—March 17, 1868.—A toothed disk is fixed on a vertical shaft, and arranged close to two rings. The shaft extends through the rail and beyond its lower surface a distance equal to the altitude of the ring above the traveler, when the latter is drawn upward by the yarn. In the descent of the ring rail, the lower end of the disk shaft is brought down upon the spindle rail, and any filaments upon the rings will be caught in the teeth and ejected therefrom by centrifugal force.

Claim.—1. The combination of the rotary toothed ring cleaner with a ring and traveler and the ring rail.

2. The rotary ring cleaner G, as composed of the toothed wheel, or series of teeth and the shank or supporting rod thereof, when the same are for use with a ring rail and its ring and traveler, as set forth.

3. The arrangement of a ring cleaner, substantially as described, between two next adjacent rings, so as to serve as a means of cleaning both of the travelers thereof.

4. The application of a ring cleaner to the ring rail, so as to be movable vertically up to or near to the path of the ring during a descent of the ring rail, and be depressed below or away from such path during ascent of the rail, as set forth.

5. The application to the ring rail of a traveler cleaner or toothed wheel or series of teeth, so as to be capable of being freely revolved, as well as of being raised and depressed relatively to the ring rail, and a ring and traveler thereof, in manner and for the purpose specified.

75,610.—JOSEPH W. WATTLES, Canton, Mass.—*Ring and Traveler Spinning Machine.*—March 17, 1868.—Improvement on the patent of John Birkenhead, May 24, 1864. The ring and its receiver are held together, and in the rail, by a single screw.

Claim.—The ring receiver constructed substantially as described, that is to say, not only with a shank to fit the rail socket, and with a bore eccentric with the cylindrical outer surface of such shank, as described, but also so as to be capable of being sprung or contracted upon the shank of the ring by the screw inserted in the rail, and employed to confine the receiver in the socket of the rail, as set forth.

75,611.—JOSEPH DAVIS WESTGATE, San Francisco, Cal.—*Sad Iron Holder.*—March 17, 1868.—The shield is attached to the holder, and operates to prevent the radiation of heat from the iron to the hand.

Claim.—A sad iron holder, constructed with pockets for the thumb and fingers, and with an interlining of gypsum or other similar non-conducting substance, in combination with a shield B, having a similar interlining or covering, substantially as described.

75,612.—JOHN R. WHARRY, Moundsville, W. Va.—*Window Netting.*—March 17, 1868.—The slip hinges of the netting frames allow their removal, and the staples furnish means for their suspension upon the hooks, near the lower end of the blinds.

Claim.—1. The slotted netting frames C and slip hinges *e*, in combination with any window casing A, substantially as shown and described, and for the purposes set forth.

2. The hooks *d* and blinds B, in combination with the netting frames C and staples e^2, substantially as shown and described, and for the purposes set forth.

75,613.—SILVANUS C. WILDER, Sardinia, Ohio.—*Seed Planter.*—March 17, 1868.—The corn is dropped from the hopper by a cup at the top of a curved bar extending through the hopper bottom. The cup is raised up through the corn and deposits its load into the seed spout at the side of the hopper. The dropper is actuated by a lever within reach of a person upon the seat or walking behind.

Claim.—1. The combination of the curved bar or stem S, lever T, spring C′, connecting bars U, rock shaft and arms V v^1 v^2, double-jointed connecting rod W, rock shaft and arms X x^1 x^2, and treadle bar Y, with each other, and with the seed boxes O and slotted beam A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the lever Z, sliding bar A′, and slide post or rest B′, with each other and with the treadle bar Y, substantially as herein shown and described, and for the purpose set forth.

75,614.—L. D. WOODMANSEE, Dayton, Ohio.—*Driving Line.*—March 17, 1868.—The check lines are carried backward within reach of the driver, and have loops, by which they may be operated to draw the horses' heads inward when fractious.

Claim.—1. The check lines *b b*, extending rearward, and forming loops *d d* for the hands of the driver, in combination with the lines *a a*, in the manner and for the purpose described.

2. The lines *a* and *b*, constructed and connected in the manner described, in combination with the bit A, for the purpose described.

75,615.—HORACE H. W. WRIGHT, South Boston, Mass., assignor to himself, JAMES MORSE, RICHARD S. JENNESS, and ALBERT PICKERNELL, same place.—*Hammer.*—March 17, 1868.—The screw-driver may project from the end of the handle, or may be reversed, so as to be received within the handle and be flush with the end of the same.

Claim.—A reversible screw-driver, with shoulders, secured by a spring, in a socket, in the end of a hammer handle, constructed and arranged substantially as described.

75,616.—R. B. WRIGHT, Vermillion, Ill.—*Seed Planter.*—March 17, 1868.—Improvement on his patent, February 26, 1867.—The plow standards are attached to two cross shafts which have connected arms. The shafts are rolled around on their gudgeons to raise the plows from the ground. The frame has two seats for driver and dropper, respectively. The dropping mechanism is actuated by a lever.

Claim.—1. The connecting of the seed slides *h h* by the rod *j*, which is attached to a rod *k*, parallel with *j*, by links *l l*, and the connecting of the rod *k* to a swinging or pivoted yoke K, which is actuated by the dropper through the medium of a lever L, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

2. The sliding or adjustable seats M N, in combination with the two pairs of wheels B B, C C, all arranged substantially in the manner as and for the purposes specified.

3. The connecting of the draught pole I to the frame A by a chain *f*, in addition to the usual joint *e*, for the purpose of limiting the upward tilting movement of the front part of the frame, substantially as set forth.

75,617.—LUMON B. YALE, Bainbridge, N. Y.—*Rocker for Chairs.*—March 17, 1868.—The rocker is made of angle iron and has a series of holes in its vertical flange for attachment to the chair.

Claim.—As a new article of manufacture, a metallic rocker A, for chairs, when made angular in its transverse section, and provided with a series of holes *c*, near each end, as described, for the purpose specified.

75,618.—WILLIAM W. BAILEY, New York, N. Y.—*Low Water Detector for Steam Generators.*—March 17, 1868.—The expansion pipe is connected (by pipes) with the boiler at and beneath the low water mark. When the water exposes the mouth of the former pipe the steam takes the place of the water and the heat expands the said pipe and raises the toggle levers, which are connected to its ends, and which raise the whistle valve stem.

Claim.—1. The tension-valve opener, in combina-

tion with an expansive tube, fitted and operating substantially as and for the purposes set forth.

2. The combination of an expansive tube with the tension-valve opener and alarm whistle, substantially as set forth.

75,619.—William G. Blymyer, Findlay, Ohio. —*Printers' Galley.*—March 17, 1868.—The side-stick is connected to the frame by extensible links which allow its use with any desired width of matter.

Claim.—The slot B and set screw C, applied to a printers' galley, substantially as and for the purpose set forth.

75,620.—Francis E. Boyd, Boston, Mass.—*Feeding Nail Plates.*—March 17, 1868.—The inverting and oscillating motions are automatic. The nipper rod and barrel are so connected with the frame as to enable the rod to be removed from the machine when the nail plate is used up, and another nipper rod with a fresh plate to be substituted during the operation of the machine.

Claim.—1. The movable nipper rod F, in combination with the rack bar I, head K, sliding block M, and pawl *l*, substantially as and for the purpose specified.

2. The combination of the holder or barrel D, provided with the projection or pin *d* and the wheel B B′ B, substantially as and for the purpose set forth.

3. The tilting frame A′ A′, in combination with the holder or barrel D, rack bar I, and wheel B B′ B, as and for the purpose specified.

75,621.—Eugene T. Brownfield, Smithfield, Pa.—*Churn.*—March 17, 1868.—The dasher has oblique horizontal slats. It has rectangular sockets in its cross pieces which receive the ends of arbors turning in the sides of the cream box. One of the arbors may be drawn out to allow the removal of the dasher. The lid has funnels protected by shields to prevent the out-splashing of cream.

Claim.—1. The top H, when provided with the funnels J J J J and shields P P P P, substantially for the purpose set forth.

2. Dasher B, constructed with oblique slats, substantially as herein described.

3. The dasher B, in combination with the axles *m* and *e*, slide *k*, and lever *c′*, the whole constructed and arranged substantially as specified.

75,622.—Eugene T. Brownfield, Smithfield, Pa.—*Apparatus for Tempering Cream Preparatory to Churning.*—March 17, 1868.—The upper part of the close milk vessel communicates by a pipe with the steam generator and has an escape pipe for the surplus steam.

Claim.—The within-described process for tempering or souring cream or milk, when effected by devices constructed and arranged substantially as set forth.

75,623.—Abner H. Bryant, Wilmington, Del. —*Suspension Egg Carrier.*—March 17, 1868.—The eggs are supported in the pockets attached to the cord net-work.

Claim.—A suspension egg carrier, composed of cloth pouches for holding single eggs, suspended between meshes of cords or twine, laced through the sides of the wooden trays set in a wooden holder, constructed and arranged as set forth by the drawings.

75,624.—William H. Chandler, North Scituate, R. I., assignor to himself, John Wheeler, and Earl D. Barden.—*Machine for Strapping and Grinding Cards.*—March 17, 1868.—The traveler head, (to which is attached the apparatus operating on the card teeth,) has a downwardly extending bar, which is slotted to receive the stud extending from the side of the belt. The revolution of the belt causes the reciprocation of the traveler.

Claim.—The combination of a slot L in the traveler A with a stud K, belt J J, and pulleys I I′, gear wheel H, and worm G, substantially as and for the purpose specified.

75,625.—John Webster Cochran, New York, N. Y.—*Fixed Ammunition Holder for Cartridge Boxes.*—March 17, 1868.—The strap has a series of sockets which hold the cartridges by their flanges.

Claim.—The cartridge holder, constructed with the series of separately grooved sockets *a*, formed and arranged in relation with each other substantially as and for the purposes specified.

75,626.—John Webster Cochran, New York, N. Y.—*Fixed Ammunition Holder for Cartridge Boxes.*—March 17, 1868.—The frames have two recessed rubber plates which receive the ends of the cartridges. The recesses receiving the flanged ends are cylindrical, and those receiving the points are concave and sufficiently elastic to give way when the flanged end is inserted.

Claim.—The plates A* B*, recessed as described, in combination with the frame A, substantially as and for the purpose specified.

75,627.—J. Webster Cochran, New York, N. Y.—*Breech Loading Fire-Arm.*—March 17, 1868.—The aperture in the top of the breech, through which the cartridge is introduced, is covered by a curved plate which serves in part to lock the bolt in place. The firing pin is made in sections which are not in position to act in conjunction, except when the parts are all arranged for firing. The extractor mechanism is an improvement on his patent, Feb. 28, 1866.

Claim.—1. The external shield I, in combination with the recoil bolt, constructed and operated as described, substantially as and for the purpose specified.

2. The firing pin J, in combination, substantially as described, with the recoil bolt F, and the hammer or striking device, whereby, when the recoil bolt is turned preparatory to opening the breech, the firing pin shall be turned or brought out of line or contact with the said hammer or device, substantially as and for the purpose specified.

3. The head *d** of the firing pin, arranged in relation with the recess *e** and the hammer, substantially as and for the purpose specified.

4. The arrangement of the head *d** of the firing pin with reference to the recessed portion *f** of the hammer, substantially as and for the purpose specified.

75,628.—Alexander Conklin, Hartford, Conn. —*Reaming Tool.*—March 17, 1868.—The cutters occupy radial longitudinal slots in the head, and are forced outward by a tapering central core, which is adjusted by a screw.

Claim.—The combination of the devices A B C D, constructed and operating substantially as described, when used to form an expanding tool as herein specified.

75,629.—John Cooper, Dublin, Ind.—*Washing Machine.*—March 17, 1868; antedated March 6, 1868. —Improvement on his patent, Aug. 13, 1867. The beaters consist of a series of metallic bows secured to a bar which is hinged to the shaft.

Claim.—The shaft D, having the beaters E hinged to it as described, when constructed and arranged to operate substantially as set forth.

75,630.—H. Pelham Curtis, Washington, D. C. —*Lifting Hook, Guard, &c., for Stoves.*—March 17, 1868.—The handle is carried out to a distance from the shield, and the end thereof is twisted so as to form a lifting hook.

Claim.—The combination of shield, hook, and handle, marked respectively A, B, and C, substantially in the manner and for the purposes herein described,

75,631.—Albert Hallowell, Lowell, Mass.—*Apparatus for Heating Flat-Irons.*—March 17, 1868. —The valve admitting gas to the burner leaks slightly so as to sustain a small flame. The iron rests upon the head of the valve stem when heating, and allows sufficient gas to flow to feed a full flame.

Claim.—1. The combination as well as the arrangement of the valve *d* and its stem *e* with the flat-iron stand A and the gas burner B, applied thereto substantially as specified.

2. The combination and arrangement of the ad-

justable deflector *k* with the valve *d*, its stem *e*, the flat-iron stand, and the burner, arranged as set forth.

3. The combination and arrangement of the conical flame guide *p* with the adjustable deflector *k*, the valve *d*, its stem *e*, and the burner B, or the latter and the flat-iron stand A, arranged as represented.

75,632.—ALEXANDER HARROUN, Jr., South Onondaga, N. Y.—*Harness.*—March 17, 1868; antedated March 4, 1868.—The rod is attached to the back band, and has a slide to which the forked arms are secured. The reins lie upon the arms and are prevented from being caught beneath the tail of the horse.

Claim.—1. The rod *a*, Fig. 1, or its equivalent, when employed substantially as and for the purpose set forth.

2. The arms *c*, when connected by a common joint, or its equivalent, when employed substantially as and for the purpose set forth.

3. The combination of the clasp *f* and the arm *g*, or their equivalent, when employed substantially as and for the purpose set forth.

4. The clasp *n*, Fig. 2, and the arms *o*, in combination, or their equivalent, when employed substantially as and for the purpose set forth.

75,633.—JOSIAH Y. HOAGLAND, Auburn, N. Y.—*Machine for Grinding Harvester Knives.*—March 17, 1868.—The clamp rest of the cutter bar has an adjustable gimbal joint to enable the presentation of the cutter to the stone at the proper inclination. The saw has lateral adjustment in the frame. The frame has longitudinal movement by chain connection to a hand lever or treadle.

Claim.—1. Affixing the machine for grinding the knives or sections of a harvester upon the frame of an ordinary grindstone, so as to bring the said knives or sections to the face of the stone to be ground, substantially as above described.

2. The grooved platform C, in combination with the bottom piece D and the standard E F G, substantially as and for the purpose above described.

3. The combination of the three parts E, F, and G, of the standard, constructed and arranged substantially as and for the purpose described.

4. The combination of the three parts E, F, and G, with the holder H I, so as to form a universal joint, substantially as and for the purpose above described.

5. Attaching a spring to the bottom piece D, so as to draw the cutter bar from the stone, substantially as described.

6. The combination of the spring *a*, the chain *b*, and the lever J, substantially as and for the purpose described.

7. The combination of the spring *a*, the chain *b*, and the treadle *c*, substantially as and for the purpose described.

8. Attaching a spring to the bottom piece D, so as to draw the cutter bar to the stone, making thereby an automatic presser, substantially as and for the purpose described.

75,634.—JOHN H. HOOD, Danville, N. Y.—*Composition for Roofing.*—March 17, 1868.—Stout paper is secured to the roof by strips of felt cloth which are tacked over the edges. The paper is coated with a composition of coal tar, 10 galls.; plaster, 2 bushels; and saw-dust, 1 bushel. Pulverized crystal rock is then sifted on and left to dry, after which a mixture of the tar and crystal rock is spread on.

Claim.—A roof prepared as specified, and covered with the compound made in the manner described.

75,635.—CHARLES W. ISBELL, New York, N. Y.—*Rotary Blower.*—March 17, 1868.—Improvement on the patent of W. P. Mackenzie, Oct. 25, 1864. The vanes are upon a shaft which is eccentric with the cylinder, and receive motion from the eccentric drum through whose longitudinal slots the said vanes have radial movement. The vanes pass through packing cylinders of soft metal which roll in the slots of the drum and make an air-tight joint.

Claim.—The revolving shaft C, having one of the vanes B rigidly attached and the others loose thereon, and supported in journals in the arms L of the stationary shafts F, in combination with the drum D and cylinder H, all arranged and operating substantially as and for the purposes set forth.

75,636.—JAMES LAMONT, Pittsburg, Pa.—*Fence and Trellis Post.*—March 17, 1868.—The foot of the post is stepped in a block of brick or stone. Similar blocks slide upon the post and serve to steady it at various altitudes beneath the surface of the ground. The next block to the step block rests upon a cross pin and anchors the post.

Claim.—1. The combination, with a metallic post, *a*, for fences, trellis work, &c., of a recessed base or step *e*, and a series of blocks *d*, through which the post *a* passes, with or without the pins *f*, in the manner and for the purposes substantially as hereinbefore described.

2. In combination with a metallic post or stake, furnished with supports *d e*, a trellis work consisting of cross bars *b*, with ends *c* projecting upward, substantially as and for the purposes above set forth.

75,637.—C. H. LOCKWOOD, Hawleyville, Conn.—*Guide for Hat Lining in Sewing Machine.*—March 17, 1868.—The clamp which holds the lapped edges of the tip and side lining in contact is rotated by the feed mechanism. By the rotation of the clamp the lapped edges are fed under the needle.

Claim.—The oval plate H, provided with the oval concentric rim I, in combination with the bar C, provided with the rollers D D, and the slot *a* and pin *d*, or their equivalents, to serve as a guide for the plate H, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

75,638.—J. C. W. MAAS and CARL FISCHER, Hamburg, Germany.—*Machine for Stamping Letters.*—March 17, 1868.—The feed roller has spring pins which are thrust outward by a fixed cam so that the point upon the end of the pin will engage one letter of the pile and feed it between the feed and the stamp rollers. The stamps receive ink from cylindrical rollers.

Claim.—1. The roller A and holders *b*, with their springs and cams *c*, substantially as described.

2. The cylinders A and B, stamps *e*, and yielding pressure device *f g*, all substantially as described.

75,639.—A. D. MCMASTER, Rochester, N. Y.—*Fruit Jar.*—March 17, 1868.—The stopper screws into the mouth by means of sectional, spiral ribs which engage lugs on the inside of the mouth. It is sealed by a rubber gasket.

Claim.—The cylindrical stopper B, having its lower end annularly recessed and abruptly shouldered, and provided with an elastic gasket *c*, in combination with an unshouldered but tapering necked jar, provided with projections *d d*, arranged with reference to the inclined lugs *f f* of the stopper, substantially in the manner and for the purposes set forth.

75,640.—ELIJAH W. MERRILL, West Buxton, Me.—*Harvester.*—March 17, 1868.—The cutter pitman head is guided by a slot in line with the cutter bar. The said head is traversed by a pin which slides therein and forms the end of an oscillating lever whose rear end enters a cam groove. This lever is fulcrumed on another lever which may be moved to free the arm from the cam and stop the cutter.

Claim.—The vibrating arm *d*, in combination with and when set upon the swinging lever *x*, together with the hand lever *f* and catch pawl *y*, the head *a* and rod *e*, when arranged as and for the purpose specified.

75,641.—EDMUND B. MILLER, Greenville, Tenn.—*Machine for Stuffing Horse Collars.*—March 17, 1868.—The "rim" is stuffed wholly from one end, and the collar is secured by the two clamps while this operation is going on. When the rim is filled the outer clamp is not used. The facing of finely cut straw or fibrous material is next inserted by a funnel and stick. The collar is then placed in the bed with the rim upward and the stuffing completed.

Claim.—1. The beds Y Y in the platform B, when constructed and used in the manner and for the purpose specified.

2. The fluted cylinder N, substantially as and for the purpose set forth.

3. Operating the cylinder N by means of the arms, shaft R, crank R′, rod U, dog T, and ratchet wheel S, in connection with the plunger P or traction rods *v v*, when the several parts are constructed and combined substantially as and for the purpose described.

4. The combination of the clamp D, constructed and operating as shown and described, with the treadle L and connecting rod L′, in the manner and for the purpose shown.

5. The swinging platform B, having the clamp C, rack *r*, and the beds Y Y, substantially as and for the purpose described.

6. The weighted basket M, provided with an eye *m*, and connected with the plunger P, substantially as and for the purpose set forth.

7. The slotted arm or lever T, when used in combination with the clamp *t*, dog T′, and ratchet wheel S, substantially as and for the purpose described.

75,642.—Peter L. Miller, Mechanicsburg, Pa.—*Gate.*—March 17, 1868.—By a single sweep of either lever the latch is raised and the gate swung open or shut, and latched in that position.

Claim.—The combination of the bell cranks F H, rods G G′, I, J, and levers D D′ with the latch A″, all arranged and operating substantially as and for the purpose specified.

75,643.—Adrian V. B. Orr, Steelville, Pa.—*Spring Washer and Safety Nut.*—March 17, 1868.—The open washer has one end turned down rectangularly to enter the wood or metal, and has the other end inclined upward to form a pawl which engages a ratchet on the under side of the nut.

Claim.—The notched or ratchet nut N, with its central bearing *n*, in combination with the spring washer W, the whole being constructed and operated as described, and for the purpose set forth.

75,644.—John Powers and J. B. Van Deusen, New York, N. Y.—*Fluid Meter.*—March 17, 1868.—The cylinders are open at their ends and the fluid passes off through a double central head within each cylinder. The pistons are connected to cranks which stand at right angles to each other upon a shaft. The valves are moved by levers operated by eccentrics on the shaft.

Claim.—1. The double-acting cylinder, open at the ends, and made with a double partition near the middle, in combination with two pistons, connected by a rod and with the ports 6 and 7, and valve, substantially as and for the purposes set forth.

2. The arrangement of two or more cylinders, constructed as aforesaid, to operate upon one shaft, with two crank pins, at about ninety degrees to each other, to form a fluid meter, substantially as specified.

3. The levers *w* and *v*, connected to the valves, and operated from the shaft *r* by mechanism, substantially as specified, to move the valves in the manner set forth, in combination with the double-acting cylinders and their pistons, substantially as specified.

4. A D or hollow valve, applied within the water space of the meter, and above the cylinder, in combination with an exhaust water-way beneath the said valve, substantially as and for the purposes set forth.

5. The trunk *l*, extending across below the cylinders *f g*, and connecting the water-ways *k* with the delivery pipe *e′*, as and for the purposes specified.

6. The case *a*, formed with a receptacle for sediment, below the operative parts, in combination with a cock or plug for the discharge of said sediment, substantially as set forth.

75,645.—Levi B. Raymond and William Hanley, Lockport, Ill.—*Coupling for Sectional Vessels.*—March 17, 1868.—The bow of one section enters the incurved stern of that in advance, and is engaged thereto by hinged arms which extend forward from the bow and receive pins upon the stern. The arms are pivoted to lever arms which are brought down upon the deck to tighten the connection.

Claim.—The combination of the coupling apparatus, consisting of the arm *c*, pins *d*, lever *i*, and rings *e*, with the hull of the sectional vessel *a a*, when arranged and operating as and for the purposes set forth.

75,646.—E. B. Requa, Jersey City, N. J.—*Balance Valve.*—March 17, 1868.—The diaphragm of the throttle valve has upwardly and downwardly opening puppet valves which balance each other, and whose stems are connected to the opposite ends of a working lever. This is fulcrumed at its midlength upon a shaft which is turned by a hand lever, secured in its adjustment by a set screw which traverses a slot concentric with the fulcrum shaft.

Claim.—1. The adjustable pitman *g*, in combination with the working lever F, shell A, and valves C C′, constructed and operating as and for the purpose herein shown and described.

2. The arrangement of the slotted hand lever H and thumb nut K with relation to the working lever F, adjustable valve stems, and valves C C′, as herein described for the purpose specified.

75,647.—J. H. Reynerson, Pleasant Plains, Iowa.—*Cultivator.*—March 17, 1868.—The fore end of the draw bars are adjustably attached to the fore cross beam. The inner pair of plows are moved laterally by stirrups in which the feet rest.

Claim.—1. The horizontal bar I, vertical bars H, rock shaft K, having arms *f*, arm *h*, lever L, and chain *g*, in combination with the plow beams F G, all arranged and operating as described, whereby the depression of the lever L raises the outer beams G, through the medium of the arms *h f* and chain *g*, and the inner beams F, through the medium of the vertical bars H and horizontal bar I, as and for the purpose herein set forth.

2. The vertical bars H and horizontal bar I, in combination with the plow beams F G and lever L, as herein described, for the purpose specified.

3. The horizontal bars H, attached to the inner beams F, when the lower ends of said bars are provided with the projecting foot rests *d*, arranged and operating as described, for the purpose specified.

75,648.—Andrew J. Reynolds, Sturgis, Mich. *Marine Propulsion.*—March 17, 1868.—The water from an elevated reservoir is discharged upon the fore or rear side of the wheel, as a forward or backward rotation is required. The water falls into buckets which operate upon the wheel similarly to those of an overshot water-wheel. The buckets are connected by pivots to the two parts of the wheel, so that when the parts are unclutched the rotation of one in respect to the other will give a contrary inclination to the buckets. This movement of one part of the wheel upon the other is caused by the action of the water upon the paddles when the wheel has stopped.

Claim.—1. A propelling apparatus for vessels acting upon the water in which the vessel floats when driven by a water-wheel of any suitable construction.

2. The combination of the wheels C C and D D with the pivoted buckets D′, substantially as and for the purpose set forth.

75,649.—John Robertson, Brooklyn, N. Y.—*Manufacture of Rubber Tubes, and in Machinery therefor.*—March 17, 1868.—The "rams" turn around on the head so as to expose the top of the cylinders. The core passes out with the pipe to prevent collapsing of the same, as it is forced out through the annular space between the core and the die.

Claim.—1. The rams B B, having a compressing action, in common with each other, and hung so as to be capable of being swung out of line with their cylinders, substantially as and for the purpose or purposes herein set forth.

2. The traveling core H, in combination with the hollow core F and die G, arranged for operation transversely, or thereabouts, to the axial line or lines of the gum-compressing ram or rams, essentially as shown and described, and for the purposes specified.

75,650.—Max Rosenthal, Philadelphia, Pa.—*Button Fastening.*—March 17, 1868.—The point of the spiral is turned toward the button so as to enter the cloth when the button is attached and prevent its turning.

Claim.—A button fastening formed of wire bent and shaped as shown and described, and having the pointed end of the spiral turned upward, for the purposes set forth.

75,651.—Michael Simons, Middletown, Conn.—*Tea and Coffee Pot.*—March 17, 1868.—The spout strainer slides into place and is removable.

Claim.—The construction of the sliding strainer, with its round and convex center E, to prevent the grounds from choking up the spout, as herein described and set forth.

75,652.—Henry C. Sisco, Indianapolis, Ind.—*Combined Shovel and Tongs.*—March 17, 1868.—The finger of the tongs impinges upon the top of the shovel.

Claim.—The shovel and tongs combined in one implement, provided with the spring D, substantially as set forth.

75,653.—Anthony W. Smith, Birmingham, Pa.—*Gas Meter.*—March 17, 1868.—The top of the meter has a reservoir containing water; the said reservoir communicates through four passages with the water chamber in the meter. The holes of communication are at the required water level so as to keep the meter properly filled, and to render ineffective any attempted fraud by inclining the meter.

Claim.—1. The construction of the wet gas-meter, with the reservoir E, the passages G G G G, the double stop-cock H, with the bores I I′, and the cap J, all arranged for the purpose and in the manner substantially as set forth and described.

2. The manner of constructing the condensing well A, the passage B, and the cap C, all arranged for the purpose substantially as set forth and described.

3. The "filler" K, constructed with the double stop-cock L, with the bores N N′, the extension tube O, the swivel M, the screw tube and plug P, and the handle Q, all arranged and operating in the manner and for the purposes substantially as set forth and described.

75,654.—Solomon Snyder, Harrisville, Pa.—*Thread Tension Mechanism for Sewing Machines.*—March 17, 1868.—The tension of the thread is adjusted by a spring brake upon a grooved pulley on the spool shaft. The spring is adjusted by a thumb-screw. The shaft is square, and has a flat spring bearing against one side of the spool socket, so as to prevent the turning of the spool upon the shaft. The thread passes around in a spiral groove of an adjustable guide arm.

Claim.—The tension apparatus above described, when its several parts are constructed and combined to operate substantially in the manner and for the purposes set forth.

75,655.—Elihu Spencer, Elizabeth, N. J., assignor to Robert Westcott, same place.—*Water Meter.*—March 17, 1868.—Improvement on his patent of June 12, 1866. The case containing the operating parts is tight and is so constructed as to form the heads of the cylinders, whereby stuffing boxes are dispensed with. The pistons are connected to the cranks of the shaft of the eccentrics which operate the slide valves.

Claim.—1. Constructing the box containing the operating parts of the meter, so as to form the heads of the cylinders and render the box itself water tight, substantially as and for the purposes herein specified.

2. The arrangement of the piston rods *g g*, in the free guides *h h*, in combination with the connecting rods *i i*, substantially as and for the purpose set forth.

75,656.—Claus Spreckels, San Francisco, Cal.—*Manufacture of Crushed Sugar.*—March 17, 1868.—The sugar is removed from the centrifugal machine to the molds and immediately pressed; after this it is subjected to a moderate heat and then to a greater heat in an oven. It is then ready for crushing and pulverizing.

Claim.—The manufacture of the crushed sugar of commerce directly from the centrifugal machine, in the manner substantially as herein described.

75,657.—Charles T. Ulmann, New York, and Marcus Bockman, Brooklyn, N. Y.—*Hand Engine.*—March 17, 1868.—The reciprocation imparted to the operative arms causes the oscillation of the triangular levers which cause the rotation of the fly wheel through the medium of the working beam and crank and their connections.

Claim.—1. The combination of handles K, projections I, levers H, working beam G, socket E, and arms L, when arranged as and for the purpose set forth.

2. The main lever E, when constructed as and for the purpose set forth.

3. The combination of arms D and C, and the triangular crank or quarter crook B, when arranged as and for the purpose set forth.

75,658.—John S. Van Rensselaer, Albany, N. Y.—*Apparatus for Relief of Involuntary Discharge of Urine.*—March 17, 1868.—The discharging member is placed in a tube communicating by a flexible pipe with a receiving vessel.

Claim.—The combination of the inclined bed A, the India-rubber or other protecting covering H, the tube C, with its funnel E, and the receiver D, substantially as described, and for the purposes set forth in these specifications.

75,659.—Ambrose S. Vose, Randolph, Vt.—*Calendar.*—March 17, 1867.—The calendar is placed upon the top of a common clock and is operated by the hour hand, by means of a lever running from the calendar and intersecting the course of the hand. The day, week, and month are exhibited through apertures in the face.

Claim.—1. The construction of the perpetual calendar, whereby it is adapted to be attached to and operated by any clock, by means of the hour hand and forked lever, substantially as described.

2. The levers *s* and J, combined with the plate *q*, to set the month hand *e* from the last day of months of different lengths to the first day of the succeeding month, and to set the month of the year at the same time, substantially as described.

75,660.—William C. Watson, Paterson, N. J.—*Portable Book Clamp.*—March 17, 1868.—The clamping cord is wound on the ends of the rotating handle.

Claim.—The drum or windlass B, supported in suitable bearings at each end of the strip A, provided with a ratchet wheel *c*, and pawl *d*, in combination with the strip C and cord D, substantially as and for the purpose specified.

75,661.—Canceled.

75,662.—Henry W. Bailey, Springfield, Mass., assignor to himself and William C. Bailey, same place.—*Die for Making Hammers.*—March 17, 1868.—The blank is placed on a die which has a matrix to receive the metal forced from the eye and form the said metal into an inward extension of the socket. The eye is opened by a drop punch which does not entirely reach the bottom of the matrix. The punching is completed by a cold punch. The head is then formed on a mandrel by swages.

Claim.—The combination of the punch A and die B, herein described, when constructed and operating substantially as and for the purpose set forth.

75,663.—Henry D. Blake, New Britain, Conn., assignor to P. and F. Corbin, same place.—*Machine for Riveting Hinges.*—March 17, 1868.—The ends of the pintle are swaged simultaneously by dies having contrary rotations.

Claim.—1. A riveting tool, composed of a rod of metal having V-shaped grooves crossing and radiating from its longitudinal axis across a face or end surface which is otherwise perpendicular to the axis of said rod, substantially as described.

2. The riveting tool set forth in the foregoing claim, in combination with mechanism for operating the same, arranged substantially as described.

75,664.—Charles H. Buck, St. Louis, Mo.—*Window for Stoves.*—March 17, 1868.—The glass plates in the oven doors are held in position by springs which prevent the concussion produced by slamming the doors from being communicated to the plate. The plate is also unaffected by the expansion and contraction of the metal induced by heat.

Claim.—The combination of springs with glass

plates which are applied to stove doors, substantially as described.

75,665.—GARDNER CHILSON, Boston, Mass.—*Cooking Stove.*—March 17, 1868.—The water chamber is placed before the fire and an air chamber in front of that.

Claim.—1. The arrangement of the water heater, the oven, and the jambs of the fireplace, the said jambs, under such arrangement, being between the oven and the heater, and the latter being at the jamb of the fireplace, as set forth.

2. The combination and arrangement of the insulating air chamber and its door opening, and the door or doors thereof, with the water heater, arranged in front of the fireplace in manner as explained.

75,666.—ARCHIBALD C. CRARY, Utica, N. Y.—*Power Attachment to Sewing Machines.*—March 17, 1868.—The seat is depressed by the weight of the operator and is raised by spiral springs. Its movement operates to wind the motive spring of the sewing machine.

Claim.—The herein-described mode of winding up the spring, by the pressure of the operator on the seat.

75,667.—ARCHIBALD C. CRARY, Utica, N. Y.—*Apparatus for Operating Sewing Machines.*—March 17, 1868.—The operative mechanism of a sewing machine, lathe, &c., is driven by clock work, and the clock work is wound by treadles or equivalent means. The rotating seat is upon a plunger gravitating in a slotted cylinder and having a rack connecting with devices to wind the main springs by the downward motion of the seat.

Claim.—1. The combination and arrangement of a series of springs and their connection, for the purpose of propelling or operating sewing machines, substantially as described.

2. The application of motive power or force to the periphery or peripheries of concentric or coiled springs, or alternately to the peripheries of a series of springs, substantially as herein described, for the purpose of propelling or operating sewing machines, substantially as described.

3. The mode or manner, substantially as herein described, of coiling or winding up concentric or coiled springs for the uses and purposes herein stated, by means of the treadle or its equivalent, viz: the operator's rotating seat, the screw, the crank, and the lever.

4. The mode, substantially as herein described, of constructing the operator's rotating seat, and of its attachment, for the uses and purposes aforesaid.

75,668.—RENSSELAER CUTLER, St. Louis, and GEORGE C. SWALLOW, Columbia, Mo.—*Brick Machine.*—March 17, 1868.—The lower wings upon the pug-mill shaft are formed to fit the upper side, perforated plate, which is interposed between the pug-mill and mold wheel.

Claim.—The pug-mill B, when its bottom wings *b* are formed concavely on the bottom, and combined with a disk C, and intermediate convex plate, as described and shown.

75,669.—J. D. DE TURK, Exeter, Pa.—*Cultivator Teeth.*—March 17, 1868.—The tooth is hinged to a block attached to the frame and kept in rigid connection therewith by a wooden pin which gives way under extreme pressure.

Claim.—The cap, represented in Figs. 1, 2, 3, and 4, intended to be fastened to the cultivator beam, into which the tooth is to be inserted, and fastened by the iron hinge bolt *a*, Figs. 1, 2, and 3, and the wooden pin or key at letter *c*, Figs. 2 and 3, by the use of which the breaking of the tooth can be avoided.

75,670.—FRANK DOUGLASS, Norwich, Conn.—*Globe Valve.*—March 17, 1868.—The valve has a central screw stud on which are placed a disk of vulcanite, and a covering disk of metal. The metallic disk has small perforations which permit the passage of steam to expand the vulcanite, and force the lower, metallic, disk valve to its seat.

Claim.—1. The arrangement of the flexible ring C to form a valve, when compressed between ring A and ring or valve E, in such a manner as to expand ring C in diameter, to form a tight joint, substantially as specified.

2. The arrangement of the metallic ring A with channels *i i*, for the purpose herein specified.

75,671.—GEORGE DOWLING, Fair Haven, Conn.—*Apparatus for Lowering Ships' Masts.*—March 17, 1868.—The lower end of the mast is stepped in socket block which has a pawl acting upon a segmental ratchet to hold the mast to any desired inclination. The mast passes through and is secured to a frame which is hinged to the deck.

Claim.—1. The arrangement of the mast A upon the trunnions *a* and step B, combined with a segmental track C, and pawl P, and toothed segment *d*, so as to operate in the manner and for the purpose herein set forth.

2. In combination with the above, the latch *f*, arranged so as to lock the mast in an upright position, in the manner described.

75,672.—HENRY H. EBAUGH, Hereford, Md.—*Mucilage Bottle.*—March 17, 1868.—The fountain tube is flaring upward, and descends vertically and centrally in the can. More or less mucilage may be allowed to enter the tube by the admission of air into the can. This admission takes place through a small opening covered by a valve or stopper.

Claim.—A mucilage can or holder, with a fountain tube B, in combination with a stoppered brush, constructed and operating substantially as and for the purposes herein specified.

75,673.—A. J. GIBSON, Cincinnati, Ohio.—*Broiler.*—March 17, 1868.—The meat is laid upon the hollow cones or corrugations in the imperforated bottom of the broiler.

Claim.—The combination, in a broiling vessel, of non-perforated cones and corrugations, substantially as described.

75,674.—ASA E. GLEASON, Newton, Mich.—*Grain Platform for Harvesters.*—March 17, 1868; antedated March 9, 1868.—The platform consists of a receiving box topped with wire work, through whose meshes the seed drops.

Claim.—A reaping or mowing machine platform, having perforations or interstices, in connection and combination with box compartments F, provided with openings and doors G and D, the whole constructed, attached, and supported substantially as and for the purpose herein specified.

75,675.—ALMON B. GLOVER, Birmingham, Conn.—*Machine for Heading Bolts.*—March 17, 1868.—For forming the heads of "bed screws." After the heading die has closed upon the head, the follower advances and completes the same. An automatic finger at the proper time presents itself to the holding die to support the blank.

Claim.—1. The combination of the cam R, slide O, and die *f*, with the cam T, auxiliary slide U, screw-threaded follower *h*, nuts *n n*, all constructed and arranged as described.

2. The supporting finger *b*, in combination with the holding dies F and E, when constructed and arranged so as to be presented and retire at the proper time, as and for the purpose set forth.

75,676.—WILLIAM F. GOODWIN, East New York, N. Y.—*Mechanical Movement.*—March 17, 1868.—The motive shaft has arms which carry spur wheels engaging the inner gear of the drum, and a pinion which is fast to the second shaft, having similar arms and spur wheels engaging a pinion on the third shaft. This may be extended as far as desired; the proportion between the planet wheels and their pinions regulates the increase of speed gained.

Claim.—1. The arrangement of two or more shafts in line with each other, one having a pivotal bearing in and operated by the other, substantially as described.

2. The arrangement of the line shafts within the concentric internally-cogged drum or case, substantially as described.

3. The internally-cogged drum subdivided into

separate compartments, or provided with the bearing partitions for the line shafts, as described.

4. The line shafts provided with spur wheels, or their equivalent, in combination with the internally-cogged drum, substantially as described.

75,677.—WILLIAM F. GOODWIN, East New York, N. Y., and A. M. SMITH, Washington, D. C., assignors to WILLIAM F. GOODWIN.—*Harvester.*—March 17, 1868.—The multiplying mechanism consists of an inside-cogged cylindrical case, and a train of cogwheels and their connections therein. A shaft extending directly forward from the axle, and receiving rotation therefrom, has a crank within the case, and the wrist pin of the crank carries a spur wheel which engages the inside gear of the case and also engages with a pinion of smaller diameter secured to a shaft concentric with the case. This latter shaft has an arm carrying a spur wheel, similar to that first mentioned, and operating similarly. The second pinion shaft carries a disk to whose eccentric wrist pin the cutter pitman is strapped.

Claim.—1. The concentric arrangement of the multiplying gear relative to the crank shaft or an extension of the axial line thereof, substantially as described.

2. The location of the multiplying gear at the drooping end of the vibrating cutter frame and in line with the hinge connection of the cutting apparatus with said frame.

3. The arrangement of the crank shaft upon the vibrating cutter frame in line with the shaft from which it receives its motion.

4. The inclosing gear box or case having one or more central bearing partitions, for the purpose and substantially as described.

5. The gear box or case provided with the two pivotal bearings at right angles to each other, substantially as described.

6. The internally-cogged drum or gear case arranged relative to and vibrating with the cutter frame, substantially as described.

7. The cutter frame provided with the yoke to receive the gear box, or its equivalent, and with the case inclosing the bevel gears, substantially as described.

8. The arrangement of the crank shaft and connecting rod, in the described relation to the two pivots at right angles to each other, upon which the finger bar turns in accommodating itself to the surface of the ground over which it is drawn.

9. The cap or case inclosing the outer end of the pitman, as described.

10. The removable hooked tongue plate adapted to be secured to or removed from the axle or sleeve, substantially as described.

75,678.—HENRY H. GRIDLEY, Auburn, N. Y.—*Saw Mill.*—March 17, 1868.—The carriage is moved laterally from the saw while gigging back to prevent the contact of the log and saw. One end of the rock lever holds the friction shaft and the other end holds the tightening pulley. The head of the rock lever is so arranged as to permit changing the height of the tightening pulley to accommodate the varying length of the backing belt.

Claim.—1. The combination of the lever *f*, shaft E, and its connecting links, with the pivoted arm B, carrying in a slot the adjustable box, with the friction shaft *d*, and the adjustable stud of the tightening pulley *b*, all constructed and operating substantially as described.

2. The combination of the slide bar *r*, with its springs *s*, and the dogs *t*, with the slide rack *l*, substantially as and for the purpose described.

3. The combination of the segment pinion *k*, upon the end of the lever or arm of the automatic setting apparatus, with the auxiliary rack under the sliding rack *l*, substantially as and for the purpose described.

75,679.—JAMES H. GRIDLEY, Washington, D. C., assignor to S. F. DICKINSON, New York, N. Y.—*Mop Wringer.*—March 17, 1868.—The wringer rollers are journaled to ears on the boards so as to lie along one edge, the other edge of the boards being hinged to bars fitted upon the top of the tub. A rectangularly projecting arm on one board is hinged to a connecting rod extending to the other board so that depression of one board causes that of the other.

Claim.—1. The combination of the pivoted boards or frames C C^1 with the connecting rod D, in the manner and for the purposes set forth.

2. In combination with the boards C C^1, rod D, and spring E, the rollers R R, substantially as and for the purpose specified.

3. The above-described method of attaching the mop wringer to the tub, when in use, to prevent its slipping upon the tub, substantially as set forth.

75,680.—F. W. HEINS, New York, N. Y.—*Washing Machine.*—March 17, 1868.—The suds box is hung upon trunnions and is oscillated by handles extending from the ends.

Claim.—As an improvement in washing machines, the body A, whose bottom and ends are formed of a single sheet of metal, bent or stamped into continuous corrugations throughout its entire length, with the strengthening board *e*, and bars *d*, which sustain the gudgeons *a*, on which the body oscillates, substantially as and for the purpose described.

75,681.—WILLIAM H. HOUSTON, New York, N. Y.—*Machine for Setting and Distributing Type.*—March 17, 1868.—Improvement on his patent, March 31, 1857. The types are distributed by the machine into a series of channels of which there is one for each letter, or character, quadrat, space, &c. After distribution, the case is transferred to the composing part of the machine. In distribution, the column of type is pushed forward in the galley and each line of type is lifted from those adjacent, and when raised it can be pushed laterally without impediment. A plate is fitted to the face of the lifter which can be put on under the lip to enable the use of the lifter for solid or leaded matter. The said plate prevents the lead from falling until the descent of the lifter, and is drawn back to allow the falling of the lead when the lifter descends. As the raised line of types is driven forward the end one is seized by the cheek, which adjusts itself to the thickness of the type and carries it to the appropriate channel. The whole cannot be briefly described.

Claim.—1. The combination of the lifting plate, operated substantially as herein described, for lifting the types to be distributed line by line, the galley on which the types to be distributed are placed, and on which they are advanced toward the lifting plate, the mechanism, or the equivalent thereof, by which the lifting plate is operated, and the means, or the equivalent thereof, by which the depressing mechanism is connected with the driving power so soon as a line of types has been delivered to the distributing mechanism, and disconnected so soon as another line is to be lifted, substantially as described.

2. The projecting lip on the face of the lifting plate to draw down the leads, substantially as set forth, in combination with the sliding plate under the galley, substantially as described, to prevent the leads from dropping out before they are required to be delivered, as set forth.

3. In combination with the projecting lip on the face of the lifting plate, the employment of a separate plate, which may be applied to or removed from the face of the lifting plate, and under the projecting lip, that the machine may be used for distributing either leaded or solid matter, substantially as described.

4. The means herein described for separating the types of various thickness one by one from the line, and delivering them to be distributed, consisting of the combination of the channel-way in which the line of types is moved, the cheek against which the foremost type of the line is moved, and which is caused to recede by intermittent motions, each of not greater range than the thickness of the thinnest type, and the reciprocating hammer, or its equivalent, which strikes a series of light blows against the foremost type, to feel when it can pass by the end of the channel way, and finally moves far enough to deliver the type to the distributor, the said instruments being operated by the mechanisms described, or equivalents therefor, as set forth.

5. The combs having a lateral reciprocating motion, substantially as described, in combination with the series of racks for the reception of the appropriate

types, and the spring or self-adapting plungers and followers, which hold the types at each operation, while the combs are moved laterally, by means of which the types are shifted at each operation, and each type in turn presented to the several racks until it finds the one into which it can pass; the parts so claimed in combination being operated by the mechanical means herein described, or the equivalents thereof.

6. The reciprocating comb plates, in combination with the clutch on the shaft from which the said motions are derived, the said combination being effected by the intermediate mechanism described, or the equivalent thereof, whereby the shaft is unclutched from the driving pulley and stopped, if by reason of any impediment the combs fail to complete their motion in either direction.

7. In combination with the series of racks for receiving the types as distributed, and with apertures at their rear ends for their discharge into the case, the employment of a vibrating or reciprocating hammer to strike the types in case they should have a tendency to stick in the racks, substantially as described.

8. The reciprocating plate, back of the apertures, in the racks through which the distributed types are delivered in the several compartments or channel-ways of the case, and which descends in front of the types after they have been pushed back to make room for the next types to be delivered, substantially as described, in combination with the clutch on the shaft from which the motions of the said plate are derived, whereby the said shaft will be unclutched from its driving pulley and stopped in case the said plate meets with any impediment, the said combination being effected by the mechanism hereinabove described, or any equivalent therefor.

9. In the composing part of the machine herein described, the means, substantially as herein described, by which the keys when depressed merely indicate the type which is to be lifted from the case, in combination with the mechanism by which the types are lifted, substantially as described.

10. The lifters for lifting the types from the case, substantially as described, in combination with the clutch on the shaft from which the lifters derive their motions, substantially as described, whereby the said shaft is unclutched from its driving pulley and stopped whenever any one of the lifters is stopped, so that it cannot complete its upward motion, the said combination being effected by the mechanism herein described, or by equivalent means.

11. Giving a lifting motion to the plate which holds down the types in the case that are back of the foremost type in each channel way, that they may not be drawn up by the type which is being lifted, substantially as described, the said motion being given to the said plate at the time of and to free the types when they are being advanced, as set forth.

12. So constructing and arranging the self-adapting pressure plate, which constitutes one side of the passage in which the types are received from the case, and in which they are made to slide by the shuttles, that it shall vibrate on its longitudinal axis, substantially as and for the purpose described.

13. The combination of the two reciprocating shuttles with the one channel-way or passage in which the types travel, substantially as described, the said shuttles being alternately lifted in their return motion, that the one which is returning may pass over or by the one which is advancing, as described.

14. The means, substantially as herein described, by which the shaft which drives the composing mechanism is unclutched from its driving pulley, and stopped so soon as a line is completed, that the lines may not be overrun, as set forth.

15. In combination with the shaft which drives the mechanism for transferring each line of type to the galley, the starting key and clutch, substantially as described, so that the operation of transferring each line is performed automatically, the operator being required simply to operate the said key.

75,682.—Edward Howell, Ashtabula, Ohio, assignor to himself and P. C. Ford, same place.—*Thill Strap.*—March 17, 1868.—The strap from the saddle passes through bands, which are riveted to the metallic loop, and a spring attached to the loop-plate has a tongue passing through the plate and into one of a series of holes in the leather strap.

Claim.—The loop C, connected with the spring E, in combination with the pin *e*, strap A, and loops *a a*, substantially as and for the purpose set forth.

75,683.—Thomas S. Judson, Matteawan, N. Y., assignor to himself and Henry A. Alden, same place.—*Tie Strap.*—March 17, 1868.—A rubber cord is passed in a straight line through the strap when the latter is folded into zigzag form, so as to exert a contractile force on the rubber when the strap is pulled upon.

Claim.—The combination with a hitching or halter strap, made of any ordinary or suitable material, of an elastic band or spring, applied to said strap substantially in the manner and for the purposes herein shown and set forth.

75,684.—Peter Keffer, Reading, Pa., assignor to himself, William Levan, and Isaac W. Levan, same place.—*Machine for Stretching Hat Bodies.*—March 17, 1868.—The hat body is placed over the lower frame, which is raised by the treadle so as to bring the body in contact with the head frame, whose arms press into the spaces between the arms of the lower frame.

Claim.—The pivoted arms *l*, to which a vertical reciprocating motion can be imparted, and which can be moved outward by the action of the conical block F, or its equivalent, in combination with the stationary pendent arms *q*, the said movable and stationary arms being arranged for joint action on a hat body, as and for the purpose herein set forth.

75,685.—Thomas A. Lawrence and John H. Murfey, New York, N. Y.—*Combined Sweat Band Fastener and Size Mark for Hats.*—March 17, 1868.—The fastener has a disk on which is impressed the number indicating the size, and has two points for clinching in the band.

Claim.—As an improved article of manufacture, a hat band fastener A, provided with pointed projections *a a*, and having the size of the hat stamped upon it, as described.

75,686.—William Louden, Fairfield, Iowa.—*Hay Elevator.*—March 17, 1868.—The track bar is attached to a pyramidal frame at each end, and has a stop at each end which arrests the carriage. The carriage is drawn to one of the stops by a weighted cord, and is automatically latched thereto, remaining attached while the load is being raised. When the load is raised to the carriage, the tripping block comes in contact with the catch and raises the same, allowing the carriage to travel to the point of delivery, to which it is impelled by the hoisting rope.

Claim.—1. The frame B, provided with the grooved slide *n* and pulley *g*, in combination with the bar or track A and hoisting tackle R, all arranged to operate substantially as set forth.

2. The manner of supporting and sustaining the poles H K by means of a cord or rope *o*, so that the poles composing the supporting-frame C can be shifted without disarranging the position of the pulley M, substantially as set forth.

3. Passing the rope J, which sustains the end of the bar A, through the sheave I, and securing it to one of the poles, as at T, substantially in the manner as and for the purpose set forth.

4. The manner of adjusting two or more triangular pyramidal frames upon another frame, for transportation, wherein the base of one frame will extend into the space occupied by the frame adjacent, thus securing economy of space and rendering the apparatus compact, substantially as shown and set forth,

5. The arrangement of the triple bolt, (Fig. 4,) constructed substantially in the manner as and for the purpose set forth.

6. The stop S, constructed in the manner substantially as shown and described.

7. The plate P, when used in combination with a stop whose upper end has its corners rounded off, and has the rope passing through its center, all arranged substantially as shown and described.

8. The arrangement of the trip-rod *m* with the latch *t*, whereby, when the former is pressed up the

latter will serve as its support, substantially as set forth.

75,687.—ALEXANDER MACKEY, New York, N. Y.—*Centrifugal Machine for Draining Sugar.*—March 17, 1868.—Improvement on the patent of George E. Evans, September 3, 1867.—The wedge-formed blocks are placed behind the guides to prevent the accumulation of sugar in the angles formed between the lower ends of the guides and the cone. The cylindrical portion at the lower end of the cone is to form an even and compact side to the wall of sugar, which is formed by the drawing up of the cone.

Claim.—1. The guides F F and the wedge-shaped pieces T T, substantially as described.

2. The perpendicular edge on lower or larger end of cone, substantially as described, for the purpose specified.

75,688.—DARIOUS A. MATHEWS, Geneva, N. Y., assignor to D. W. BAIRD.—*Carriage Perch Connection.*—March 17, 1868.—The axle, axle block, and spring are secured together by portions of the middle, and upper and under brace bars, by which the perch is secured to the same. The middle bar receives the end of the perch and its T-head ends in screws passing through the brace bars, which form members of the clip. The upper brace bar has a cross bar lying upon the spring, and having down-curved ears taking over the outside of the spring.

Claim.—1. The T-piece A, provided with screws and nuts, as described, and a fork or socket for the wooden perch C; and, in combination with the T-piece above claimed, the brace B, provided with an arm, K, and screw and nut, substantially as described and for the purposes set forth.

2. Combining with the brace B, the arms I I, and ears or lugs G G, substantially as shown and described and for the purposes set forth; and, in combination with the T-piece A and brace B, the brace E, perforated for the bolt and screws, as described.

75,689.—MORRIS MATTSON, New York, N. Y.—*Case for Holding Syringes.*—March 17, 1868.—The injecting tubes rest in the notches of a tray, which has an aperture to allow the projection of the upper part of the bulb.

Claim.—As a new article of manufacture, a syringe case, constructed substantially as described, with a removable tray, and having such tray recessed or cut away at or near one end, to allow the bulb of the syringe to pass up through the tray, and fitted at the other end with suitable rests or grooves to hold and keep separate from each other the several injecting tubes required.

75,690.—HARRISON B. MEECH, Fort Edward, N. Y.—*Manufacture of Artificial Leather.*—March 17, 1868.—Pulp of fibrous material is formed into sheets on a cylinder machine, and then passed through a composition of dissolved gutta percha, glue, and gum valatta. It is then doubled together and formed into an endless belt. It may be alternately folded and passed through the mixture, and this is repeated until the belt has assumed sufficient thickness. The belt is then passed through an oil vessel, and between ribbed rollers and over heated cylinders to work and dry in the oil.

Claim.—1. As a new article of manufacture, leather made from fibrous substances, as described.

2. The application of gutta percha, valata, or balata, and other adhesive gums, and saccharine matter with pulp, for the manufacture of artificial leather, substantially as described.

3. The method of applying the solutions of glue and other adhesive substances and saccharine matter to the sheets of pulp, as and for the purposes specified.

4. The method of working, pressing, drying, and vulcanizing the leather, substantially as described.

5. The use of oils, applied substantially as and for the purposes specified.

6. The method of drying the leather, in combination with the oiling process, substantially as described.

7. The use of sand or pulverized emery, in combination with the sheets of pulp, substantially as and for the purposes specified.

8. The use of corrugated or grooved rolls, for the purpose of working the leather and rendering it soft and flexible, substantially as described.

9. Forming the fibers of the pulp in the sheets into spirals, by the use of wire cloth, substantially as and for the purpose specified.

75,691.—S. T. MERRILL, Beloit, Wis.—*Bleaching Paper Stock.*—March 17, 1868.—The stock is carried up a backwardly inclined, endless apron, and between rubber rollers, by which the liquid is pressed out.

Claim.—1. The manipulation of paper stock, (particularly wood and straw,) in the bleaching fluids, without the use of draining vats.

2. The desiccation of "stuff" and "half stuff" with rubber rolls, substantially as set forth.

75,692.—CHARLES M. MINOR, Bridgeport, and HENRY S. FROST, Watertown, assignors to themselves, AUGUSTUS N. WOOLSON, and ANTHONY G. DAVIS, Watertown, Conn.—*Umbrella.*—March 17, 1868.—One part of the jointed bow forms a latch for the other part when opened out. The two parts of the bow and the brace are attached to one piece.

Claim.—1. The construction of the loop upon the end of one of the parts of the ribs, so as to receive and lock or brace the other part therein, substantially as set forth.

2. The folding joint, consisting of the three parts *a b* and *c*, by means of the block *i*, two of the parts being jointed or pivoted, substantially as set forth.

75,693.—JAMES A. MORRELL, Chicago, Ill., assignor to himself and ISAAC SIMMONS, Baltimore, Md.—*Vaginal Syringe.*—March 17, 1868.—The sack is expanded in the vagina to close the passage, and the injected medicament may be drawn back into the compressible reservoir.

Claim.—1. A syringe, provided with an expansible air-sack, susceptible of being introduced within the vagina, so as to expand against the interior walls of the passage, substantially in the manner and for the purposes specified.

2. The combination of the reservoir A, tube B, and expansible sack D, arranged so that the injected fluid may be withdrawn into the reservoir, substantially as specified and described.

3. The combination of the tube B, the sack D, or its equivalent, the reservoir A, and compressers C, arranged to operate substantially in the manner set forth.

75,694.—JAMES A. MORRELL, Chicago, Ill., assignor to himself and ISAAC SIMMONS, Baltimore, Md.—*Uterine Supporter.*—March 17, 1868.—The stem of the pessary is hinged to its supporting bar, which is hung to a strap attached by buckles to the belt. The upper cavity of the cup has downwardly and outwardly extending passages.

Claim.—1. The combination of a pessary A, tube B, spring C, tube D, and rod E, arranged and operating substantially as and for the purposes specified.

2. Connecting the stem of a uterine supporter to the stem supporter by a hinge or joint, so as to operate substantially as described.

3. The combination of a pessary A, and its stem, constructed substantially as described, with the jointed arm F, and the elastic strap H, arranged and operating in the manner and for the purposes specified.

75,695.—JAMES A. MORRELL, Chicago, Ill., assignor to himself and ISAAC SIMMONS, Baltimore, Md.—*Abdominal Supporter.*—March 17, 1868.—The device is laced upon the abdomen so as to give the required upward support.

Claim.—1. An abdominal supporter, having its front edges constructed in the curved form shown and described, for the purposes set forth.

2. Providing an abdominal supporter with the front lower lacings, *b b*, or their equivalent, as and for the purposes described.

3. An abdominal supporter provided with the curved front edges, when constructed with the upper and lower front lacings, and the rear lacing, substantially as and for the purposes specified.

75,696.—Thomas W. Murray, New York, N.Y. —*Rudder.*—March 17, 1868.—The lower end of the tiller shaft is turned into a crank, whose outer end embraces a pin on the rudder.

Claim.—The shaft A, formed with a crank upon its lower end, when used in combination with the rudder blade C, to which it is connected at its outer edge by means of a pin or pivot, substantially as and for the purpose herein set forth.

75,697.—R. W. Park, Philadelphia, Pa., assignor to C. W. Park, same place.—*Lamp Burner.* —March 17, 1868.—The lower and larger ends of the air tubes have free communication with the atmosphere, and their upper ends are in communication with the flame.

Claim.—1. In combination with the dome of a coal-oil lamp, two air tubes, channels, or orifices, arranged, in respect to the elongated slot of the dome, substantially as set forth.

2. The combination of the perforated casing A, plate E, dome D, and air tubes *a a*, the whole being arranged substantially as described.

75,698.—George Pennoyer, New York, N. Y. —*Thill Coupling.*—March 17, 1868.—The end of the thill iron has sockets which receive the side studs on a lug on the front side of the clip. One of the socket caps is upon a piece which is jointed to the main part and secured by a screw bolt.

Claim.—1. The double solid cone, in combination with the clip, Fig. 1.

2. The solid conic caps A A, in combination with the solid cones.

3. The screw bolt, in the position and for the purposes described.

4. The capped joint in constructing a carriage coupling, as and for the purposes described.

75,699.—F. P. Pfleghar, New Haven, Conn.— *Brace for Bits.*—March 17, 1868.—The saddle is drawn down upon the shoulder of the bit by the nut.

Claim.—The arrangement of the saddle C upon the socket A, and combined with the nut B, so that the saddle C may be turned from the bit, and the whole constructed so as to operate in the manner herein set forth.

75,700.—James Ramage and Thomas Nelson, Edinburgh, Scotland.—*Production of Plates for Printing.*—March 17, 1868; patented in England, March 26, 1866.—A solution of bichromate of potash, or of ammonia mixed with gelatine dissolved in water, is poured upon a sheet of suitable material, and when dry exposed under a negative drawing, engraving, or print. It is then immersed in water until the parts not acted on by the light swell up to the desired extent. The surface water is then removed, and a solution of gutta-percha is poured over the surface to form a skin thereon. The back of the skin is filled up with wax or other material, and when separated from the gelatine an electrotype is taken from the mold thus produced.

Claim.—The combined process, herein described, for the production of blocks and plates for printing, such combined process consisting in acting on a film of gelatine rendered sensitive by a chromatic salt, with light passed through a positive or negative of the design required, then wetting the gelatine surface, so as to cause it to swell in parts, then coating the swollen surface with an impervious skin, afterward taking a cast from the surface so obtained, and lastly, stereotyping or electrotyping the mold so obtained, substantially as herein described.

75,701.—William Reid, Granton, North Britain.—*Supplying Cattle with Food and Water on Railway Cars.*—March 17, 1868.—The cars are provided with troughs, which are filled from the outside and extend within.

Claim.—A stationary or detachable tank or trough, arranged upon a railway car so as to both extend into and project beyond the outer side of the same, substantially as and for the purpose described.

75,702.—Lewis Rice, Stockbridge, Mich.— *Shoe Lace.*—March 17, 1868.—A piece of leather has strings cut upon one side, which are left to hang like a fringe upon it, and one is passed through each of the lace holes. The strings have hooks upon their ends which engage the other side of the opening. The upper end of the connecting piece has a hook which engages an eye, so placed that the strings are drawn tight when the hook is engaged.

Claim.—As an article of manufacture, the shoe-lacing device, as described, and for the purposes set forth.

75,703.—John W. Rogers, Decatur, Ill.— *Tuyere.*—March 17, 1868.—Raised side-blast issues, are combined with a slightly raised central issue, which acts to prevent a dead space in the center of the fire.

Claim.—1. The upper portion A of the tuyere, constructed as described, and having the blast openings arranged therein substantially as set forth.

2. The pot-shaped under portion of the tuyere, having the weighted valves *j m* arranged upon it, as and for the purpose herein described and represented.

75,704.—Eugene Schmeltz, New York, N.Y., assignor to himself and Paul E. Fleury.—*Belt Fastening.*—March 17, 1868.—The lace is passed but partially through the belt, so as to be free from wear and to cause little unevenness in the surface.

Claim.—The improved mode of lacing together belts or bands, &c., substantially as herein described, the same consisting in passing a lacing, cord or cords, or other lines, from one to the other of the contact faces to the belt or band, &c., where overlapped, and partially through the thickness of same, substantially as specified.

75,705.—J. L. Sheppard, Charleston, S. C.— *Cotton Bale Tie.*—March 17, 1868.—The first side of the band hoop is passed through the eye, and the other end of the band is run through the eye and the end brought back and placed beneath the arm.

Claim.—The cotton-bale tie above described, consisting of the ring *a a a' a'*, having the sides *a a* straight and parallel, and the sides *a' a'* curved, the central opening being of such a form as to enable the hoop to be inserted over the ends *a' a'*, and turned so as to rest upon the sides *a a*, when such ring is used in connection with an arm B, between which and the nearest side *a* is an open recess *e*, all the said parts being constructed and arranged substantially in the manner and for the purpose specified.

75,706.—John H. Stone, Philadelphia, Pa.— *Construction of Sheet-metal Tea and Coffee Pots.*— March 17, 1868.—The base and the lower part of the body are each made in a separate piece, which is stamped into form. The strainer consists of a perforated, conical plate, having a vertically flanged edge, which fits the side of the lower recess of the pot. A rod ascends vertically from the apex of the strainer, and affords means for operating it. The tea leaves or coffee grounds are confined beneath the strainer.

Claim.—1. A sheet-metal tea or coffee pot, having the lower end C D of its body, and the upper side of its base A B formed up, and connected together at their smaller ends, so as to produce the said bottom and base, with the recessed portion E F between them, as and for the purpose described.

2. In combination with the subject-matter of the preceding claim, the strainer G H I, constructed and applied substantially as described and set forth.

75,707.—William Mont Storm, New York, N. Y.—*Clothes Wringer.*—March 17, 1868; antedated March 10, 1868.—The annular, rigid disks are strung on a yielding core, and loosely connected together by longitudinal screw rods.

Claim.—Constituting the roll or rolls of a series of inelastic annular disks, having an elastic bushing of India-rubber, or its equivalent, the whole mounted on a shaft or shafts, and operating substantially in the manner and for the purpose described.

75,708.—Henry M. Stow, San Francisco, Cal. —*Well Drill.*—March 17, 1868.—The side cutters are forced outward by the insertion behind them of wedge-pointed bars, which are attached to the drill rod, and have vertical movement in the head, on the drill

striking the bottom of the hole. The object is to allow the insertion of a lining pipe through which the drill head may be extracted.

Claim.—In combination with a drill stock in two parts, as described, movable cutters, operated by wedge-shaped tenons, to enlarge the hole formed by the drill, substantially as shown and described.

75,709.—JOHN A. THOMPSON, Auburn, N. Y., assignor to himself and LORENZO W. NYE, same place.—*Machine for Grinding Knives of Harvesters.*—March 17, 1868.—The cutter bar is secured to the tilting bar by adjustable attachments. The tilting-bar frame has lateral movement on the main frame.

Claim.—1. In combiuation with the movable base F, pedestal G, and tilting supporting bar I, the elastic clamps H H, with thumb screw and bolt T, forming movable joints, for the purposes set forth.

2. The connection of the supporting bar I, by the toggle elbow joints J J J J, with bar K.

3. The hood guard M and the rotary guard N, as and for the purposes specified.

4. The thimble O and angular frame E, all combined and operating in manner substantially as set forth, and for the purposes specified.

75,710.—JOSEPH W. TORREY, Milford, Mass., assignor to himself and JOHN S. JOHNSTON, same place.—*Protector for the Body.*—March 17, 1868.—The cloth bags hang over the breast and back, and are supported by the shoulder straps.

Claim.—The new article of manufacture described, to wit, a breast and back protector, consisting of a cloth bag or case lined or filled with paper, substantially as described.

75,711.—JAMES P. TYSON, Philadelphia, Pa.—*Carriage Thill*—March 17, 1868.—A rubber strip passes through a vertical hole in the clip and prevents rattling by bearing against the cross pin of the thill iron.

Claim.—A tapering strip C of gum-elastic, or its equivalent, secured at one end to the bar B, and extending between the end of the latter and the coupling block, substantially as and for the purpose described.

75,712.—GEORGE WALTERS and THOMAS SHAFFER, Phœnixville, Pa.—*Fagot for Beams.*—March 17, 1868.—The intervening bars are made the width of the outer bars, less the depth of the rib, and somewhat thinner than the rib, so as to give the outer bars a firm bearing there-against.

Claim.—A pile or fagot, (for wrought-iron beams or girders,) consisting of a solid bar or bars A, having a rib *a*, griped by and between bars *b* and *b'*, secured by transverse rivets to intevening bars, which are, together, less in thickness than the said rib *a*, all as set forth, for the purpose specified.

75,713.—ROBERT B. WHEATLEY, Grandview, Ind.—*Tire Setting Machine.*—March 17, 1868.—The wheel is clamped to the rotatable frame, which is faced with metal, and may be placed in a horizontal position to receive the tire, and then turned into a vertical position to shrink the same by revolution in the water.

Claim.—The device of the screw bolt *u*, passing through and rotating in the eye bolt *y*, which, being firmly fastened to the crab, allows the wheel to be revolved in the water with the crab for a support, during the process of cooling the tire, and so as to govern completely the dish of the wheel more readily than if the work were performed with the wheel and crab in the usual horizontal position, or if the wheel were left without any support whatever.

75,714.—JEROME WHEELOCK, Worcester, Mass.—*Piston.*—March 17, 1868.—A radial, wedge-formed recess is made in the flexible ring, and a suitable block fitted therein with a steam-tight joint. The block is forced outward by the curved strap, which is secured by bolt whose nuts occupy dovetail recesses in the ring.

Claim.—The ring A, when the same is provided with a wedge-shaped cavity, and corresponding piece fitted into the same, in combination with the strap C and screws *d e*, substantially as shown and described.

75,715.—CHARLES WILLIAMS, Manchester, N. H.—*Coal Stove.*—March 17, 1868.—The soapstone panels are exposed through openings in the outer plates of metal. The said plates are held by the rabbets of the posts, which also contain panels of steatite.

Claim.—The combination of the flue plate I, the flue *c*, the case A, the stand pipe B, and the air and smoke box C, with the rebated posts E, the cap D, the series of soapstone panels F G H, and the lap plates M, the whole constituting a stove, substantially as set forth.

75,716.—SAMUEL WOOLVERTON, Trenton, N. J., assignor to himself, GEORGE L. TAYLOR, and LEWIS PARKER, Jr.—*Dental Forceps.*—March 17, 1868.—Both jaws of the lower-molar forceps have a horn and crescent shaped beak. The upper-molar forceps have the crescent and horn on one jaw, and the crescent only on the other.

Claim.—Dental molar forceps, when provided with horn and crescent beak combined, substantially as described and for the purpose set forth.

75,717.—WILBUR R. WORDEN, New Haven, Conn.—*Sprinkler.*—March 17, 1868.—The inner sides of the perforations of the crust cap are cleared by the arms of the plate, which is partially rotated by drawing out a tangential rod pivoted thereto, and has returu movement by a spiral spring.

Claim.—The arrangement of the plate B, with its arms *b*, upon the plate A, with its perforations corresponding to the said arms, and combined with one or more operating rods D and return spring *a*, the whole to operate in the manner substantially as set forth.

75,718.—W. R. ADAMS, Independence, Mo.—*Corn Cultivator.*—March 24, 1868.—The beams are connected to a draw plate in front and to a hinged cross bar at the rear. The outer plows have adjustable conuection to the draw plate, and their standards are conuected by an adjustable cross bar which is hinged to them by ring bolts.

Claim.—1. The semicircular-shaped plate *a*, substantially as described and for the purposes set forth.

2. The cross piece D, as described, and for the purpose set forth.

3. The adjustable slides E, substantially as described and for the purpose set forth.

4. The combination of these three plows, the plate *a*, the cross piece D, and the slide E, substantially as described and for the purpose set forth.

75,719.—SYLVESTER ALBEE, Providence, R. I.—*Parlor Coal Sifter.*—March 24, 1868.—The prismatic sieve is inclosed in a tight box, and has an open side for the introduction of cinders, &c., and discharge of ashes. The radial arms impinge against stops to shake the cinders, and one of the stops is removable to allow the inversion and emptying of the sieve.

Claim.—The radial arms B C, in combination with the sieve *a b c d f*, and movable stop K, substantially as described and for the purpose set forth.

75,720.—WILLIAM ALLEN, Worcester, Mass., assignor to AMES PLOW COMPANY.—*Mowing Machine.*—March 24, 1868.—The edges of the hub are covered by a flange upon the axle and an annular face plate. This is chiefly to prevent entrance of an abradant which would act to wear the surfaces. The pitman crank has an additional bearing.

Claim.—1. Constructing the hub *f* with a lip or flange *u*, to project over and cover the edge of the axle, substantially as shown and described.

2. Constructing the face plate *w* with a lip or flange *x*, to cover and protect the adjacent edge or corner of the hub, substantially as shown and described.

3. Combining with the crank bearing *p* an auxiliary bearing *o'*, secured to the frame *a* by flanges *p' q' r'*, substantially as set forth.

75,721.—R. H. ATWELL, Baltimore, Md.—*Liquid Meter.*—March 24, 1868; antedated March 7, 1868.—The cylindrical case has a piston which turns on an axial shaft communicating motion to the register, and carrying an arm which at the end of each stroke changes a cylindrical valve, so as to cause the water

to alternately enter and discharge from the measuring chamber, at opposite sides of the internal partition.

Claim.—1. The arrangement, within a measuring chamber B, of the oscillating piston E and diaphragm or partition C, with a reversible valve automatically operated by the same mechanism that moves the piston, substantially as and for the purpose set forth.

2. The oscillating arm L L^1 and springs L^2 L^3, in combination with the latch J and spring K, or their equivalents, substantially as and for the purpose specified.

3. The valve F, having separate chambers F^2 F^3, in combination with the receiving and discharge chambers G^1 G^2, substantially as and for the purpose described.

75,722.—WILLIAM BABIN, New York, N. Y.—*Buckle.*—March 24, 1868.—The frame is attached to the garment by holes in the downbent, central portions of the sides. The tongue plates are separated to allow the end of one strap to be passed between them, and the other end is passed through an additional metallic loop at one end of the frame.

Claim.—1. The double buckle herein described, having the tongues and buckle frame, together with the eyes or means of fastening the buckle to the back of the garment, arranged with reference to each other substantially as described, so as to provide for tucking away the loose end of one of the straps under the buckle when the buckle is fastened to the back of the garment, substantially as described.

2. The loop *g*, in combination with a double buckle, constructed in other respects in the manner and for the purposes herein described.

3. In a double buckle having one frame and two opposite tongues, the eye holes or fastening devices at the middle of each side of the buckle frame, substantially as described.

75,723.—JAMES H. BAKER, Saratoga Springs, N. Y.—*Variable Exhaust for Non-condensing Engines.*—March 24, 1868.—The disk valve is operated by the oscillatory movement of the lever to simultaneously regulate the openings in the series of ports.

Claim.—The arrangement of the lever G, bolt F, disk valve D, chamber A, and pipe B, substantially as herein described.

75,724.—HENRY D. BLAKE, New Britain, Conn., assignor to P. and F. CORBIN, same place.—*Machine for Making Butt Hinges.*—March 24, 1868.—Improvement on the patent of Thomas Tracy, March 19, 1867. A feeding, gauging, and cutting device is combined with the driving device of the above. The wire is drawn from a coil, gauged to length, cut off, and driven into the butt automatically.

Claim.—1. The jaws *o o'*, arranged upon the stock *h*, and actuated by cam *d'*, through the stock *h'*, arm *k*, plate *m*, or their equivalents, to feed the wire *y* into the holding and cutting die *r*, substantially as and for the purpose described.

2. In combination with the above the screw *x*, or its equivalent, for fixing the extent of the backward motion of the stock *h*, whereby the length of the wires being cut is regulated.

3. The combination of the cams *e t'*, lever *t*, shear *s*, for cutting the wire at each successive revolution of the shaft *b*, and all constructed and arranged substantially as described.

75,725.—FERDINAND BLAUSS, New York, N. Y.—*Apparatus for Supplying Water to Grindstones.*—March 24, 1868.—The water from the grindstone is conveyed to a side trough, from which it may be raised to the dripping vessel by a pump operated by a crank on the spindle of the stone.

Claim.—1. The separation of the water trough of a grindstone from the grindstone, so that the lower part of the stone does not remain immersed in water or exposed to the action of moisture of water when the stone is in a state of rest, and furnishing water from the water trough to the upper surface of the stone by means of a pump, or its mechanical equivalent, worked by the revolution of the stone.

2. The supply of water to the upper surface by means of streams from the ends of the distributer, all substantially in the manner and for the purpose herein described.

75,726.—GEORGE BRABROOK, Taunton, Mass., assignor to REED & BARTON, same place.—*Name Plate for Coffins, &c.*—March 24, 1868.—The name plate has a perforated extension, which is recessed to receive a likeness and its protecting glass. The likeness is held in place by the spring.

Claim.—The arrangement of the name plate, the spring, and the picture frame, the whole being substantially as set forth.

75,727.—H. B. BRAMAN, Boston, Mass.—*Reclining Chair.*—March 24, 1868.—A slotted movable bar is pivoted to the support, which is connected to the foot rest. A pin passes through the slot and the side of the main stand; and on its inner end is an elastic washer which, being forcibly pressed against the slotted bar, serves to hold it in position under ordinary strain, but gives way to an extraordinary strain to prevent fracture of the joints.

Claim.—1. The combination of the slotted adjusting bar E with the rod F and elastic washer, substantially as and for the purpose specified.

2. In combination with the above, the device *b d*, constructed as described, for connecting together the portions of the movable frame, as and for the purpose set forth.

75,728.—GEORGE BROOKS and SAMUEL CLEMENT, Detroit, Mich.—*Machine for Making Excelsior.*—March 25, 1868.—The bolt is pressed downward within its fixed case by a weighted lever, and subjected to the action of the scoring and plane cutters at the upper surface of the horizontal rotating wheel.

Claim.—The arrangement of the wheel A, shaft B, the spurs C, and plane irons D in their proper openings in the rim of the wheel, the braces E and G, and the lever H, when combined and operating substantially as and for the purposes herein set forth.

75,729.—WILLIAM CHRISTMAN, Philadelphia, Pa.—*Liniment for Horses and other Animals.*—March 24, 1868.—For treatment of spavin, &c. Composed of camphor, 1 oz; turpentine, 8 oz; balsam of sulphur, 6 oz; and hog's lard, 1 oz.

Claim.—The above combination in the proportions specified.

75,730.—S. H. CLAPP, Malden, Mass.—*Brick Kiln.*—March 24, 1868.—The smoke stack has two flues which communicate at their lower ends, and have dampers at their upper ends, by which the caloric current may receive an upward or downward tendency. The kiln communicates with one of the flues through a vertical series of apertures, and a damper slides in the flue by which the current may be confined to any number of apertures, either at top or bottom.

Claim.—The brick kiln A provided with the flues M M', dampers N N' and H, and the openings K K' and L, combined and arranged as set forth and described.

75,731.—HEZEKIAH M. CLARK, Cleveland, Ohio.—*Lamp.*—March 24, 1868.—The tube passes vertically through the globe. The top and bottom plates surrounding the tube are radially corrugated, and the corrugations covered by disks so as to leave small passages. The lower passages communicate with holes through the tube and one for the flow of oil between the globe and tube. The upper passages allow the exit of gas to the flame, but are too small to allow flame to pass through. The lamp is filled through the wick tube and overflows into the globe.

Claim.—1. The corrugations *c* in combination with the perforated tube B and flange C, substantially as and for the purpose set forth.

2. The grooved flange D in combination with the tube B and globe, substantially as and for the purpose set forth.

75,732.—HORACE CLARK, Northampton, Mass., assignor to DWIGHT L. CLARK, same place.—*Medical Compound.*—March 24, 1868.—Liniment. Composed of olive oil, 1; oil of origanum, 1; and oil of tar or turpentine, 1 part. It may be taken internally.

Claim.—The above-explained composition, as composed of the constituents hereinbefore mentioned, such being for the purpose or purposes as set forth.

75,733.—William Clemson, Middletown, N.Y. —*Saw.*—March 24, 1868.—The curved teeth enter suitably-shaped slots extending backward from the edge of the saw, and their edges are recessed to receive the angular edges of the slots. The teeth have a "wind" to give them the set, and are bent sideways to increase their frictional hold in the plate.

Claim.—1. The saw tooth A when constructed with a sidewiso bend, forming a spring to hold it in the slot of the saw plato, substantially in the manner and for the purpose described.

2. The saw teeth A A when constructed with a twist alternately in opposite directions for the purpose of giving a set to the tooth, and an additional security in holding the tooth in the slot in tho saw plate, in the manner set forth.

3. The saw tooth A when constructed with a sidewise bend and a twist, substantially as described.

4. The saw tooth A when constructed with a sidewise bend, a twist, and having its sides on lines dissimilar to the lines on the edges of the slots in the saw plate, substantially as described.

75,734.—William Clemson, Middletown, N.Y. —*Saw.*—March 24, 1868.—The tooth slot has a doubly beveled edge which enters an angular groove in the edge of the tooth. The tooth is bent sideways and twisted so as to give tho set and a frictional hold in the plate.

Claim.—The curbed tooth *b* when constructed thinner than the saw plate, slightly bent sidewise and twisted, in combination with the recess in the saw plate, when said recess is constructed substantially as described.

75,735.—J. L. Collins and H. C. Burgie, Chicago, Ill.—*Sheave.*—March 24, 1868.—The edges of the circumferential groove are turned over in a lip to hold the soft metal cast therein.

Claim.—In the manufacture of sheaves the formation of a rabbet or flange *a* in or upon that part of the sheave in which the soft metal is applied, substantially as and for the purposes set forth.

75,736.—Matthew F. Connett, Ladoga, Ind., assignor to himself, T. G. Maiden, and William C. Hendricks.—*Wood Turning Lathe.*—March 24, 1868.—Improvement on the "Blanchard" turning lathe. The two vibrating frames support respectively the pattern and the blank. The trembling of the blank is prevented by a back rest and under rests, which are attached to a vibrating stock that is carried on hangers upon the carriage. The stock is acted on by springs which give the rests a constant tendency toward the cutters. A curved arm extends from the stock to the pattern to limit the movement of the stock. The pattern has an enlargement at each end which operates to force back the frame and rest stock, so as to remove the article from the proximity of the cutter to allow its removal. The finishing cutters are flanked on each side by roughing cutters, so as to allow the same to act in each traverse of the carriage.

Claim.—1. The two vibrating frames G H employed, respectively, to hold the pattern and the material to be operated in or nearly in the same plane with the axis of the cutters, and vibrate them at equal distances from the centers of points of vibration of the frames, so as to produce a *fac simile* of the pattern, substantially as described.

2. Releasing the stuff E from the back rest and cutters by means of the conical enlargements *f f*, formed upon the end of the pattern F, substantially as set forth.

3. The adjustable arm or rest O^4 in combination with the yielding stock O^2 and back rest O, all arranged and operating substantially as described and represented.

75,737.—Walter Crocker, Meadville, Pa.—*Uterine Abdominal Supporter.*—March 24, 1868.—A single pad rests against tho lumbar region of the back, and the other two pads rest upon the sides of the lower part of the abdomen. Straps from the lower sides of the front pads connect with flexible straps depending from the lower edge of the back portion of the belt.

Claim.—The band A A and pad D in combination with the pads E E and the straps F F and *m m*, when the same are constructed and arranged as described for the purposes set forth.

75,738.—Rolan Daily, Canal Township, Pa.—*Car Coupling.*—March 24, 1868.—The coupling pin is hinged to a spring lever, which, in preparation for coupling, is held by a spring detent bar. The entering link impinges against a rod pivoted to this bar, and releasing the lever the pin is inserted through the link by movement thereof.

Claim.—A car coupling composed of the pin S, lever R, spring catches and operating devices connected therewith, for locking the arm B, all arranged in a draw head, combined and operated as described for the purposes set forth.

75,739.—Alfred de Pindray, Paris, France.—*Boiler Furnace.*—March 24, 1868.—The spaces surrounding the boiler have a width of 2¼ inches, except above, where the walls close upon the boilers, and below at the ledge where a space of 4 inches is left. The rear end of the ash pit communicates with the floor of the bricked part of the furnace by a curved incline. This is intended to prevent return draught.

Claim.—1. A furnace so constructed that the walls surround tho boiler and leave spaces, in manner substantially as specified, and having the fire box disposed between vertical walls of said furnace, and of the relative dimensions and in manner substantially as shown and described.

2. The inclined concave wall K, connecting the floor of tho ash pit with the floor of the flue at the rear end of tho ash pit, substantially as set forth and described.

75,740.—R. H. Dilley, Regnier's Mills, Ohio.—*Watch Key.*—March 24, 1868.—The socket piece projects rectangularly from the hinged door. The door may be closed, in which case the socket piece is contained in the case and the door is held by a spring catch. In use the door is folded upon the lower end of the case, and the socket piece projects in position for winding.

Claim.—The improved watch key consisting of the hollow case, provided with tho hinged door A and springs E and D, when constructed as and for the purpose described.

75,741.—G. L. Dulaney and J. A. Kaufman, Mechanicsburg, Pa.—*Railroad Switch.*—March 24, 1868.—The weights tend to keep the tongues of the switch in connection with the main track. Inclined levers are placed beside the rails, which are operated by treadle bars upon the car, so as to make the connection with either side track.

Claim.—1. The gravitating weight a^2 with its jointed connecting rod and fulcrum, in combination with the switch rails *a a*, in the manner and for the purpose herein described.

2. The combination of the inclined levers B^2 B^3 with the rods *o o*, in the manner and for the purpose herein described.

3. The combination and arrangement of the weights a^3, bolts D^1, and switch rails *a a*, in the manner and for the purpose herein described.

75,742.—Theodore Enszlin, Newburg, N. Y. —*Salve.*—March 24, 1868.—Clear butter, 4 oz., is, after melting and skimming, cooked for 15 minutes with malva rotundi folia, ¼ oz. The vegetable is then well pressed and the exudation forms the salve for treatment of sores.

Claim.—The combination of the materials contained in the composition of matter herein described.

75,743.—Leroy B. Firman, Chicago, Ill.—*Electric Commutators.*—March 24, 1868.—A wheel, whose circumference is unbroken by pins or projections, has certain sections composed of gutta-percha or other non-conductor. The rotation of the wheel brings the non-conducting surfaces of the periphery at certain times in contact with the poles of the wires to break the circuit. The device is specially intended for fire-alarm telegraphs.

Claim.—A commutating wheel, composed of two plates, circular or annular, one of a conducting and one of a non-conducting material, L D, when altern-

ate sections of the two plates of their peripheries are moved in contact with the point *d*, and when the points of alternation are chamfered off and kept from contact with each other, in the manner and for the purposes specified and described.

75,744.—William H. Flinn, Nashua, N. H., assignor to himself and Albert H. Saunders, same place.—*Medicine Bottle.*—March 24, 1868.—The cork is bored axially and receives the cylindrical part of the administering vessel. The vessel has a side opening through which it communicates with the bottle, and when it is filled the opening may be closed by turning the vessel or partly withdrawing the same. The outside of the vessel has a projection which acts as a stop to limit the turning.

Claim.—The combination of the administering vessel or cup B, and its induction tube D, provided with the opening, and sealed at bottom, as described, with the cork or stopper of a bottle, the whole being arranged and so as to operate substantially as and for the purpose specified.

75,745.—William H. Flinn, Nashua, N. H., assignor to himself and Albert H. Saunders, same place.—*Medicine Bottle.*—March 24, 1868.—The cup contains a dose of the medicine and may be marked with a scale graduated to different ages.

Claim.—The arrangement of the cup with the stopper, so that when the latter is within the neck of the bottle, the cup will extend into the bottle, as specified.

75,746.—William Franklin and T. M. Smith, East Randolph, N. Y.—*Dash Board for Carriages.*—March 24, 1868.—The sheet-metal panels are secured in the grooves of the frame.

Claim.—The grooved frame B, with its plates A A, and connecting pieces H H, when constructed substantially as specified.

75,747.—Robert Gilliland and R. H. Armstrong, Hudson, Mich.—*Pump.*—March 24, 1868.—A box is inverted upon the pump cylinder and forms a water chamber which is traversed by the piston rod and is intended to prevent the entrance of air.

Claim.—The arrangement of the water chamber E, upon the top of section B, for causing a cold water packing, which is formed by the operation of the pump, and constitutes a double-acting force and suction pump, without placing the working parts under water, as set forth.

75,748.—William C. Goggins, Portland, Me.—*Heating Stove and Furnace.*—March 24, 1868; antedated March 18, 1868.—A vertical air-heating tube passes axially through the furnace. The grate is bisected and its semicircular sections are made to tilt. The furnace is surrounded by an air chamber.

Claim.—The combination and arrangement of the tube *a*, air chambers *f*, doors *g*, semicircular tipping grates *e*, and ash pit *h*, in a heating furnace, substantially as and for the purpose set forth.

75,749.—Henry P. Gregg, Cincinnati, Ohio.—*Corn Planter.*—March 24, 1868.—The seed slide has different sized cavities at the opposite ends and is reversible to regulate the amount of seed planted. The seed in passing through the contracted chute is arranged ready for occupation of the cavity.

Claim.—1. The manner of adjusting the cups *e* and *d* in their depth by reversing them, for the purpose described.

2. The narrow chute or ante-chamber *b*, for the purpose of pre-arranging the grains before entering the cup, as specified.

3. The combination of a movable reversible measuring cup, with a stationary tube, when attached to a hoe, for the purpose herein set forth.

75,750.—Wilmer D. Gridley, New Britain, Conn.—*Curtain Fixture.*—March 24, 1868.—The cord passes through the bracket between the fixed and spring pads and is relieved by drawing out the knob which is attached to the latter pad.

Claim.—A curtain friction bracket, consisting of the socket case *f*, friction pads *h i*, spring *k*, knob *n*, substantially as described.

75,751.—Heber C. Griffin, Franklin, N. H., assignor to himself, George W. Griffin, and John N. Howe.—*Billiard Cue.*—March 24, 1868.—The inwardly-beveled edge of the socket of the staff ferrule has an interior screw by which it is secured to the staff, and which also serves to engage the inner end of the bisected tip socket, which is clamped upon the tip by screwing into the ferrule socket.

Claim.—The billiard cue A, composed of two separate jaws C and D, and tip E, and socket B, constructed and arranged substantially as and for the purpose described.

75,752.—Earl J. Hall, Indianapolis, Ind.—*Wind Wheel.*—March 24, 1868.—The inner ends of the wings are turned toward the windward side. The chain operating the gates is connected to the ball governor so as to equalize the speed.

Claim.—1. The fans or wings B, having their surfaces in straight lines, excepting at their inner ends, which are provided with the short curves *b'*, for the purpose described.

2. The governor D, wheel d^3, and chain *c'*, when combined and arranged substantially as described.

75,753.—William Hamilton, Chicopee, Mass.—*Oiling Fast and Loose Pulley.*—March 24, 1868.—Improvement on his patent, October 2, 1866. The loose pulley is fast to a sleeve. This sleeve turns in the box and forms the end bearing of the shaft. An endless chain is laid upon the sleeve and carries up oil from the receptacle. The oil flows through small holes in the sleeve into an annular chamber between it and the shaft and returns to the receptacle by passing between the end of the box and the sleeve.

Claim.—1. The sleeve B, with the hollow cylinder *e*, constructed as shown, and arranged upon the shaft C, substantially in the manner and for the purpose described.

2. In combination with the sleeve B, the shaft C, formed as shown, with the taper and projection *j*, substantially as set forth.

3. The tongue *k*, when connected with a dripping trough *i*, for the purpose and in the manner shown.

75,754.—Joseph Harrison, Jr., Philadelphia, Pa.—*Low-Water Detector.*—March 24, 1868.—A tube communicating at one end with the boiler, at the low water level, is closed at the end and rests against a piece of glass forming the end of a water pipe. On the fall of the water, allowing the passage of steam into the pipe, the pipe expands and fractures the glass, which allows the flow of water into the furnace.

Claim.—A tube B, communicating at one end with a steam boiler, and closed at the opposite end, in combination with the water supply pipe F, and the disk *i* of glass, or any equivalent to the same, the whole being constructed and operating substantially as and for the purpose herein set forth.

75,755.—Richmond Hathaway, Chicopee, Mass.—*Caster for Sewing Machines.*—March 24, 1868.—The casters have vertical movement and are operated by levers actuated by cams on the treadle rock shaft when the said shaft is raised by the hand lever. The casters may be depressed in relation to the machine so as to support it when it is to be moved.

Claim.—The arrangement of the levers C and C^1, with casters and connecting rod E, combined with the hand lever B and treadle A, with cam K, substantially as and for the purpose shown.

75,756.—Henry A. Henderson, Avoca, assignor to himself and Charles M. Gray, Whitestown, N. Y.—*Farm Gate.*—March 24, 1868.—The gate has end movement upon rollers and admits of raising vertically, in which position it is sustained at the rear end by the hook upon the post.

Claim.—A farm gate having the guide board D, slot E^4, rolls B^1 and B^8, and the notches E^6 and E^7, and the hook B^2, in combination, for the uses and purposes mentioned.

75,757.—Levi Herr, West Lampeter, Pa.—*Trace Fastener.*—March 24, 1868.—A metallic plate at the end of the trace is inserted into a rectangular

socket of a plate secured to the end of the singletree and is retained by a pin upon a spring lever, the said pin traversing both plates.

Claim.—The shallow box A, with its spring-bolt trigger B B B *b*, screw or flange attachment D, in combination with the trace plate E, arranged and operating substantially in the manner and for the purposes specified.

75,758.—JAMES HESTER, Knoxville, Ill.—*Securing Checks, Drafts, &c., from Fraud.*—March 24, 1868.—Private marks or instructions are concealed in folded slips, which are attached to checks or drafts by metallic or other fasteners, and the instructions cannot be inspected until the fastening is destroyed.

Claim.—1. The method of attaching and using upon checks, drafts, and such like papers, concealed private marks and instructions, substantially as described, and represented by example O on specimen No. 1.

2. The method of making, folding, and fastening concealed private marks, instructions, and signatures, upon stubs or blank ends of checks, drafts, &c., substantially in the manner and for the purposes as herein described, and as shown by example T S on specimen No. 2.

75,759.—S. B. HEWETT, Jr., Eagle Grove, Iowa.—*Wire-Fence Key.*—March 24, 1868.—The wire is received in the slot of the head, and coiled around its cylindrical part by operation of the lever which is inserted between the catch-lugs.

Claim.—1. The combination of the wheel A, provided with flanges, as shown, and a slot D, with the removable pins C, or their equivalent, arranged and operating as and for the purposes herein set forth.

2. In combination with the above, the arrangement of the jaws or lips E, as and for the purposes specified.

75,760.—BENJAMIN HOGAN, Albany, N. Y.—*Hat-Conformator.*—March 24, 1868.—The usual hat-conformator has a second rim added, which may be removed vertically, and holds the arms in positions. A register, through medium of a cord, indicates the size.

Claim.—1. The pressing rim B, spring C, and holding catches *d d*, combined and arranged substantially as and for the purpose specified.

2. In combination with the measuring fingers or arms of a hat conformator, the ring or band B, or equivalent device, for securing the said arms in fixed position, substantially as described.

3. In combination with a hat conformator, an indicator, or equivalent registering device, upon which is indicated the size to which the measuring arms are distended, substantially as described.

4. The cord or chain *m*, fingers F, and indicator H, arranged and operating as described.

75,761.—ABIJAH HUBBELL, Sharon, Conn., assignor to himself, E. P. H. CAPRON, Springfield, Ohio, and GEORGE V. CAPRON, Sharon, Conn.—*Machine for Hulling Grain.*—March 24, 1868.—Cross straps extend over the upper stone, and vertical screws in the straps give means for the adjustment of the upper stone, which is supported on adjustable pivots. The lower stone is adjusted by means of the spindle, whose upper bearings are adjusted by screws turning in lugs upon the straps.

Claim.—The construction and arrangement upon the straps *f* of the bearings K for the shaft B, and the adjusting screws *i* for trimming the stone D, as herein set forth, for the purpose specified.

75,762.—WILLIAM C. HUNTER, Newport, Ky.—*Washing Machine.*—March 24, 1868.—The suds-box has side and bottom rollers, and the oscillating arm has a cross-head with a series of pendent pins. This arm is adjustable in a cylindrical rocking block in the lid, and is connected to a lever fulcrumed at the end of the box.

Claim.—The rollers I and K, the vibrating finger-bar D, having the cross-head E, and fingers E′ E′, the cylindrical box B, pin C, and connecting rod G, and lever H, when the same are constructed and arranged substantially as herein described and for the purpose specified.

75,763.—C. W. INGLIS, Paterson, N. J.—*Machine for Preparing Peat.*—March 24, 1868.—The peat is subjected to the action of the spiral rows of pins on a cylinder rotating within a hopper. At the hopper bottom is a plunger-box, from which the peat is forced by the reciprocating "crowder."

Claim.—1. The reciprocating crowder D, scraper H, and passage M, arranged relatively to the mill A *a*, B *b*, or its equivalent, substantially in the manner and so as to operate as herein set forth.

2. The cutter I, passage M, reciprocating crowder D, and mill A B, combined and arranged as herein represented and described.

75,764.—J. W. A. JONES, Memphis, Tenn.—*Street-Railway Scraper.*—March 24, 1868.—The scrapers are ordinarily kept above the surface of the track by the elasticity of their supporting springs, but may be brought in contact with the rails to remove dirt or snow therefrom.

Claim.—The combination of the springs B B, levers H H and G G, in connection with the fulcra *h* and *g*, the hinge F, and the upright shaft C, all constructed and arranged as described and for the purpose specified.

75,765.—J. O. JOYCE, Dayton, Ohio.—*Water Wheel.*—March 24, 1868.—The wheel is of the double-turbine, center-vent kind, and has a cylindrical exterior but conical interior, so as to give the water a free vent. The buckets necessarily decrease in width downward.

Claim.—The annular concave plates 1, 2, and 3, having the buckets *k l* arranged between them, so that the upper ones *k* will alternate in position with the lower ones *l*, the plates and buckets gradually diminishing in depth from the top downward, so as to give the wheel a cylindrical exterior and a conical interior, all constructed as described, and arranged in connection with the register-case E and gate or chute-cylinder H, substantially as specified.

75,766.—EDWARD S. JUDGE, Baltimore, Md.—*Producing an Extra Surface on Papier-Maché.*—March 24, 1868.—The mould has a fixed surface of ground lead and oil. When making a cast, the surface is painted with a mixture of glue and whiting, which comes off with the papier-maché.

Claim.—1. The application of lead and oil on the surface of the mold to prevent the adhesion of the surface-coating to the mold.

2. The admixture of ground lead in the plaster of Paris or composition of which the mold is made.

3. The obtaining of an extra surface on papier-maché, by coating the mold before the impression of the papier-maché therein with the aforesaid composition, or any other substantially the same, and which will produce the intended effect.

75,767.—EBEN W. KEYES, Boston, Mass.—*Torpedo Toy-Gun.*—March 24, 1868.—A cup at the end of the rod receives the torpedo, and the rod is drawn back in the cylindrical case, thereby compressing the spiral spring. The head has a cross bar, which engages a hook on the case, but may be tripped therefrom to project the torpedo.

Claim.—1. Attaching to one end of the rod D a cup for holding the torpedo, and to the other end a knob or ring for pulling back the rod, operated by a spring, substantially as described and for the purpose set forth.

2. Combining with the above the pin L and hook K, substantially as described and for the purpose set forth.

75,768.—NICOLAUS KIRCHNER, Philadelphia, Pa.—*Fastening Shoes.*—March 24, 1868.—The flap of the shoe has a series of loops through which the flexible levers are passed. One end of each is hinged to its plate, and the other end catches over it.

Claim.—A fastening for shoes and gaiters, consisting of the springy lever B and plate C, constructed and combined together substantially as described, and operating, when applied to the shoe or gaiter, as a lever for drawing the closing parts together, and as a spring-catch for fastening them in that position, as described.

75,769.—Andrew Kloman, Pittsburg, Pa.—*Pile for Girder Iron.*—March 24, 1868.—The top and bottom pieces are convex on their adjacent sides, and are grooved for reception of the edge of each alternate connecting piece.

Claim.—Making up a pile or fagot, to be rolled into girder-beams, of top and bottom pieces *a a'*, connected together by plates *b* and *c*, in any desirable number, the plates *b* entering grooves in the lower and upper faces of the top and bottom pieces respectively, and alternating with plates *c*, substantially in the manner and for the purposes hereinbefore set forth.

75,770.—Andrew Kloman, Pittsburg, Pa.—*Making Piles for Girder-Beams.*—March 24, 1868 — Each piece has a web, and has a top and bottom flange projecting chiefly upon one side, so as to form side ribs, and a slight longitudinal aperture between the webs when placed together.

Claim.—Grooving those parts of a pile or fagot for making girder-beams which, when rolled, are to form the web of the beam, so as to secure an aperture *b*, along through the heart of the pile or fagot, substantially as and for the purposes hereinbefore set forth.

75,771.—Christian Knisely, Chicago, Ill.—*Burglar Alarm.*—March 24, 1868.—The spur plate is inserted in the crack of the door, and upon any attempt to open the door it impinges upon the sliding tripper which releases the hammer from the spring detent.

Claim.—1. Combining the spring *b* and hammer *c*, constructed in a single piece, with the stationary pistol-barrel *d*, all arranged as described.

2. Combining the piston *g*, hammer and spring *e*, substantially in the manner shown.

3. Adjusting the piston *g* by means of the thumb-nut *i*, substantially as shown.

4. In a burglar alarm, the combination of the pistol-barrel *d*, hammer *c*, spring *b*, piston *g*, spring *c*, and thumb-piece *i*, all arranged and constructed as described.

75,772.—William Lamb, Rochelle, Ill.—*Churn.*—March 24, 1868.—The arm which is clamped to the dash rod enters a socket in a plate clamped to one of the arms of the fly wheel, and the dasher receives a vertical reciprocation as well as horizontal oscillation.

Claim—The adjustable clamp K, in combination with the wheel H and clasp L, the several parts being constructed and operating substantially as set forth.

75,773.—Israel Lancaster, Baltimore, Md.—*Harvester.*—March 24, 1868.—The cutter-bar has a flexible extension which is secured to the end of its oscillating motive lever.

Claim.—In combination with a flexible knife-bar, between the point of attachment to the reciprocating lever and the first knife section, a rigid attachment of the knife-bar to the end of the reciprocating lever, forming a joint, immovable in any direction.

75,774.—Israel Lancaster, Baltimore, Md.—*Harvester.*—March 24, 1868.—The lever which actuates the cutter-bar is oscillated by the cam surface on the side of the wheel. The lever has a central collar or fulcrum block, which is traversed by the radial pins of the pivot block. The pivot block slides on the angular shaft and is adjusted by a temper-nut, which is secured by a jam-nut.

Claim.—The method of holding the reciprocating lever D D up to its work, by means of nuts screwing on the driving-wheel shaft, substantially as described.

75,775.—Samuel S. Laws, New York, N. Y.—*Signaling Apparatus.*—March 24, 1868.—Improvement on his patent of December 31, 1867. The dial faces are marked in whole numbers and fractions, and are connected by wheels from which an intermitting rotary motion is communicated. Each motor wheel has a boss-headed stud upon its periphery, which enters one of a series of notches in the moved wheel, and between the notches are recessed curves, in which the periphery of the motor wheel turns around and prevents the movement of the other wheel except by the passage of the stud and its side recesses. Forward or backward rotation is communicated to the first wheel by escapements operated by the armatures, and so arranged as to allow the escape of but one tooth for each motion of the armature lever.

Claim.—1. A series of wheels thus alternately moved and held in check, in combination with contrivances for giving either an advance or a retrograde movement, according to circumstances, substantially in the manner and for the purpose above set forth.

2. In a reporting and signaling apparatus, the series of disks and wheels, as above shown, in combination with the coils O O', the armatures R R', and the levers L L', constructed, arranged, and operating substantially as above set forth.

3. In a reporting and signaling apparatus, intended specially to report the rise and fall of gold, stocks, &c., the use of disks operated substantially as above shown, and so arranged as to present integers representing tens, hundreds, &c., as well as fractions varying by eighths, when the whole are so disposed, either in rows or in any other prearranged order, as to communicate at a glance the changes in the stock market, substantially in the manner above described.

75,776.—Elliott A. Lowdermill, Grand Junction, Tenn.—*Medical Compound.*—March 24, 1868.—For treatment of pneumonia, &c. One pound each of alum and blue vitriol are burnt and pulverized, and are then mixed with alcohol, 1 gall.; gum camphor, 3 oz.; honey, 1 gall.; and spirits of turpentine, 1 gall.

Claim.—The compound fluid, composed of alcohol, honey, spirits of turpentine, gum camphor, alum, and blue vitrol, in the proportions herein specified, and for the use and purpose described.

75,777.—C. C. Lyman, Edenboro, Pa.—*Animal Trap.*—March 24, 1868.—The wing wheel has rotation by the weighted cord, when relieved from the spring catch. The spring catch is forced back by the toe of the platform lever on which the animal steps in reaching the bait, and the next wing is arrested in passing the catch to reset the trap.

Claim.—1. The revolving wings or platforms B, and levers F, pulley C, cord C', and weight E, arranged in the manner and for the purpose substantially as described.

2. The wings B with pivoted levers F, in combination with the spring catch H, and catch G, arranged as and for the purpose substantially set forth.

75,778.—James Macferran, Philadelphia, Pa.—*Night Chair.*—March 24, 1868.—The cover is first closed over the pot and the hinged arms folded down thereon; after which the molded cap encloses the cover and arms. The pot is supported in a slide which is withdrawn at the side and another slide forms a cover thereto.

Claim.—1. The double slide F F', combined and arranged with the pot and chair, substantially as and for the purpose above set forth.

2. The combination and arrangement of the cover H with the seat G and arms I I, substantially as described, and for the purpose specified.

3. The combination of the clasps J and J' with the cover B and arms I I, substantially as and for the purposes set forth.

75,779.—George I. Mason, Lewistown, Ill., assignor to himself and William M. Scott, same place.—*Heel Seat for Boots and Shoes.*—March 24, 1868; antedated March 10, 1868.—The crescent-formed block is attached to the removable sole, and is inserted into the boot, when the heel is worn unequally, so as to crowd the heel of the foot over the unworn side of the heel.

Claim.—A heel seat with sole attached, for the purpose specified, and consisting of the crescent form with sole attached, as and for the purpose specified.

75,780.—Hugh McDougall, Chicago, Ill., assignor to himself, Robert Stewart, and Coll McDougall, same place. — *Wooden Pavement.*—March 24, 1868.—The guides have a series of pins which pass between and support the blocks until sufficient concrete has been introduced into the crevices to support the blocks.

Claim.—The guide A, when provided with fingers *a a*, or open spaces for the admission of gravel, substantially as specified.

75,781.—Jacob Naylor, Hedgesville, W. Va.—*Machine for Bending Tires.*—March 24, 1868.—The tire lies upon a curved former, and passes beneath an adjustable bar at the further end of the former. The tire is secured to the operative lever by straps, within which it slides as the operation progresses.

Claim.—A former A, provided with flanges *b b* and adjustable stirrups for holding the bar B, all constructed, arranged, and combined as described.

75,782.—Franklin Nelson, Wyandotte, Mich.—*Punching Machine.*—March 24, 1868.—The pendulum levers are hinged respectively to the head of the machine, and to the punch, and their approaching ends are hinged to the horizontal lever at such points as to be operated by the oscillation of the same. The horizontal lever is actuated by toggle-levers.

Claim.—1. The pendulum levers D and E, working upon fulcra K and P, operated by lever F, when secured to sliding blocks I by the trunnions T, in combination with the plates O, trunnions N, and operating substantially as herein set forth.

2. The combination of all the above described parts, when used in connection with the punch J and die L, and any proper frame A and any suitable levers F, G, and H, arranged and operating substantially as and for the purposes herein described.

75,783.—W. T. Nichols, Rutland, Vt.—*Excavator or Shovel.*—March 24, 1868.—The earth is taken up on the shovel and slides backward in the box. When sufficient has accumulated in the front part the bail is released from the catch, by the treadle, and the box allowed to tilt back. When discharging, the tail gate is opened and the box tilted.

Claim.—1. A combined cart box and scraper or shovel, in combination with the front self-acting end boards and the self-fastening rear end door, substantially as set forth and described.

2. The connecting or draught frame C, together with the combination of the foot lever G, the hand lever H, and the slotted tongue U, substantially as set forth and described.

3. The application of the draught to the box A at the rear of and below the axle by fastening the ends of the frame C to said box, and the change of draught from the rear to the front of said box A by the use of the bail E and the slotted tongue U, substantially as set forth and described.

4. The drop and hoist levers D D, pivoted in front of the axle, for the purposes and substantially as set forth and described.

5. A self-loading cart, constructed of the parts lettered from A to V respectively, in the manner and for the purposes herein set forth and described.

75,784.—B. S. Norris, Ripley, Ohio. — *Boot Crimping Screw.*—March 24, 1868.—The serrated jaws are jointed together and adjusted by a set screw.

Claim.—The jaws A and B, provided with the screw D, when combined and arranged to operate in conjunction with the screw E and nut F, substantially as described, and for the purposes set forth.

75,785.—Jonathan Null, Quincy, Pa.—*Wood Boring Machine.* — March 24, 1868.—The post is clamped to a carriage and is adjusted in front of the auger by movement of the carriage.

Claim.—The frame F, moved by the shaft G, cog wheels H, crank I, wheel K, and weight L, and the movable frame M, controlled by the spring N, when constructed and arranged to operate substantially in the manner and for the purposes as set forth.

75,786.—Oscar Paddock, Watertown, N. Y.—*Horse Hay Fork.*—March 24, 1868.—The two claws are caused to project by the depression of the center rod, and the operating mechanism of the rod is protected by the housing frames.

Claim.—1. A hay fork in which the center rod and claws are combined with the sheath, in such manner that the claws, when projected, shall bear with a lateral pressure against the sheath, or against shoulders or bearings formed therein, so as to relieve the center rod from upward pressure or strain, substantially as and for the purposes set forth.

2. The combination of the center rod and its pivoted claws, notched, or provided with inclined shoulders, as herein described, with the sheath, and correspondingly shaped bearings formed in the same, for the reception of said shoulders, substantially as and for the purposes shown and set forth.

3. The combination, with the center rod and claws, of the spring, "locking bolt," and lever, and rope, or its equivalent, attached to both center rod and lever, under the arrangement and for operation as herein described.

4. In a hay fork in which the claws and center rod are combined with the sheath, as described, the method of raising the center or elevating rod and retracting the claws by means of a spring or springs combined with the said rod, substantially in the manner herein shown and described.

5. The combination, with the center rod, of the sheath, its handle, and a locking mechanism for the said rod, attached to and arranged within the said handle, substantially as herein shown and specified.

75,787.—William H. Peirce, Bangor, Me.—*Egg Beater.*—March 24, 1868.—The spiral wire is in a conical form and has a vertical handle attached to its apex. It is operated by alternate elevation and depression, the lower coil being continually in contact with the bowl, and the other coils being brought in contact therewith at each depression.

Claim.—An egg beater, constructed of a cone of coiled wire, left free to move vertically as a spring, substantially in manner as described and shown.

75,788.—J. A. Pipo and W. Walbaum, Hoboken, N. J.—*Shutter Fastening.*—March 24, 1868.—The lock is placed upon the stile upon the inside of one of the blinds, and has a spring hook to engage a catch upon the other blind of the same window. The hook is raised by a key which is partially inserted in one position, and then turned to allow complete insertion, after which it must receive another turn to engage the hook, and allow its partial withdrawal to raise the same.

Claim.—1. The combination, in a blind lock or fastener, of the catch B and spring detent F, substantially as and to the effect set forth.

2. The combination, in a blind lock or fastener, of the catch B, detent F, and key G, substantially as set forth.

3. The combination of the catch B, detent F, and staple K, substantially as herein set forth.

4. The combination of the catch B, detent F, staple K, and pin J, or its equivalent, substantially as hereinabove set forth.

75,789.—William H. Prescott and Whitcomb Judson, Galesburg, Ill.—*Odometer.*—March 24, 1868; antedated March 9, 1868.—One pointer indicates the miles traveled up to 50, and its shaft actuates that of another pointer which indicates up to 500.

Claim.—1. Imparting motion to the gearing by means of an eccentric on the end of the actuating shaft, operating a slide with a pawl, substantially in the manner and for the purpose as herein described.

2. Providing a stationary dial plate with two sets of figures and two hands, a mile hand and a multiplier, operated substantially in the manner and for the purpose as herein described.

3. The construction of the ratchet wheel C with pinion *e*, the stationary and movable wheels *e* and *d*, the loose hub D, with tooth *g* and ratchet wheel E, as arranged and operated substantially in the manner and for the purposes as herein described.

75,790.—A. J. Preston, Guilford, N. Y.—*Hay Rake and Loader.*—March 24, 1868.—The hay is

gathered by the rake, raised by the fork, and deposited on the wagon by the clearer. The machine is drawn forward by connection with the wagon, and the mechanism is actuated by connection to one of the wheels.

Claim.—1. The combination of a fork, having a vibrating and reciprocating motion, with a hay rake and a clearer, substantially as described.

2. So arranging and supporting a hay fork, which vibrates about a horizontal axis, that this fork shall remove the hay, gathered by a rake, from this rake, and after the delivery of its load upon a wagon, it shall rise over and arrange itself in rear of the load which was gathered upon the rake during said delivery movement, substantially as described.

3. The arrangement of the rake teeth upon arms projecting from beam *a*, in combination with means which will cause the fork to rise over the load gathered upon the rake during the delivery movement of the fork, substantially as and for the purposes described.

4. Providing a frame, carrying hay raking and loading devices, with a pole P^1, and two steadying arms R R, the latter carrying on their front end rollers g^2, for the purpose and in the manner substantially as described.

75,791.—Lewis T. Pyott, Philadelphia, Pa.—*Cooking Stove.* — March 24, 1868. — The grate is mounted on wheels and has longitudinal movement to bring it beneath the pot holes or oven.

Claim.—1. The combined furnace and truck A, mounted upon boxed or encased wheels B B, as described and for the purpose specified.

2. In combination with the foregoing, the V-shaped rails, extending from the rear of the stove to the front of the hearth, as and for the purposes explained.

3. The automatic division plate or damper D *d*, operated by the motion of the furnace, as and for the purposes described.

4. The detaining plate E, in combination with the shifting furnace A, in the manner described.

75,792.—W. W. Riley, Columbus, Ohio.—*Gate.* —March 24, 1868.—The uprights are extended upward and pivoted to the posts, and their ends are weighted as a counterbalance to the gate, which is swung upward in opening.

Claim.—Swinging or revolving the gate between two posts, by means of two pivoted arms and balance weights, as shown and described.

75,793.—Adam G. Ritz, Elizabethtown, Ind., assignor to himself, John B. Carter, and William Lindley.—*Shingle Machine.*—March 24, 1868.—The bolts are laid in the cavities of the disk and clamped by the down-turned ends of the weighted levers. Before coming in contact with the saws the bolts are freed from the clamp and arranged obliquely to cause the taper of the shingle. This arrangement is secured by allowing the bolt to gravitate upon a flooring block whose inclination is caused by the rock levers, whose arms are depressed more or less by the spring strips, which are adjusted by set screws.

Claim.—The springs or strips *r*, operated by set screws *g*, and arranged radially across the annular groove S beneath wheel B, in combination with crank levers *n*, for adjusting the platforms *m*, substantially as described, and for the purpose set forth.

75,794.—Louis S. Robbins, New York, N. Y.—*Preserving Skins of Animals.*—March 24, 1868.—The skins are placed in a close chamber and treated with the vapors from the distillation of tar or other hydrocarbons.

Claim.—The process herein described for preserving the skins of animals from the destructive influence of the atmosphere and the attacks of every species of insects, the same consisting in saturating the skins with vapors of carbolic acid, obtained from the oil of coal tar, wood tar, bitumen, or other similar substances, substantially as herein described.

75,795.—Louis S. Robbins, New York, N. Y.—*Oiling, Preserving, and Strengthening Leather.*—March 24, 1868.—The tanned hides are placed in a chamber in communication with a retort in which oleaginous matter is distilled.

Claim.—1. The process for saturating skins or leather with oleaginous vapors and compounds, before, after, and during the operation of currying the same, substantially as herein described.

2. The application of the same process or treatment to all such articles manufactured from leather as may require the use of oils, either to render them impervious to moisture, or to increase their flexibility, strength, and durability.

75,796.—William A. Robinson, Grand Rapids, Mich.—*Mop Head.*—March 24, 1868.—The cross bar of the head has a row of serrations against which the cloth is held by the bows, which are swung around and secured by slip rings.

Claim.—1. The combination of the arms *d d*, the socket *a*, and teeth *f*, and the mode thus provided for attaching and holding the bows *c c*, substantially as and for the purpose described.

2. The arrangement and combination of the socket *a*, head *b*, bows *c c*, braces *h h*, with the arms *d d*, links *e e*, and teeth *f*, substantially as and for the purpose intended.

75,797.—Clement Russell and W. K. Miller, Massillon, Ohio.—*Harvester.*—March 24, 1868.—The rear end of the divider and the platform are made moveable, and a dropper substituted, which is automatically operated from the reel shaft.

Claim.—1. The construction and arrangement by which the platform and dropper are made interchangeable for hand raking or mechanical dropping, under the control of the driver, substantially as described.

2. Making the end board S in two parts, so that the after part can be removed with or when the platform is removed, to adapt the machine for the application of the dropper, substantially as described.

3. The combination of the pulley 2, pulley lever 3, holder 4, and rubber spring 5, or its equivalent, for taking up the slack in the reel chain, when said spring pulley is arranged on the slack side of the chain, and is used in connection with a fixed pulley 1, substantially as and for the purpose described.

75,798.—Thomas Sampson, Wansknck, R. I., assignor to George S. Harwood and George H. Quincy.—*Feeding Mechanism for Carding Engines.* —March 24, 1868.—Improvement on the patent of James Apperly, and W. Clissold, (No. 18,888.) A rotating shaft is mounted in front of the machine, and travels at the same speed as the sliver, which passes over it to the feed rolls. As the shaft moves with the sliver the latter is not stretched.

Claim.—In a machine such as described, the application and use of a revolving shaft, mounted in the front of the machine, at or near the point where the sliver is delivered to the traversing guide, substantially as and for the purposes herein shown and set forth.

75,799.—Frederic Saunders, New York, N. Y.—*Smoking Pipe.*—March 24, 1868.—The smoke passes through a tube which rises within the bowl or a separate chamber, so that the oil of the tobacco cannot enter the stem.

Claim.—The use of a tube and hood placed in the bowl, or a tube or tubes placed in a separate chamber or chambers, or their equivalents, in pipes for smoking with, for the purpose specified.

75,800.—William Scholl, Marion Township, Pa.—*Horse Hay Fork.*—March 24, 1868.—The tines are curved like a pair of calipers, and are secured together at the upper end by a metallic loop which engages over the end of one of the levers and is tripped by a bent lever to which the trip cord is secured.

Claim.—The curved lever D, bent and pivoted at its upper end, and provided with a projection *e*, for securing the metal loop E, when used in combination with the tines A B and pulley C, with their cords, all constructed, arranged, and operating as set forth.

75,801.—William H. Seymour and Aaron Palmer, Rockport, N. Y.—*Harvester Rake.*—March 24, 1868.—The rake arm is pivoted to the free end of the tubular, swinging crane arm. The latter is

actuated by a crank, whose connecting rod has a partial gimbal joint, to the rock shaft so as to cause the rocking and oscillation of the same. The rock shaft traverses the crane arm axially, and has an arm which passes through the side of the crane arm and engages the rake arm to raise it free of the grain on its forward sweep.

Claim.—1. The rake arm mounted in the swinging end of the rake frame or crane, and provided with a slot or perforation, substantially as and for the purpose described.

2. The swinging rake frame or crane, in combination with the angular rod or rock shaft and rake arm, substantially as described.

3. The angular rod or shaft, in combination with the rake arm, operating as described.

4. Operating the bent arm or rock shaft to raise and depress the rake by means of the crank and pitman, substantially as described.

5. The eccentric slotted crank arm, or its equivalent, whereby the speed of the rake is varied, as described.

6. The shipping lever and spring, in combination with the rake gearing on standard H, substantially as described.

75,802.—ELEAZER SMALL, Dennisport, Mass.—*Sad Iron Heater, Nurse Lamp, and Foot Warmer.*—March 24, 1868.—The case has a central, vertical partition which admits of inclination. The top and sides slide so as to be partially or wholly retracted.

Claim.—The box A perforated as set forth, and provided with the lamp D, the movable partition G, and the sliding cover C, when the several parts are arranged and constructed as and for the purpose set forth.

75,803.—SAMUEL SMITH, Plainview, Minn.—*Attaching Traces to Whiffletrees.*—March 24, 1868.—The end ferrules of the singletree have lugs, so that the ring at the end of the trace may be placed on the ferrule and turned into working position, wherein it is secured by the lugs.

Claim.—The combination of the ferrule B, with its projections *x x x x*, and the ring C, with its enlargement *f*, all constructed and used substantially as set forth.

75,804.—M. S. SNOW, Forestville, N. Y.—*Beehive.*—March 24, 1868.—The miller box is removably attached to the hive bottom, and is separated by gauze from the bee chamber.

Claim.—The miller box R, provided with perforated diaphragm *v* and aperture *w*, arranged with the opening P and wire cloth *q*, substantially in the manner and for the purpose set forth.

75,805.—L. W. SPENCER, New York, N. Y.—*Machine for Cutting Tobacco.*—March 24, 1868.—The stock is carried forward upon an endless apron, and compressed between the upper and lower cylindrical rollers and the inclined, smooth, metallic sides. The knives are carried in contact with an emery wheel at each revolution. The emery wheel rotates at high speed within a case which is filled with steam, and has a longitudinal aperture allowing the contact of the knives and wheel, and also the passage of steam to moisten the knives and prevent the accumulation of hard gum thereon.

Claim.—1. The feed rolls I^1 I^2, conducting case M, and cutters *d d*, combined as and for the purpose herein set forth.

2. The contracted mouth piece B′, adjacent to the cutter *d*, arranged as represented relatively to the passage M and rolls I^1 I^2, as and for the purpose as herein set forth.

3. The diverging sides B B of the feed box, as and for the purpose herein specified.

4. The plates *m*, constructed and arranged relatively to the feed box B B and feeding devices I^1 I^2, as and for the purposes herein set forth.

5. The grinding surface E, arranged and operated relatively to the cutters substantially as represented, so as to sharpen the knives and cutters *d d* while they are in operation, substantially as and for the purpose herein set forth.

6. The application of steam to the cutters *d d* or their equivalents previous to each cut, by conducting the steam from a boiler or the like into the casing through or past which the cutters revolve, substantially as and for the purpose herein set forth.

75,806.—FREDERICK STEARNS, Detroit, Mich.—*Hair-Dressing Compound.*—March 24, 1868.—Cocoanut fat, 18 lbs., is melted in a water bath, and castor oil, 16 qts., added thereto; when nearly cold, alcohol, 16 qts., 80 per cent. proof, is added.

Claim.—The combination of cocoanut fat, castor oil, and alcohol, with any appropriate perfumes, substantially in the proportions named, and for the purposes described.

75,807.—E. M. STEVENS, Chelsea, Mass., assignor to himself and W. N. ELY, (trustee,) Stratford, Conn.—*Manufacture of Enameled Cloth.*—March 24, 1868.—The cloth is enameled with a mixture of boiled oil, litharge, and 15 per cent. more or less of dissolved rubber; burnt umber may be added.

Claim.—The compound rubber-enamel cloth, substantially as described.

75,808.—ANDREW STRUBE, Frederick, Md.—*Power Hammer.*—March 24, 1868.—The hammer is adjustably pivoted to the upright, and has toggle connection with the treadle, whose depression causes the descent of the hammer upon the anvil. The hammer is raised by a spring.

Claim.—1. The arrangement of the treadle E and lever F with the bars G G, socket L, and adjustable frame D, as and for the purpose set forth.

2. The arrangement of the lever I, spring J, and movable cross bar Z with the bars H H, socket L, and slide N, with its screw K, as and for the purpose specified.

75,809.—D. B. STURDEVANT and B. H. HARMON, Clifton Springs, N. Y.—*Removing Tin from Sheet Metal.*—March 24, 1868.—The cylindrical retort has a perforated, inverted, conical bottom, through which the melted tin is discharged into the receiver.

Claim.—1. The process, herein described, of removing tin coatings from sheet metal, by the combined use of hot air and steam acting upon the mass in a closed retort, substantially as herein set forth.

2. The special combination and arrangement of the apparatus for producing the result, the same consisting of the retort A, grate C, hot-air pipes D E, and water receptacle G, the whole operating in the manner and for the purpose herein set forth.

75,810.—JAMES B. SUMMERILL, Penn's Grove, N. J.—*Hay Elevator.*—March 24, 1868.—A frame is placed on the running gears of a wagon, and after the load is hauled to the barn, chains from the hoisting head are attached to hooks upon the frame, which, with its load, is hoisted up to a carriage frame traveling upon tracks attached to a beam secured beneath the upper ends of the rafters. The chain upon one side has a tripping connection, so that the load may be dumped into the mow.

Claim.—1. The hoisting frame A, constructed and arranged as and for the purpose described.

2. The tripping catch C, constructed as described.

3. The combination, substantially as described, of the hoisting frame A, the suspension frame B, and the tripping catch, for the purpose set forth.

4. The traversing frame H, arranged and operating substantially as described.

5. The combination, as described, with the traversing frame and supporting beam, of the locking dog I, for the purpose set forth.

6. The combination, substantially as described, of the hoisting block and traversing frame, with the locking catches G, for the purpose specified.

7. The combination, with the traversing frame and catches G′, of the spring guides N on the beam, for the purpose set forth.

8. The combination, with the locking dog I, of the lifter I′, arranged to be operated by the ascent of the block, as described.

9. The combination, substantially as described, of the hoisting block and traversing frame, with a rope connecting the two, and so arranged as to lift the block vertically and lock it in the traversing frame, and then to unlock the frame and traverse it hori-

zontally to the place of discharge, by a continuous pull on the same rope.

10. The tripping rope, arranged so as to dump the hoisting frame, and then to retract the traversing frame, by a continuous pull, in the manner described.

75,811.—Joseph A. Talpey, Somerville, assignor to himself and Mellen Bray, Boston, Mass. —*Rotary Pump.*—March 24, 1868.—The annular piston is moved eccentrically around inside the cylinder. The convex-faced valve is supported on a spring arm and follows the movement of the cylinder, so as to form a continued separation between the induction and eduction passages.

Claim.—1. The combination, with the cylinder of a rotary pump, of the eccentric piston ring, its actuating cam or eccentric, and the valve and valve arm, for regulating the admission and discharge of the fluid into and from the said cylinder, in the manner and for the purposes herein shown and set forth.

2. The combination, with the pump cylinder and eccentric piston ring, of the valve and arm for holding the same in position, and the orifices or pipes for the induction and eduction of the fluid, arranged and operating substantially as herein shown and described.

3. The construction and arrangement, within the pump case and cylinder, of the hinged valve and valve arm, substantially as shown and described.

75,812.—Bjarne Thompson, Chicago, Ill.—*Runner for Wheeled Vehicles.*—March 24, 1868.—The wheel enters a recess in the runner, and is secured by the stirrups. A hinged side plate is operated by a lever and acts as a side guide.

Claim.—1. The hinged stirrups D and bolts *g*, in combination with a detachable runner, having in it a groove or recess fitted to the wheel, substantially as specified.

2. The guide C, to prevent the side slipping of the runner when operated by the direct action of the lever *i j*, substantially as specified.

75,813.—James B. Thorp, Warrensville, Ohio. —*Wood Boring Machine.*—March 24, 1868.—The spindle is turned by a hand crank, and is supported in an eccentric bushing which has longitudinal movement between the guide pieces, and is secured by a nut. The frame standards have spurs to enter the timber, and the frame is secured in position by dogs.

Claim.—The eccentric bush E, carrying the shaft of the auger, so constructed and arranged that it can be revolved within the nut F and clamped in any desired position, substantially in the manner and for the purpose set forth.

75,814.—Henry Turner, Boston, Mass., assignor to himself and Mellen Bray, same place.—*Spring Chain.*—March 24, 1868.—Each link has two disks, between which is an annular block of rubber, forming a spring between the disks, which are attached to bars sliding upon each other.

Claim.—1. The combination, in a spring such as described, of the bifurcated or forked link B, and its slotted head, with the link A, and its slotted head, under the arrangement and for operation as herein described, so that the end of each link shall pass through and be capable of sliding in the head of the other link, as and for the purposes set forth.

2. The combination, with the sliding links, and their slotted or perforated heads, arranged as described, of the rubber cylinder or other elastic body, mounted upon said links, and interposed between their heads, as and for the purposes herein shown and specified.

3. The combination of two or more springs, such as described, in the manner herein shown and set forth, so as to form an elastic and extensible chain.

75,815.—C. F. Varley, New York, N. Y.—*Insulator for Telegraphs.*—March 24, 1868.—The iron wire used as a conductor in the insulator is galvanized with zinc and dipped in molten tin. The insulating caoutchouc is put on when dissolved, and galvanized subsequently. In placing this insulated wire into the insulator, cement is used, and the whole is immersed in melted paraffine to expel the water and air from the cement.

Claim.—1. The method, substantially as described, of preventing the metallic pins of insulators for telegraphic wires from rusting, and the vulcanite covering from being defective and being injured, by coating the said metal pins with zinc, and then with tin, or an alloy of tin, preparatory to and in combination with the outer covering of vulcanite, as set forth.

2. As an improvement on the well-known mode of securing the metallic pins, covered with vulcanite, with the insulating cups, by means of cement, and as a means of excluding moisture and preventing the evil effects therefrom, filling the pores and interstices with paraffine wax, applied substantially as herein described.

3. Covering pieces of wire with vulcanite, for insertion at the points of support, substantially as described.

75,816.—Franz Vester, Newark, N. J.—*Drill.* —March 24, 1868.—The spring cutter tends outward against the sides of the hole of the guide plate, and is made to bore a hole similar to the pattern.

Claim.—The spring cutter B, the stay post *e*, and guide plate C, when used in combination with an ordinary drill or auger A, substantially as and for the purposes described and set forth.

75,817.—Robert L. Walker, Globe Village, Mass.—*Steam Boiler Furnace.*—March 24, 1868.—The furnace is flanked by steam generators which communicate with the water grate where one is used. Outside the flanking generators are heat chambers, through which the caloric current is allowed to circulate.

Claim.—The combination and arrangement of one or both the auxiliary steam generators with a furnace and boiler, substantially in manner and so as to operate therewith as described.

2. The combination and arrangement of the heating chamber E with each of the auxiliary generators, and the furnace or furnace and boiler, arranged and combined substantially as described.

3. The combination of the water grate with the auxiliary generator or generators, the furnace and boiler, arranged and combined substantially as described.

75,818.—John B. Waring, New York, N. Y.—*Car-Starting and Stopping Apparatus.*—March 24, 1868.—The chain is wound upon the drum, to bring the car to a stand, by contraction of the screw; and the tension of the screw is brought to bear in assisting to start the car.

Claim.—1. The pawl H, spring I, and series of detents *b*, arranged to operate in combination with a wheel, previously turned the reverse to the axle, substantially as and for the purpose herein set forth.

2. The turning part P, arranged relatively to the wheel G^2, pawl H, and series of detents *b*, substantially as herein set forth.

3. Disconnecting the pawl H from the series of detents *b* by means of the cam-like projection *j*, arranged to operate substantially as and for the purpose herein set forth.

75,819.—Stillman White, Providence, assignor to himself and Christopher Dexter, East Providence, R. I.—*Pump.*—March 24, 1868.—The pump is double acting. The force pump is connected with the induction, and the lifting pumps with the eduction, pipe.

Claim.—A pumping apparatus, consisting of a central force pump and two or more lift or suction pumps, the area of the first being quite equal to the area of both or all the others, and so arranged that power applied to the main or central piston rod is communicated by means of a cross head to both or all the other piston rods, so that the power of forcing the main or central piston downward is fully compensated or balanced in its ascent, substantially as shown and described.

75,820.—John D. Wilkinson, Plattsburg, N. Y.—*Bed Bottom.*—March 24, 1868.—The slats are supported on cords, which are carried over pulleys and connected to springs beneath.

Claim.—The arrangement of the clamp C and spring F with the cord E, pulleys D, and slats H,

substantially in the manner and for the purpose specified.

75,821.—ALFRED YOUNG, Philadelphia, Pa.—*Curtain Fixture.*—March 24, 1868.—The springs bear against the shade and cause it to coil evenly upon the roller.

Claim.—The springs *g g*, fastened to the frame of the window and bearing upon the curtain in such manner that the curtain will be tightly and evenly strained.

75,822.—FREDERICK ZIBELL, St. Louis, Mo.—*Turning Lathe.*—March 24, 1868.—The shaft is held between two tail centers and dressed off longitudinally by a series of annular cutters, secured to a slide rest. The shaft may be rotated; in which case the cutters in the annular holder will be modified to suit the direction of cut.

Claim.—1. The combination of the nut I, screw A, and cutters H H with the carriage head, as above described, and for the purposes set forth.

2. The turning head S, Fig. 4, with the cutters M M and feed screws, in combination with the carriage head *o o*, as above described, and for the purposes set forth.

75,823.—JOHN H. ABBOTT, Malden, and JEREMIAH A. MARDEN, Boston, Mass., assignors to JOHN H. ABBOTT and CHARLES E. ABBOTT.—*Leather-Splitting Machine.*—March 24, 1868.—The ends of the band knife are attached to blocks pivoted to the ends of levers, which are operated by heart-shaped cams on a common shaft. The levers are fulcrumed upon wrist pins of pendulous cranks, and are guided by radius rods.

Claim.—1. Operating the knife of a leather-splitting machine by levers driven by cams, substantially in the manner set forth.

2. The clamp H, constructed and operating as described, to hold the end of the knife and assist the adjustment of its tension, as specified.

3. The combination and arrangement of the cams D D′, levers E E′, clamp H, and knife J, in the manner and for the purpose described.

75,824.—GEORGE ACHELIS, Westchester, Pa., and HERMANN POPPENHUSEN, New York, N. Y.—*Instrument for Measuring Distances.*—March 24, 1868.—The bars have upturned ends, forming "sights," and are set by a scale to diverge more or less, so as to indicate the angular distance between two objects.

Claim.—The instrument for measuring approximately the relative size and proportion of objects seen in a landscape, constructed and operating substantially as and for the purposes described.

75,825.—D. S. AMES, Laclede, Mo., assignor to himself and JOHN F. PERSHING, same place.—*Corn Planter.*—March 24, 1868.—The seed box is pivoted to one leg and the seed slide oscillated by a rod connected to the other leg.

Claim.—The legs A A′ and the hopper C, when combined with the dropping slide D, and otherwise arranged as herein described and set forth.

75,826.—BENJAMIN ANYAN, Fitchville, Ohio.—*Cultivator.*—March 24, 1868.—The cultivator tongue is secured by a vertical pivot pin to the fore end of the supplemental bounds, which are in turn secured to the bounds proper of the fore wheels of a wagon by a bolt, which passes through the holes used in attaching an ordinary tongue. This attachment allows lateral and vertical oscillations to the tongue, and the former is accomplished by the feet of the operator through a rack-bar attached to the rear end of the tongue.

Claim.—1. The supplemental bounds *b b*, with the draught pole G attached, and both said parts attached to the bounds proper D D, as shown, when said parts are applied to or used in connection with the front running gear of an ordinary farm wagon, for the purpose specified.

2. The attaching of the standards I I of the front shovels H to the supplemental bounds *b b*, and the attaching of the standards K of the rear shovels J J′ to the bars L L connected to the bounds proper D D, substantially as and for the purpose set forth.

75,827.—JEARUM ATKINS, Washington, D. C.—*Caliper.*—March 24, 1868.—The legs of the calipers are riveted together, and the head, whose shoulder is flush with the face of the leg, has a screw-threaded extension, furnished with a clamping disk and thumb nut.

Claim.—The within-described arrangement, for fastening and clamping calipers, of the combined rivet and screw A, with its nut G and washer F, substantially as described.

75,828.—BENJAMIN T. BABBITT, New York, N. Y.—*Preserving Coffee.*—March 24, 1868.—The green coffee is immersed for five minutes in olive oil or butter, at a temperature of 500° Fahrenheit.

Claim.—The process of preparing coffee for use by boiling or cooking the same in olive oil, butter, or equivalent oleaginous or unctuous material, substantially as herein set forth.

75,829.—B. T. BABBITT, New York, N. Y.—*Coffee Roaster.*—March 24, 1868.—The tubular journal of the cylinder incloses the stem of a thermometer, whose bulb is within the coffee chamber.

Claim.—The thermometer, arranged in the tubular journal of the rotating air-tight vessel or cylinder, substantially as and for the purpose specified.

75,830.—J. L. BABBITT, Glen Cove, N. Y., assignor to the FUEL FURNACE COMPANY, New York, N. Y.—*Grate.*—March 24, 1868.—The sloping grate bars are secured in position by clips or shoulders at their upper ends.

Claim.—1. An inclined grate in which the bars are so suspended and supported as that they are restrained from sliding or slipping downward in direction of their length, while they are free to move upward in such direction, substantially as specified.

2. The inclined bars A, suspended and supported for motion or action as described, when formed with clips *a*, that, in addition to their effecting the suspension of the bars, also serve as guiding surfaces for transverse adjustment of the latter along their supports, essentially as shown and described.

75,831.—J. W. BAILEY, New Orleans, La.—*Toy Pistol.*—March 24, 1868.—The breech piece consists of a lever, whose upper end is swung back from the breech to allow the introduction of the fire-cracker. The lever is held in firing position by the fore-finger, and the fuse which issues through a notch in the breech is ignited by a match.

Claim.—The stock A, the barrel B, the piece C, and the pin *f*, constructed, arranged, and combined substantially as described for the purposes set forth.

75,832.—C. N. BAKEWELL, Normal, Ill.—*Sulky Plow and Harrow.*—March 24, 1868.—The plow, or harrow, is connected to an adjustable lever upon the wheel-frame by longitudinal chains, to which chains, depending from the lever, are attached. The fore ends of the beams are also connected by chains to the frame and to the double-tree.

Claim.—1. Broadly attaching the same draught to both the plow beams and carriage, by divided tugs, in such manner that each draught is independent of the other, as herein specified.

2. The combination of the frame A, supported upon wheels B, driver's seat E, and lever F and chains G and H, for suspending adjustably a plow or harrow, substantially in the manner set forth.

3. The combination of the chains G and H, for suspending the plow or harrow, and lateral chains H′, attached to the frame, substantially as and for the purpose set forth.

75,833.—T. C. BANKS, Wallingford, Conn.—*Boiler Alarm Gauge.*—March 24, 1868.—The expansion tube is so arranged that the steam entering therein, on the water falling below the proper level, and expanding it, shall operate the alarm valve. This tube is combined with an inverted siphon pipe and three-way cock, so arranged that the apparatus will be in all cases either blowing off the sediment, or in operation, and all danger from carelessness will be avoided.

Claim.—The inverted siphon and three-way cock,

in combination with the expansion tube B and an alarm, substantially as and for the purposes set forth.

75,834.—Ashbel P. Barlow, Claremont, N. H.—*Saw Mill.*—March 24, 1868.—A transverse shaft carries a friction disk at one end, and has a spiral spring at the other end, which serves to force the disk into constant contact with the periphery of a friction wheel, which is splined upon a vertical shaft so as to have vertical movement on the face of its driving disk, and cause a faster or slower rotation in the shaft and in either direction. The motion of the shaft is communicated to the carriage, and actuates it in its feed or gigging movement. The pivoted frame carries an anti-friction roller on which the stuff rests between the head blocks, and the frame is bent backward to remove the rollers from contact with the stuff when gigging back.

Claim.—1. The pivoted frame *d*, in combination with the adjustable uprights *e*, roller *a'*, and clamp screw or bar *f*, constructed and operating substantially as described.

2. In combination with the above device, the adjusting screw with its controlling nuts, follower *c'*, and slide bolts f^1, surrounded by coiled springs, all constructed and arranged to operate as described.

3. The upright shaft *j*, friction plate *k*, pivoted box *m*, revolving plate *i*, shaft *h*, and its box, with plates, spring, and temper screw, in combination with pivoted lever *r* and slotted lever *r'*, all arranged to operate in the manner substantially as described.

4. The catches or trips *x x'* on the carriage, in combination with the lever *w*, and springs, levers, and shaft *j*, all operating in the manner as described.

75,835.—Ashbel P. Barlow, Claremont, N. H.—*Lubricating the Slides of Muley Saw Mills.*—March 24, 1868.—The tallow boxes are placed outside the guide plates, and have tight covers to prevent entrance of dust. The tallow passes through holes drilled in the traversing plates, and serves to lubricate the lower head.

Claim.—1. The guides *g*, chambered and perforated, as shown at *c* and *d*, in combination with the lubricating box *a*, constructed and operating substantially as described.

2. The guides *g* and perforated muley head, in combination with the lubricating box *a*, all constructed as herein described, for the purposes set forth.

75,836.—A. T. Barnes, Tiffin, Ohio, assignor to Tiffin Agricultural Works, same place.—*Horse Rake.*—March 24, 1868.—The brace rods extend from the draw bars to the standards to strengthen the knees, and have adjusting nuts behind the standards.

Claim.—The adjusting braces, having their front ends secured to the lower sides of the draw-bars D, and their rear ends extending through the standards C, with screw nuts upon these rear ends for tightening up the parts at will, substantially as described.

75,837.—Theodore A. Barry and Benjamin Adams Patten, San Francisco, Cal.—*Medical Preparation.*—March 24, 1868.—The tonic is composed of peppermint leaves, ¾ oz.; balm leaves, ¾ oz.; sage leaves, ¾ oz.; rosemary leaves, ½ oz.; scordinum leaves, 1 oz.; blessed thistle, ¼ oz.; juniper berries, ½ lb.; chamomile flowers, ½ lb.; anise seed, 2 oz.; cubebs, 2 oz.; galengal root, 2 oz.; cardamom seed, 2 oz.; clover, 1 oz.; cinnamon, 1 oz.; ginger, 1 oz.; nutmegs, 1 oz.; and dog's grass, 2 oz. After maceration in a mixture of brandy, 2½ galls., and water, 2½ galls., two gallons are withdrawn by distillation. Fine sugar, 2 lbs., and cochineal, 1 oz., are placed in a pan, and one gallon of the liquor is drawn from the alembic. The two gallons first distilled are then added.

Claim.—A tonic made of the ingredients herein enumerated, mixed and compounded together in about the proportions herein described.

75,838.—F. H. Bartholomew, New York, N. Y.—*Door Lock.*—March 24, 1868.—A common lock has one or more circular disks applied to it in such manner that they rotate with the key. One of the disks has a projecting tooth, which, when a wrong key or pick is used, comes in contact with a spring that is attached to a sliding plate and prevents the back turning of the disks, which is necessary to the removal of the instrument.

Claim.—The combination of the revolving toothed disk with the sliding tumbler and spring catch, all operating as herein shown and described.

75,839.—Henry C. Bascom, La Crosse, Wis.—*Charger for Powder Flasks.*—March 24, 1868; antedated March 16, 1868.—The mouth piece has a conical inner end, and incloses another similarly-ended tube. The end of the flask has an inwardly-projecting pin, which traverses a longitudinal slot in the mouth piece, and an inclined slot in the inner tube. The conical ends have radial openings, which are brought together by the partial rotation of the inner tube when forcing the mouth piece inward, so as to allow it to fill with powder. The tubes are pressed outward by a spiral spring.

Claim.—The combination of the inner tube A, provided with the spiral slot *a*, the outer tube B, provided with the longitudinal slot *b*, and the screw pin H passing through both slots, all constructed and operating as described, whereby the pressure upon the mouth-piece C pushes forward the tube B in a longitudinal direction, and partially rotates the inner tube A, causing the perforations in the ends D of said tubes to register for discharging the powder, as herein shown and described.

75,840.—Allen J. Beech, Linden, Mich.—*Apparatus for Working Wagon Tongues.*—March 24, 1868.—The tongue is clamped to the adjustable frame, and the irons are set by the gauge bar.

Claim.—The construction of an apparatus for the purpose described, combining the slotted bar C, bolt and hand nut D, the standard transverse bar E, the upright rods F, the nuts G, the gauge bar H, the lever I, the hand nut K, the set screws L, the ears M, the set screws N, the bolt P, and hand nut R, with the bench or truss A, or their equivalents, when arranged and operating substantially as and for the purposes described.

75,841.—Samuel N. Beecher, Milford, Conn., assignor to himself and Charles W. Miles, same place.—*Sliding Seat for Carriages.*—March 24, 1868.—The seat is jointed at mid-length, and has eyes which are engaged by pins projecting inward from the body. The seat may be drawn endways against the spring to relieve the other end from its holding pin, and allow its folding over.

Claim.—The arrangement of the spring *d* upon one end of the double seat, in combination with the catch or pivot *a* upon the other end of the double seat, so as to operate to permit the folding of the seat as set forth.

75,842.—Henry C. Bell, Heyworth, Ill.—*Churn.*—March 24, 1868.—The dasher has horn-shaped, horizontal tubes projecting radially, and rotating with the convex side foremost, so as to draw the air through the tubular shaft, and cause it to issue from the big end of the horn. Transverse partitions prevent rotary movement of the cream.

Claim.—The combination of the tubular dasher shaft H, two or more curved funnels I, and the vertical partition boards J and K with each other and with the body A of the churn, substantially as herein shown and described, and for the purpose set forth.

75,843.—Edwin L. Bergstresser, Hublersburg.—*Seeding Attachment to Hoes.*—March 24, 1868.—The seed disk has a series of holes of different sizes, so as to vary the quantity of seed. Each cavity has an appropriate ear to which the working rod is attached. The seed drops into a spout from which it is carried before the hoe.

Claim.—1. The adjustable vibrating disk E, applied to and used in connection with the hoe, substantially as described.

2. The stationary disks B B', or their equivalent, and vibrating perforated disk E, arranged and operating substantially as described.

3. The disks B B' and E, hopper C, and seed tube G, in combination with the hoe A A', arranged and operating as described.

75,844.—Horatio H. Bingham and John C. Hunt, Terre Haute, Ind.—*Grain Drier.*—March 24, 1868.—The meal passes through a rotating, prismatic case surrounded by the caloric current from a furnace, and upon delivery from the drying case is elevated to a canvas-covered chamber, and subjected to a blast of air to cool and dry it.

Claim.—1. The polygonal inclined reel C, in combination with the furnace or heating cylinder A, the same being provided with a draught hole or holes *f*, near its lower end, with a chimney E, and with a tube F, for the escape of moisture from the meal, as set forth.

2. Making the shaft B, on which the reel C is hung, of two pieces, which are connected by a coupling *h*, so that the reel can be easily removed, as set forth.

3. Providing the reel C with a flange *d*, at its upper open end, as set forth.

4. The cooler K, when provided with zigzag canvas or porous sides *j*, substantially as and for the purpose herein shown and described.

5. The cooler K, when provided with zigzag sides *j*, false revolving bottom *l*, stationary bottom *k*, and sweepers *q*, as set forth.

6. The cooler K, when provided with zigzag porous sides, in combination with the fan H, inclined stationary cylinder or furnace A, and inclined revolving polygonal reel C, all made and operating substantially as and for the purpose herein shown and described.

75,845.—Lewis Bishop, Talladega, Ala.—*Cultivator and Seeder.*—March 24, 1868.—The axle turns in bearings at the ends of springs secured beneath the frame and connects by gearing with a longitudinal and transverse shaft to cause their rotation. The longitudinal shaft carries a cotton chopper and a star wheel whose projections impinge against the lower end of a spring supporting the agitator of the grain hopper. The transverse shaft has pins which impinge against springs to which the bottoms of the cotton seed hoppers are attached and cause the movement of the said bottom plates.

Claim.—1. The employment of the spring S, as constructed, or other equivalent device, for obtaining in cultivators or seeders, of whatever kind or construction, a vertically yielding tension, substantially as and for the purpose herein shown and described.

2. The plates *m*, operated substantially as and for the purpose herein shown and described.

3. The hopper or trough O′, with its agitator *i*, substantially as and for the purposes shown and described.

4. The star wheel J, or other equivalent device, for lifting the agitator *i*, substantially as and for the purposes herein shown and described.

75,846.—William R. Bishop and Oriel D. Bishop, Harrison, Wis.—*Machine for Sawing Staves.*—March 24, 1868.—The bolt is clamped to the pivoted frame and is fed beneath the teeth of the transversely-curved saw. The curve of the saw is concentric with the axis of the frame so as to feed the stuff in the proper direction to avoid pinching the saw which cuts the staves of the proper transverse curve.

Claim.—The combination of the apron E with the bent shaft F, whereby the block, from which the staves are cut, is depressed to bear against the teeth of the saw P, to cut a stave of uniform thickness, constructed and operated as herein shown and described.

75,847.—William Boch, Newton, N. Y.—*Attaching Door Knobs to Spindles.*—March 24, 1868.—The portion of the socket piece entering the inwardly extending cavity of the knob is spread therein by the wedges which are forced into it by its insertion into the cavity.

Claim.—The metallic socket B, constructed with the split sides *e*, for the entrance of the wedges C, so arranged that its interior socket formation remains the same while its sides are forced outward by driving in the socket to form a rigid connection between it and the knob, substantially as shown and described for the purpose set forth.

75,848.—Wilber F. Boggs, Petersburg, Ill., assignor to himself and John T. Bennett, same place.—*Machine for Measuring Cloth.*—March 24, 1868.—The cloth is passed between two rollers and its length indicated by a register which may be connected to one of them.

Claim.—1. The drum F, cord *f*, and drum *f′*, when combined with the pivoted clock frame E, in the manner described, and for the purpose of reversing the same, as set forth.

2. The combination and arrangement of the pivoted clock frame E, its tripping bar E′, and the adjusting bar *d*, as and for the purpose set forth.

3. The friction roller D′, and its spring frame *d d′*, in combination with the measuring roller D, as shown and described.

4. The roller G, its screw-bearing *g*, friction pulley g^1, cord g^2, and weight W, when combined and operated as herein described and set forth.

75,849.—Charles F. Bowers, Boston, Mass.—*Secret Bed.*—March 24, 1868.—The bed frame is so jointed as to admit of folding together within the lower portion of a book case.

Claim.—1. The combination, with a book case or other upright piece of furniture, of a bed frame having folding rails, and flanges for supporting the bed, said bed being made in sections, and so as to cross the joints in the rails, and the rails and bed being folded and arranged together within the bottom of a case *a*, when the bed is not in use, substantially as set forth.

2. Combining with the upper part of the case *a* the sliding mirror, substantially as set forth.

75,850.—Elijah C. Brown, Crawfordsville, Ind.—*Corn and Seed Planter.*—March 24, 1868.—The seeding frame is so hung as to swing sideways in a horizontal plane so as to plant upon each side alternately, the marker being swung over to mark the two subsequent rows on the other side of the tongue.

Claim.—1. The two arms B and B′, and the spring Q, when the same are constructed, combined, and used in manner and form as aforesaid.

2. The combination of the said B and B′ and Q, with the said lever A A and the said sliding bottom R R, for the purpose and in the manner substantially as set forth.

3. The whole combination herein set forth, when the same is constructed, combined, and used, in its several parts, substantially as set forth.

75,851.—Elijah C. Brown, Crawfordsville, Ind.—*Guide for Corn and Seed Planters.*—March 24, 1868.—The marker staff is hinged to the tongue, and has vertical cross pins which mark out two lines for subsequent rows or drills. It may be thrown over upon either side for this purpose.

Claim.—The index and guide staff, hereinbefore described, when the same is constructed in manner and form in its several parts, and used for the purpose and in the way, substantially as set forth.

75,852.—R. E. Buchanan, Carrollton, Ill.—*Sash Stop.*—March 24, 1868.—The lock plate has a lunate form, and is so placed in the frame that either of the serrated ends of the curved edge may be brought in contact with the sash to lock it.

Claim.—The lock *c* of segmental form, provided with the axle c^3 and knob C′, operating solely as a handle, the middle part of the rim of which lock is smooth, while the end parts are serrated, and all three parts of which rim are at such distances from the center of motion of the lock as to form a double-acting fastener, substantially as described.

75,853.—Thomas Bullivant, London, England.—*Hanging Window Sashes.*—March 24, 1868.—The balance cords are attached to metallic plates, which are adjustable, are removably secured to the sash, and act as guides thereto.

Claim.—The method of attachment of the weight cords D to the sashes, through the medium of the adjustable plates G, constructed, arranged, and applied in the manner shown, so as to admit of being adjusted to serve as guides for the sashes, and also to admit of the sashes being readily removed from the window frame when desired.

75,854.—A. G. BURTON, Rochester, N. Y.—*Lock for Drawers, &c.*—March 24, 1868.—The key guide turns in a hole which traverses the lock, and has an arm by which the bolt is actuated. The key is inserted in a deep groove in one side of the guide and has bits which act on the tumblers. The guide has a wing to disarrange the tumblers by the back turning of the key. The key can only be withdrawn when the device is locked.

Claim.—1. In combination with the key guide D and friction tumblers G G, the counter cams *g h*, the former operating to retain the key guide and key, as described, and the latter to distribute the tumblers, substantially as set forth.

2. The combination with the key guide D of the shielding barrel C, of larger diameter, closed by the head *e*, and so arranged as to leave ample space between the body of the guide and the barrel, for the operation of the wings *g h*, or their equivalent, substantially as and for the purposes set forth.

3. So arranging the key E with relation to the arm *c* and shoulder *b* that when the said arm relieves the said shoulder, to act upon the bolt, the key will come opposite, or nearly opposite, the pivot *m*, where it can have the least action upon the tumblers, as herein set forth.

4. The wing *g* and the ledge *i*, when employed in combination with the key guide D and key E, to prevent its withdrawal when the lock is unlocked, as herein set forth.

75,855.—JAMES W. BYRNES, Washington, D. C.—*Composition Pavement for Streets.*—March 24, 1868.—The usual street-paving stones are laid in a concrete, composed of sand, gravel, and coal ashes, in equal quantities, with 5 per cent. of cement, and mixed with coal tar, 2, pine tar, 1, and the residuum of crude coal oil, 1 part. The paving stones are laid in the concrete and their interstices filled with the same.

Claim.—Concrete, compounded from the ingredients named, and used in combination with stone in the construction of pavements, substantially as set forth.

75,856.—W. B. CARGILL, New Haven, Conn.—*Corset Clasp.*—March 24, 1868.—The clasp is formed from a blank, having a projection upon each side longitudinally to the steel stem. The two projections are bent up and turned so as to form a head.

Claim.—The herein-described corset-clasp trimming, consisting of the plate provided with the button, composed of the two parts C and D, in the manner substantially as herein set forth.

75,857.—GEORGE W. CARPENDER, Jarvis, Ind.—*Combined Weather Strip and Door Alarm.*—March 24, 1868.—The metallic weather strip is hung to the bottom of the door, and when the door is closed its lower edge enters a rabbet at the outer side of a metallic strip fastened upon the threshold. At the outer, lower corner of the door is a cam lever, which is raised by the opening of the door, and, by means of a lever with which it is connected, turns the cam disk, and causes it to retract and then to release the spring, which actuates the bell clapper.

Claim.—The plates C and *g*, cam D, rod E, plate F, cam G, spring K, clapper J, and bell H, all constructed, arranged, and operating in the manner described, whereby an alarm is given by the weather strip, as set forth.

75,858.—NICOLAUS CARSTENS and CHARLES CARSTENS, New York, N. Y.—*Weeding Machine.*—March 24, 1868.—The fore end of the frame is supported upon a wheel, and the machine is driven forward by a crutch frame. The cutter is vertically adjustable and swings upon pivots. The rake is rotated by a band running on a pulley upon the axles.

Claim.—1. Arranging a revolving rake in rear of the cutter of a weeding machine, substantially as and for the purpose herein shown and described.

2. Pivoting the cutter of a weeding machine to the frame, so that it can swing freely on the pivots, substantially as herein shown and described.

75,859.—JOHN F. CHAMBERS, Calistoga, Cal.—*Washing Machine.*—March 24, 1868.—The rubbers have ratchet serrations, and are supported on a lever actuated by an eccentric, so as to work the clothes against the corrugated bottom, which is heated by a furnace beneath it.

Claim.—The combination of the toothed beaters or rubbers E E with the yielding corrugated metallic bottom C C, constructed and operating substantially as described.

75,860.—JAMES CHASE, Rochester, N. Y.—*Curtain Fixture.*—March 24, 1868.—The left roller journal enters a recess, formed by a curved flange projecting from the side of the bracket. The right end of the roller has a hanging bearing, which is swung outward by the operative cord, to allow the rotation of the roller. The castings are so formed as to be put together without screws or rivets.

Claim.—1. Connecting the end of the curtain roller with a swinging lever C, so as to be thrown out bodily, and combining therewith the ratchet wheel E and detent *n* in such a manner that the weight of the roller and curtain themselves serves to re-engage the parts when thus thrown out, substantially as herein set forth.

2. Adapting the bearing B and lever C, without fitting, by means of the extension *c*, with slot *d* and shoulder *f* of the former, and the bit *i* and bearing *k* of the latter, the whole arranged and operating in the manner and for the purpose herein set forth.

3. The scroll flange *p p'* of bearing B', arranged as described, and operating in the manner and for the purpose set forth.

75,861.—W. W. CHIPMAN, Brooklyn, N. Y., assignor to himself and W. D. GOOKIN, New York, N. Y.—*Manufacture of Whiting and Paris White.*—March 24, 1868.—The lime is slaked and reduced by water to the consistence of cream. The fine part is allowed to flow off, and, being placed in a tank, has carbonic acid gas passed through it until it is thoroughly carbonized. It is then dried.

Claim.—The within-described process of manufacturing Paris white and whiting from limestone, by the three several steps of burning, slaking, and recarbonizing, substantially as and for the purposes herein set forth.

75,862.—C. B. CLARK, Buffalo, N. Y.—*Blind Hinge.*—March 24, 1868; antedated October 18, 1867.—The knuckle of the protruding portion of the hinge has a flange, which fits in a corresponding recess formed in the contiguous edge of the wing of the other portion, and thereby prevents the separation of the parts after the blind has been hung. The latter portion has an upright shoulder, against which the edge of the wing of the other portion strikes, arresting the motion of the blind after it has been swung open to the proper position.

Claim.—A self-locking blind butt, when provided with flange *n*, recess *o*, stop *l*, and abutting portion *m*, constructed, arranged, and operating substantially in the manner and for the purposes set forth.

75,863.—AARON COLTON, Sycamore, Ill.—*Damper for Stove Pipes.*—March 24, 1868.—The blast operates to close the damper by raising its larger wing to the stop, and the weight of the said wing acts to open the damper. The position of the damper is regulated by a weight which is placed on one of the rectangularly projecting notched arms of the damper shaft.

Claim.—The damper, constructed as described, consisting of the right-angular shaft C, passing transversely through the stove pipe A, and secured to the under side of the damper B, the arms *a a'* of said shaft, upon each side of the stove pipe, being notched to receive the weight D, as herein described, for the purpose specified.

75,864.—EDWARD A. COOPER, Lancaster, N. Y.—*Hames Fastener.*—March 24, 1868.—A rack bar is hinged to each hame and slides in a central case by action of a spur wheel therein, which is turned by a thumb and held by a ratchet wheel and pawl.

Claim.—1. The two hook bars B B, one or both provided with rack teeth, in combination with a guiding sleeve C, and operating pinion *d*, substantially as set forth.

2. The pawl, and ratchet wheel in combination

therewith, operating substantially in the manner and for the purpose set forth.

75,865.—Christopher Corbit, Christiana, Pa.—*Mill Step.*—March 24, 1868.—The temper screws of the follow blocks stand in a tangential direction so that the side strain of the step block may not come directly upon the threads.

Claim.—Placing around the toe of a spindle a series of wedge-shaped followers C C C C, constructed with boxes B B, screws *a a a a*, movable piece G, steel plate D, and operating as described, in combination with the recess *e e*, in the plate A A, all arranged for the purpose herein specified.

75,866.—Samuel H. Cowles, Oakville, Conn.—*Car Coupling.*—March 24, 1868.—The pivoted hook is retained in a vertical plane by the down-curved slotted plate and is depressed by a spring. The front end of the hook is inclined and it is raised by the entering link.

Claim.—The slotted metal guide C placed within the mouth of the draw head A, as specified, and used in combination with the pivoted hook B, the front of which is beveled from top to bottom, and constructed and operating as set forth.

75,867.—Isaac Crum, West Chester, Ohio.—*Harrow.*—March 24, 1868.—The central section of the harrow is associated with the sled in such manner that by the action of a lever that section may be raised in relation to the sled so as to ride thereon. The side sections are then turned up on the sled; and the whole may be conveyed to another field.

Claim.—The combination of the harrow B with the sled H and the adjusting mechanism *i*, *d*, G, or its equivalent, arranged and operating substantially as and for the purpose described.

75,868.—John B. Cullen, Philadelphia, Pa., assignor to himself and John P. Cheston, same place, assignors to themselves and John A. Fulton.—*Marine Steam Engine.*—March 24, 1868.—The steam cylinder and piston are so arranged in relation to the propeller shaft as to force the same rearward as the propeller leaves the water, but to yield as the propeller sinks. The action of the valve is also such as to regulate the passage of steam, and consequently the speed of the engine, in conformity with the dip of the propeller during the pitching of the vessel.

Claim.—A propeller shaft, arranged within a vessel as set forth, in combination with a steam cylinder and piston, and with the devices described, or equivalent devices, whereby the movements of the shaft are communicated to a valve regulating the passage of steam to the engine, all substantially as specified.

75,869.—Thomas Curley, Troy, N. Y.—*Curtain Fixture.*—March 24, 1868.—At its lower end the curtain cord passes around a roller upon the end of an arm extending radially from a ratchet disk which is turned to adjust the tension of the cord.

Claim.—1. The ratchet B, the pawl E, and the arm C, either with or without a loose pulley D, arranged substantially as described for the purposes set forth.

2. In combination with the above, the plate A, for the purpose described.

75,870.—Charles M. Daboll, New London, Conn., assignor to the Wilson Manufacturing Company, same place.—*Brace for Bits.*—March 24, 1868.—The jaws are hinged to the stock by their cross heads, and are forced against the bit shank by the screw sleeve.

Claim.—1. The jaws C, constructed as described, having a semi-circular base inclining outward, and provided with the T-shaped shank, fitting without pivots in the T slot of the stock A, as herein described, for the purpose specified.

2. The jaws C, constructed as described, in combination with the screw nut B, when the inner inclined surface of such nut bears equally at all points around the inclined circumference of the jaws C, provided with the T shanks, as herein described, for the purpose specified.

3. The stock A, when provided with the T slot, adapted to receive the T shank of the jaws C, in combination with the nut B, whose screw thread is above the jaws, as herein described, for the purpose specified.

75,871.—George J. Dahl, Stockton, Cal.—*Gang Plow.*—March 24, 1868.—The standard has an offset for reception of the landside, and the latter has dovetail lugs which enter the orifices in the standard, and the plate is held back by the mold-board to secure the attachment of the inclined faces of the lugs and orifices, and to dispense with screw bolts. The caster wheel has a U-formed scraper pivoted to its yoke.

Claim.—1. A plow standard, constructed substantially as shown and described.

2. The orifices *n n* of the offset *m*, as and for the purpose set forth.

3. The tenon hooks *n' n'* of the adjustable landside *m'*, as and for the purpose set forth.

4. The head piece *h* of the standard D, constructed as described, and made with the central opening *i*, as and for the purpose set forth.

5. The adjustable landside *m'*, in combination with the standard D, arranged in the manner described.

6. The scraper *e*, in combination with the caster wheel *d*, as and for the purpose set forth.

7. A series of plows, constructed and operating as set forth, in connection with a frame of the kind described.

75,872.—F. Davison, Richmond, Va.—*Lathe Chuck.*—March 24, 1868.—The clamping shell is attached to the face by two screw bolts, one of which forms a pivot on which it turns, and the other traverses a curved slot and forms a set screw to fix the clutch concentric with the face plate or in any degree eccentric therewith.

Claim.—The combination of the pivoted shell, provided with holding jaws, the slotted disk or face plate, and the tightening screw, substantially as and for the purpose specified.

75,873.—Auguste De Bergue, Paris, France.—*Brake for Locomotives.*—March 24, 1868.—When it is desired to stop the train the steam communications of the cylinders are closed, the valves reversed, and air passages opened, so that the engines pump the air into the receiver, when by its increased density it reacts upon the piston to stop its movements, and consequently arrest the motion of the train. The compressed air may be used in a piston to apply an ordinary brake upon the wheels.

Claim.—1. The combination of the external air adit B and reservoir E with the motive cylinder and piston of a locomotive, substantially as described and specified.

2. The combination of the rod N with the motive cylinder, whereby to introduce a jet of steam to lubricate the interior surface of the cylinder while steam is shut off and while air is in the cylinder, substantially as herein shown and described.

3. The combination of the external air adit B with the exhaust pipes, funnel, and cylinder of a locomotive, substantially as described and specified.

4. The arrangement of the air reservoir E, substantially as shown and described, with the motive cylinders of a locomotive, whereby to receive and retain the compressed air, as set forth.

5. The escape valve H, substantially as shown and described, in combination with the air reservoir E and motive cylinders of a locomotive, whereby to permit the escape of the air, as set forth.

6. The exit valve I, when combined with the air reservoir E and motive cylinders of a locomotive, substantially as shown and described.

7. The arrangement of the valve D, substantially as shown and described, with pipes *i* and F, and opening *n*, whereby the motive cylinders of a locomotive are rendered available in compressing the air, as set forth.

8. The arrangement of the pipe *n* with relation to the air reservoir E, supplementary air cylinder and piston *o*, friction brakes *q*, and arm *p*, substantially as herein described and specified.

75,874.—Zadoc P. Dederick and Isaac Grass, Newark, N. J.—*Steam Carriage.*—March 24, 1868.—A steam engine is connected to a system of levers

which move, in imitation of the human legs, by the reciprocation of the piston. The mechanism is attached to a wheeled carriage which serves to steady the figure upon its legs, and is drawn thereby.

Claim.—1. The combination of the crank E, connecting rods F, bell-crank levers G′ G′, and rods H H, the said parts being arranged to produce an alternately-stepping motion, substantially as described.

2. The combination of the rods G′ G′ and H H with the rods L L and M M, and foot pieces I I, substantially as described.

3. The combination of the rods H H and Q Q′, substantially as and for the purpose set forth.

4. The foot piece I, pivoted to the rods H centrally, and at the heel to the rod M, when said rods are so actuated as to cause an oscillating motion of the foot, substantially as and for the purpose set forth.

5. The combination of the lever N, rods P and Q, with the rods G′ and H, substantially as and for the purpose set forth.

6. The arrangement of the circular support U to the machines, and the cords S and tiller T, substantially as set forth.

75,875.—John M. Doubleday, Montclair, N. J.—*Tipping Umbrella Frames.*—March 24, 1868.—The eye is made in the metallic rib, and an ornamental metallic tip is swaged on the globular end of the same.

Claim.—The covering or overlaying, with metals or other substances, the ends of ribs employed in umbrella or parasol frames, substantially as and for the purposes set forth.

75,876.—Beriah Douglas, Appleton, Wis.—*Toy Railroad and Car.*—March 24, 1868.—The car is moved on the track by the hands of the rider, which are applied to the longitudinal side ropes supported on uprights fixed to the track.

Claim.—1. The invention of placing the axles of this hand-running car within and through the box or body, so as to drop the floor down very near to the rails, for the reasons above specified.

2. The invention of turning up the ends of car rails, essentially in the manner and for the purposes mentioned.

3. The invention of the hand supports and ropes or rods, as combined with the rails, essentially and as the best means for running the bar by the hands of the riders, for pleasant and healthful exercise.

75,877.—F. H. Drake, Kenosha, Wis.—*Bag Fastener.*—March 24, 1868,—A strap is riveted to the mouth of the bag.

Claim.—A bag fastener, consisting of the strap D and buckle B united, and secured to the bag by means of the metal plate A, or its equivalent, substantially as described.

75,878.—Isaac Dripps, Fort Wayne, Ind.—*Railroad Car Ventilator.*—March 24, 1868.—The horizontal, frusto-conical tube turns on a vertical shaft, and communicates with a vertical tube extending through the car roof. A wing acts to keep the larger end of the tube to the rear, and a partial vacuum is formed therein which draws the foul air from the car.

Claim.—1. The combination of the wings E of a butterfly valve, the bifurcated bell-crank lever H, and segment L, arranged to operate substantially as and for the purposes described.

2. The combination of the tapering tubular hood B, pipe A, and the regulating valve placed in the latter, arranged to operate substantially in the manner and for the purpose set forth.

75,879.—Simeon W. Drowne, Norwich, Conn.—*Locking Knob Latch.*—March 24, 1868.—The connecting bar passes from the hub to a sleeve upon the bolt. The sleeve is arranged to allow the bolt to slide backward, but causes its retraction by turning the hub. The tumblers prevent the retraction of the sleeve except when they are moved by the key, so that though the latch bolt may be driven in at any time by closing the door, it cannot be drawn back by the knob without the tumblers are adjusted by the proper key. The bolts have projecting arms by which, in combination with a pin, they may be held clear of the sleeve, and the lock be used as a common latch.

Claim.—The combination of the latch bolt B, spring F, sleeve K, nibs I, connecting bar L, tumblers N, with projections P and R^2, and knob key R, all constructed and operating as described for the purpose specified.

75,880.—Elijah F. Dunaway, Cincinnati, Ohio.—*Clamp for Doors and Sashes.*—March 24, 1868.—The sash or door frame is clamped between longitudinally-adjustable metallic stops on the adjustable and clamping bar. The latter is operated by the cam levers, which are secured in their adjustment by ratchet racks.

Claim.—1. The construction of the stops a', and operating in the manner as herein described, for the purpose specified.

2. The combination of the oscillating bars A′, the sliding bar C, cam levers B, rods a'', springs S, and rack bars D, as herein described, for the purpose specified.

3. The rack bars D, in combination with the carriage O, and sliding bars C, as herein described, for the purpose specified.

4. The clamping of the sash or doors upon the carriage O, by means of the stops a' a' mounted upon it, and bar G, having stop F, and working in slot *o*, and operated by cam lever N, in the manner and for the purposes substantially as above set forth and described.

75,881.—W. Duryea, Glen Cove, N. Y., and W. Ennis, Hudson, N. J.—*Furnace*—March 24, 1868.—Improvement on the patent of Joseph Hindle, assignee of F. Braun, May 17, 1864. The basket grate has bars at the bottom, and is covered by an arch which is perforated to allow passage to the air to supply combustion. The fuel is supplied through openings extending upward from the sides of the furnace. The furnace has an ordinary door at one end and an exit flue at the other.

Claim.—1. In a furnace of the character described, and composed of a basket grate A, with feed openings for fuel down either side, and reflector B, the combination of a chamber C, supplied with air from the exterior, and communicating with the fireplace by openings or perforations *b*, made in or through the reflector, substantially as specified.

2. The combination of the close fuel chambers D D with the basket grate A, with which they are in communication, by openings *c*, and separated from each other by an intervening space or chamber C, essentially as shown and described.

75,882.—A. Edwards, New Haven, Conn.—*Machine for Felling Trees.*—March 24, 1868.—The head has chisel and spur cutters which are made to cut into the tree by the oscillation of the lever and the feed movement of the carriage. One or more of the legs has provision for extension.

Claim.—The vibrating cutter head J, provided with spur cutters *d d*, and the cutters *i i*, and operating so that each of the cutters *i i* cuts from the path marked by the spur cutters *d*, previously moved in an opposite direction by the oscillation of the pivoted lever H, substantially as specified.

75,883.—R. S. Edwards, Savannah, Mo.—*Corn Planter.*—March 24, 1868.—The cultivator has a fore and rear part, each supported on two wheels, and the parts may be rigidly connected together, or the fore part may be allowed an oscillatory movement on a point near the axle of the rear part. The periphery of the fore wheles have a convex V-form, and the hind wheels have a recessed V-form, the former to open the seed drills, and the latter to close them. The latter wheels have scrapers to keep the peripheral groove clear. The seed hopper has two spouts which drop the seed behind the front wheels. The front wheels may be prevented from turning, and the seed mechanism consequently stopped, when desired.

Claim.—1. Constructing the frame of the machine of two parts A B, connected by a bolt *a*, in connection with the arm E on part B, provided with the pendent pin *c*, to fit in the plate C of the part A, all

arranged substantially as and for the purpose set forth.

2. The seed-distributing device, consisting of the two valves *f f'*, in the spouts L of the seed box K, arranged as shown, and operated by the levers M and the cams or wipers *h*, from the front axle H, substantially as shown and described.

3. The adjustable horizontal bar O, connected with the lever R, and provided with the notched arms Q, in combination with the lugs or projections *e* on the flanges I of the wheels G G, all arranged substantially as and for the purpose specified.

75,884.—W. St. G. Elliott, Morristown, N. J.—*Sewing Machine.*—March 24, 1868.—The feed mechanism is so arranged as to enable the feeding of the cloth in any direction desired without stopping the machine.

Claim.—The curved arm F, having the presser J, pivoted lever L having feed foot K and arm M, adjustable bent lever N and spring P, in combination with the sliding sleeve G, needle bar I, and collar O, all constructed and arranged to operate as herein shown and described.

75,885.—Wm. H. Emory, Ashburnham, Mass.—*Toy Pistol.*—March 24, 1868; antedated March 16, 1868.—The spring plays in a longitudinal slot in the barrel, and is held by the notch of the upper rod, from which it is released by the spring trigger.

Claim.—The combination of the spring C with the slotted barrel B, and the trigger and lock F, the parts being arranged substantially as and for the purpose herein described.

75,886.—Lancelot H. Everitt, New Orleans, La.—*Acoustic Telegraphing.*—March 24, 1868.—Improvement on his patent, November 17, 1863. Sounds produced at one end of the telegraph are transmitted to the other end along a wire.

Claim.—1. An acoustic battery for telegraphing, a machine which creates and modulates sounds, that, when arranged and sounded under specific symbolic formulæ, they are made to represent and express all the letters of the English alphabet and all Arabic notations, and when thus evoked into existence the machine reflects these sounds and transmits them through naked wire, buried in the land or water, to their destination, where they impart their various interpretations with such distinctness and order to the auditor who receives them as to become the most important and efficient commissioners of intelligence.

2. This mode of eliciting two different tones of sound from the air, by means of the *chorda tympani*, the mallens, the key, the incus, the stape; of reflecting them from the polished phonic fossa; of conducting them to the acoustic messenger through the nipple of the incus, and transmitting them through non-insulated wire to the cochlea, vestibule, and auricular, which delivers them to the auditor with precision and regularity.

3. This mode of associating these two modulated tones, and arranging them under five different orders of sound, expressive of letters and notations, as herein described, and this method of using similar and dissimilar silent intervals of time in separating and combining sounds, thus giving force and decided character to the symbolic formula of a letter or notation when echoed from the phonic fossa and transmitted through naked wire to the end of the auricular.

4. This mode of creating and regulating these two primary orders of sound and other orders evolved from them, systematically, by means of a diatonic staff and two bars attached thereto, and signalizing different sounds by red and blue colored disks, which represent two very dissimilar tones that are convertible into intelligent symbols, as herein described, or by any other means substantially the same, and which will produce the intended effect.

75,887.—M. Falk, New York, N. Y.—*Packing Tobacco.*—March 24, 1868.—The point of the flap has a metallic hook which engages the side of the bag.

Claim.—A packing of cut smoking tobacco, the envelope of which is a cloth bag, provided with a flap *a* and a suitable fastening *b*, substantially as shown and described.

75,888.—Joseph C. Fifield, Lowell, Mass., assignor to W. N. Ely, Stratford, Conn.—*Weft Stop Motion for Looms.*—March 24, 1868.—The shuttle thread lies along the upper side of the lay, above slots in the same, and the finger piece is arranged for its fingers to enter the slots when the thread breaks. In this case the fingers act upon a compound lever, and so adjust the same that, in "beating up," it impinges upon the shifter lever and stops the loom. The fingers are raised by levers operated by a cam on the motive shaft when the lay is thrown back.

Claim.—1. The weft stop motion mechanism, constructed, arranged, and operating, as to its several parts, in the manner and by the means described, in combination with the lay, as set forth.

2. The finger device, constructed and arranged in the manner and operated by the means described.

3. The combination with the lay of parts L, *n*, *m*, and *m'*, when constructed and arranged as and for the purposes set forth.

75,889.—J. L. Finn, Elyria, Ohio.—*Telegraph Insulator.*—March 24, 1868.—The conducting wire is passed through the hooked ends of the forked pin, which is inserted in a glass socket, in turn inserted in a socket of the metallic cup piece, whose shank is secured in the horizontal arm of the telegraph post. Local electricity is conducted from the wire by a series of points on a copper plate, which is attached to the edge of the bell piece and communicates with the ground.

Claim.—1. The combination and arrangement of the bell-shaped shell A, forked shank C, the adjustable toothed conductor D, and conducting wire K, substantially as described for the purpose specified.

2. Securing the shank *a* to the bearer X by means of the tangential pins T, passing through a groove in the side of the said shank, substantially as described for the purpose specified.

75,890.—Ferdinand Fischer, Cambridge, Mass.—*Machine for Stuffing Leather.*—March 24, 1868.—The heating chambers of the rotating stuffing cylinder are placed inside each head and receive steam through the tubular gudgeons. The steam passes off through radial pipes.

Claim.—1. Combining with the stuffing wheel a flat steam heated box *i*, placed in juxtaposition with and parallel to the inner surface of one of the heads of the wheel, and arranged to receive and discharge steam, substantially as set forth.

2. Connecting this box *i* with the opposite hollow journal and its steam pipe *f* by a pipe *k*, arranged substantially as set forth.

3. Placing a box *i* against each head *a*, connecting the two by the pipe *k*, substantially as set forth.

4. Combining with one or both of the heaters *i*, a waste pipe or waste pipes *m*, substantially as shown and described.

75,891.—Harvey Fleming, Vienna, N. J.—*Wood Boring Machine.*—March 24, 1868.—The carriage has longitudinal movement for adjustment of the stuff to the auger, and has lateral movement toward the auger.

Claim.—With the stationary auger C, the carriages D and E, moving laterally and horizontally, the carriage E being movable simultaneously with and also independently of the carriage D, all constructed and arranged to operate substantially in the manner and for the purposes as set forth.

75,892.—John, Jacob, and Joseph Fortenbach, Carlstadt, N. J.—*Watch Case Cutter.*—March 24, 1868.—The cover or center is clamped to a block which rests upon a disk that is vertically adjustable in a cylindrical turret upon the carriage, and is brought in contact with the rotary cutter to form the hinge recess. The block has a concave end to receive the convex side of the cover, and the same or another block has a convex or frusto conical end to receive the concave side of the cover. The upper side of the cover rests against a removable plate and is clamped thereto by the upward movement of the block.

Claim.—1. The improved machine for cutting the

hinge recesses in watch cases, made and operating substantially as herein shown and described.

2. The up-and-down adjustable sliding turret D when combined with the lever *d*, up-and-down adjustable block E, and clamping plate F, all made and operating substantially as herein shown and described.

3. The block E for supporting the covers or centers of watch cases when formed for the said object, substantially as herein shown and described.

4. The up-and-down adjustable sliding turret when carrying the cover or center of the watch case, in combination with the longitudinally adjustable rotary cutters, by which the hinge recesses are cut into the covers or centers, substantially as herein shown and described.

75,893.—Benjamin W. Foster, Auburn, N. Y., assignor to Franklin L. and Charles L. Sheldon, same place.—*Machine for Making Carriage Axles.*—March 24, 1868.—A bar of metal is fed into the machine and automatically formed into axles which are cut off as finished.

Claim.—1. The combination of the shaping rollers which form the journal and taper the bar of an axle, with the dies which form the collar by lengthwise pressure of the bar, substantially as described.

2. A pair of rolls for acting simultaneously on opposite surfaces of a bar of metal, having dies *a b c*, arranged in relation one to the other and to the rolls, substantially as herein set forth.

3. In combination with the die-rolls claimed in the above second clause, the cutting edge *d*, as described.

4. In combination with the die rolls claimed in the above second clause, a pair of rolls arranged perpendicularly thereto and for joint action therewith, substantially as described.

5. In combination with a pair of die-rolls, the devices, herein described, for accommodating dies of greater or less thickness, substantially as set forth.

6. Mounting one set of rolls upon vertical shafts which revolve in bearings upon sleeves on the other shaft, substantially as and for the purpose described.

7. In combination with die 2 and socket 4, or their equivalents, the pointed screw 13, as and for the purposes set forth.

8. The improved machine as a whole, constructed and operating substantially as set forth.

75,894.—Charles E. Galligan, Paw Paw, Mich.—*Stump Extractor.*—March 24, 1868.—The lever is suspended from the cross beam at its mid-length, and the duplicate ends have each a block and tackle and a slot through which pass the hoisting links, each link having a hook which engages the lifting chain. The links have adjustment in the longitudinal slots of the lever so as to bring more or less power to bear. The machine is operated by securing to the chain the hook of the link upon one of the lever and the pulley block of the other end of the lever, and then drawing upon the rope which runs through the block. When the block end of the lever is drawn down the other link and block are brought into action.

Claim.—The combination and arrangement of the runners or bearings A A, the standards B B, &c., the cross beam C, the hooked rods D D, the lever T, provided with the slotted openings I I, the double sheaves E E, the ropes F F, the double blocks H H, the links K K, the pins *a'* *a'*, &c., and the grub hooks O O, all arranged substantially as described and for the purpose designed.

75,895.—William S. Gatlin and Benjamin R. Hubbard, Green Top, Mo.—*Gang Plow.*—March 24, 1868.—The draw bars are connected by links at their fore ends to hand levers, and are adjusted by the same. The rear ends of the draw bars have vertical adjustment by link connection with the arms of a rock bar operated by a treadle.

Claim.—1. The construction and arrangement of the draw bars *b*, the links C, the levers C^1, and the racks C^2, with reference to the frame A' and the plow beams B.

2. The device D, D^1, D^2, D^3, and *d*, for lifting the plows up out of the ground, substantially as described and set forth.

75,896.—J. Gilbert and P. M. Sofield, Newark, N. J.—*Manufacture of Wash Bowls.*—March 24, 1868.—The lower edge of the flaring part enters the rabbet around the upper outer edge of the base.

Claim.—The circumferential rebate *a'* around the base *a*, substantially as shown and described, for forming the connection between the base and the upper part *c* of the vessel, as set forth.

75,897.—F. R. Going, Boston, Mass., assignor to himself and D. Wilcox, same place.—*Block for Cutting and Shaping Brims of Hats.*—March 24, 1868.—A sinkage is provided immediately around the center, guiding, or band block, into which the brim of the hat may be pressed. The guiding edge regulates the movement of the cutting gauge.

Claim.—1. The recess H H', formed immediately around the band block and between the crown block and cutting guide E, substantially as described and for the purpose set forth.

2. The guiding edge *a b c d* of the guide E, against which the shoulder of the cutting gauge K rests in the operation of cutting the curl, in combination with the hat block, substantially as described and for the purpose set forth.

75,898.—John D. Grüneberg and Samuel H. Gilbert, Spring Mills, N. J.—*Coating Metal.*—March 24, 1868.—The sheet iron is laid between two sheets of tin alloyed with lead, copper, zinc, antimony, or bismuth, and the sheets caused to adhere by rolling under heavy pressure. The sheet of iron may be coated by immersion for 15 minutes more or less in a bath composed of dilute muriate or nitrate of tin at a temperature of 98° Fahr.

Claim.—The within mode of coating or plating hard metals, substantially as described.

75,899.—W. Grunert and G. E. Bingham, Milwaukee, Wis., assignors to themselves and O. L. Packard, same place.—*Portable Upright Flue Brazer.*—March 24, 1868.—The furnace has ears carrying grooved rollers which track against the uprights and enable the vertical adjustment of the furnace by means of a rack and an engaging spur-wheel upon a shaft turned by hand.

Claim.—The furnace C, capable of vertical adjustment, for adapting the heat to the seams of pipes or flues, when brazing in an upright position, substantially as herein represented.

75,900.—C. S. Hale and O. C. Hubbell, Cleveland, Ohio.—*Spring Bottom for Boots and Shoes.*—March 24, 1868.—The metallic plate, shaped as a half-sole, is connected by a spring to a plate extending from end to end of the shoe, and to which a rubber heel is attached.

Claim.—1. In combination with a spring, the plates A D, and boot or shoe, substantially as and for the purpose described.

2. In combination with the above, the elastic heel B, as and for the purpose set forth.

75,901.—W. E. Hardin, Bowling Green, Mo.—*Plow.*—March 24, 1868.—A frame having a curved bearing bar is eccentrically hung to a turning disk which is operated by a lever, to either raise the frame clear of the ground, or to allow it to swing down and raise the plow from the ground. The spindle arm has an upwardly-extending plate which has two recesses for reception of the wooden axle so as to allow of its vertical adjustment.

Claim.—1. The lifter D d^1 D^1 D^2, when constructed and operated as described and set forth.

2. The adjustable axle A' *a*, when constructed and employed in the manner shown and described.

75,902.—Eliza J. Harding, St. Louis, Mo.—*Abdominal and Uterine Supporter.*—March 24, 1868.—The pads have respectively fore and rear bearing, and are connected by adjustable straps.

Claim.—The pads A A' and the bands *a* a^1, when constructed and employed as herein shown, and for the purpose set forth.

75,903.—Charles J. Hauck, Williamsburg, N. Y.—*Hinge for Sheet Metal Boxes.*—March 24, 1868.—One part of the hinge is of sheet metal and

the other of wire, and they are passed through the flanges of the bottom and lid respectively.

Claim.—The wire *b*, with its curved ends passing through holes in the rim of the box or cover, and fastened thereto by solder, in combination with the sheet-metal loop *a*, having its shanks passing through the rim of the box or cover, and fastened thereto by solder, as shown and described.

75,904.—C. J. Hauck, Williamsburg, N. Y.—*Oil Can.*—March 24, 1868.—An air pipe from the upper part of the can enters the oiler and allows the escape of oil from the can only so long as its end is uncovered. When the oiler is filled the end of the air-pipe is covered.

Claim.—The arrangement of the gauge or stop E, in combination with the vent-tube D and spout C of a hermetically-closed can A, substantially as and for the purpose described.

75,905.—Horace R. Hawkins, Akron, Ohio.—*Horse Rake.*—March 24, 1868.—The rake teeth, after bending around the shaft upon which the head turns, are extended upward, and are drawn back against the bar by connection to curved springs, which yield when the point of the tooth strikes a fixed obstacle.

Claim.—1. The combination with the rake-head F and bar O of the teeth J, loops 4, and springs 5, arranged for joint operation, substantially as set forth.

2. The combination with the rake-head F and the peculiarly constructed teeth J of the bars O and *n*, links or loops 4, and springs 5, substantially as and for the purpose set forth.

3. The combination with the rake-head of teeth held to the head by springs or their mechanical equivalents, under the arrangement described, whereby the said teeth will be supported, so that when their lower ends are raised by coming in contact with obstructions, their upper ends will partially revolve about the head, substantially as set forth.

75,906.—J. Haythorn, and J. Martin, Thompsonville, Conn.—*Carding Machine.*—March 24, 1868.—The strippers and workers are actuated by a cam on the shaft of the main cylinder and operate to open the stock and "even" it upon the said cylinder.

Claim.—Imparting a reciprocating motion to the workers or strippers of a carding machine, substantially in the manner and for the purpose herein shown and set forth.

75,907.—S. E. Hews, Albany, N. Y.—*Extension and Step Ladder.*—March 24, 1868.—The flat, removable step has hooks which may be applied to the ends of any of the round steps; the flat portion resting on the step immediately beneath.

Claim.—The step C, in combination with the ladder, substantially as shown and described.

75,908.—D. K. Hickok, Morrisville, Vt.—*Carriage and Sleigh Top.*—March 24, 1868.—The staff has a rectangular tapered end which enters a suitable socket in the seat. The top may be raised on the staff, and the radial arms supporting the cover let down into a horizontal position. When unused, the head is slipped down, the arms are folded up to the staff and it is withdrawn from the socket.

Claim.—The circular flanged plate J, with its angular divisions M, clips L, and slide G, in combination with the several parts of a carriage and sleigh top, constructed as described.

75,909.—Robert Hirst, Hudson, N. Y.—*Pen.*—March 24, 1868.—The flap with the pen forms a small, open chamber in which the ink is held by capillary attraction, until withdrawn by use.

Claim.—The flap B, when pivoted at its widest end to the concave side of the pen A, corresponding in shape to the outer part of said pen, and held thereto when in use, by atmospheric pressure, as herein described, for the purpose specified.

75,910.—Robert Hitchcock, Springfield, Mass.—*Car Ventilator.*—March 24, 1868.—The ventilator has a mouth at one end and a small vent for the ashes and dust at the other. The deflectors are so arranged that a direct current is not passed through the passages.

Claim.—1. In a car ventilator, the combination of the deflector A, deflector D, and vent F, arranged in an outside case, substantially as shown.

2. The arrangement of alternately reversed ventilators, 1, 2, 3, 4, &c., producing alternately exhaust and supply, as the car moves in either direction, respectively.

75,911.—Christopher Hoagland, Delavan, Ill.—*Cultivator.*—March 24, 1868.—The standards are jointed and links are attached by which the plows are raised from the ground. The inner plows have lateral movement by treadles. The upper ends of the plow standards are connected together so that the plows shall be simultaneously raised from the ground by insuring an equivalent flexion of the standards.

Claim.—1. The combination of the jointed plow standards C C′, plates *d*, links K, scrapers *r*, and connecting links *l k*, as herein described, for the purpose specified.

2. The links *l k*, or other equivalent device, for connecting the front and rear standards, for the purpose of operating the latter simultaneously with the former, substantially as shown and described.

3. The plates *d*, with their bolts *f*, or other equivalent device, for forming a hinge between the standards C C′ and plows P P′, substantially as shown and described.

4. The spring catch O, or its equivalent, for holding the standards forward, substantially as and for the purpose shown and described.

5. The rod L, for vibrating the standards C laterally, substantially as shown and described.

6. The arms N, for operating the rod L, substantially as shown and described.

7. The rod I, with its bend J, or other equivalent device, substantially as and for the purposes shown and described.

8. The laterally vibrating standards C, in combination with the rod L and bend J, substantially as and for the purposes shown and described.

9. The plow cleaner *r*, or other equivalent device, attached and working substantially as shown and described.

75,912.—F. E. Hoffmann, Berlin, Prussia.—*Apparatus for Crushing and Pulverizing Stone and Other Hard Substances.*—March 24, 1868.—The material, as it is finely pulverized, is carried off by the air blast and deposited in a chamber whose walls allow escape of the air, but retain the pulverized matter. The crushing surfaces are kept clear by scrapers.

Claim.—1. The combination of the rake or scraper *j*, carriage D, crusher B, bed C, and the pneumatic apparatus, constructed and operating substantially as and for the purpose described.

2. The lips or flanges *m n*, extending over the surfaces of the crusher B and bed C, substantially as and for the purpose described.

75,913.—John W. Hollingsworth and Horatio D. Weaver, Mount Vernon, Ind.—*Ice Crusher.*—March 24, 1868.—The ice is placed in the cylinder and the toothed plunger brought forcibly down upon it. The ice is discharged by swinging the cylinder from over the plate.

Claim.—The sliding cup C, in combination with plunger D, constructed and arranged substantially in the manner set forth.

75,914.—Lewis Holmes, Keene, N. H.—*Meat Broiler.*—March 24, 1868.—The lower part of the jointed frame is pivoted to the bail, and the latter has an eye through which the pivoted handle passes. The gridiron may be held at any required inclination by the handle and bail.

Claim.—A broiler for broiling meat, and for all the purposes for which broilers are used, composed of the parts A and B hinged together, the whole rotating within the bend of a coil C, and operated by a handle D, substantially as shown and described, and for the purposes set forth.

75,915.—Gilman Hook, West Harwich, Mass.—*Marine Paint.*—March 24, 1868.—A pasty mixture of white lead and oil is mixed with a pasty solution

of caoutchouc in equal proportions and thinned sufficiently with boiled linseed oil. Arsenic may be added for use below water.

Claim.—The combination of white lead and boiled linseed oil with dissolved caoutchouc, or gutta-percha, in the production of a paint, substantially as herein described.

75,916.—HENRY C. HOOVER, Green Castle, Pa.—*Carriage-Bow Setter.*—March 24, 1868.—The frame is secured to the carriage seat and the bows fixed in the adjustable holders until they are "set."

Claim.—1. The sliding boards E E, as and for the purpose set forth.

3. The slotted holders *d d*, in combination with sliding boards E E, substantially as described.

3. The block C C, in combination with boards E E, substantially in the manner specified.

4. The gauge bars D D, substantially as set forth.

5. The combination of sliding blocks C C, boards E E, holders *d d*, and bars D D, all arranged as described.

75,917.—GEORGE W. HUFFNAGLE, New Hope, Pa.—*Oyster Knife.*—March 24, 1868.—The metallic cross bar forms a hammer with which the shell is broken.

Claim.—The knife, composed of the handle A, cross bar C, and blade B, when constructed in the manner and for the purpose substantially as herein set forth.

75,918.—G. R. HUNTLEY, Taunton, Mass.—*Faucet.*—March 24, 1868.—A small, vertical groove is formed in the upper end of the plug which allows passage of air to the mouth, so as to admit free discharge of liquor contained therein after closing the faucet. The flange at the barrel top (a portion of which is cut away for traverse of the stop pin) is screw-threaded, and receives the screw-threaded "concentric ring."

Claim.—In combination with the barrel and plug, the concentric ring *d*, vent *g*, pin *e*, and stops *f f*, all constructed and arranged to operate substantially in manner as and for the purposes specified.

75,919.—JONATHAN HUNTON, Hackensack, N. J., assignor to himself and L. FREELAND, same place.—*Casting Plowshares.*—March 24, 1868.—The chill-plate is made with detachable pieces so that the share can be easily removed from the mold.

Claim.—The employment or use, with the chill-plate A, for casting plowshares, of the removable or detachable parts B D, either or both, arranged substantially as and for the purpose set forth.

75,920.—FRANZ HÜTWOHL, New York, N. Y.—*Furniture Edge.*—March 24, 1868.—The threads of the canvas cover are arranged obliquely to the length and circumference of the roll, so as to enable its bending around the corners.

Claim.—As a new article of manufacture, a stuffed furniture edge A, the covering canvas *b* of which has its threads arranged diagonally across the surface of the roll A, substantially as herein shown and described.

75,921.—G. A. JOHNSON, Oxford, Conn.—*Dress Trimming.*—March 24, 1868.—In making a spherical ornament, hollow hemispheres are covered, and the covering, being lapped around the edges, is secured by a flanged disk upon which the hemispheres are forced. The whole is axially perforated for stringing.

Claim.—The dress ornament, formed in two parts, covered as described, and secured together by the disk C, as set forth.

75,922.—MARCUS A. JONES, Frankfort, Ky.—*Bread Making Machine.*—March 24, 1868.—The dough is kneaded by two pairs of rollers in the upper compartment, and the slide bottom is then withdrawn, and the dough allowed to fall on to the pan in the next compartment. A roller is drawn over the pan which causes the division walls of the pan to cut through the dough. The bottom of the second compartment is then withdrawn and the pan allowed to drop into the lower compartment, from whose side it is withdrawn.

Claim.—The combination of the rollers *a a*, sliding bottoms A and G, and roller frame D, all substantially as shown and described, and for the purpose set forth.

75,923.—MORTON JUDD, New Haven, Conn.—*Sash and Door Button.*—March 24, 1868.—The socket piece is let into the wood and has a spiral spring which bears against the under side of the button. An annular prominence of the socket piece enters a cylindrical cavity in the button.

Claim.—1. The socket *b*, with the flange *i* and rim *o*, in combination with the fastener or button *a*, having a circular recess setting over the rim *o*, as and for the purposes set forth.

2. The helical spring *x*, in a cavity in the socket *b*, in combination with the button *a* and rim *o*, as and for the purposes set forth.

3. The plate *f*, with its stops *g* and *h*, in combination with the button *a* and socket *b*, as and for the purposes specified.

75,924.—ROSWELL JUDSON and WILLIAM H. LYNCH, Matteawan, N. Y.—*Fastening Wearing Apparel, Shoes, &c.*—March 24, 1868.—The edges of the opening are enlarged by a heavy cord or wire and are held together by a series of slides, whose jaws engage the said edges.

Claim.—As a new article of manufacture, the herein-described garment fastener, the same consisting of a series of solid double jawed slides, provided with perforations *e e*, and combined with a ribbon or band, which is applied and held to the said slides in the manner and for the purposes herein shown and specified.

75,925.—JOHN L. KEASOR, Laconia, N. H.—*Gang Plow.*—March 24, 1868.—The plow beams are connected to the frame by chains, and are adjustable by this means. The plow standards are connected to transverse sliding rods. The arrangement allows the plows a free movement within adjustable limits.

Claim.—1. The combination of the vertical standards M, eye bolts or keepers *n'*, vertical bars N, horizontal bars O, and keepers R S with each other, with the plows G or H, and with the longitudinal bars F, substantially as herein shown and described, and for the purpose set forth.

2. In combination with the shaft U, arranged as shown and described, the cams V, chains T, and horizontal bars F, all constructed and operating as described, whereby the plows G H are raised and lowered.

3. The construction, combination, and arrangement of the adjustable lever W with the shaft U, for the purpose of operating said shaft, substantially as herein shown and described.

4. The combination of the draught chains I with the bolster E and forward ends of the plow beams *g'* or *h'*, substantially as herein shown and described.

5. The combination of the chains J with the forward ends of the plow beams *g'* or *h'*, and with the longitudinal bars E, substantially as herein shown and described.

75,926.—ANDREW W. KENDRICK, Xenia, Ohio.—*Bed Bottom.*—March 24, 1868.—The bed frame is jointed so that the head part may be turned up to form an incline. This part is supported by a pawl and rack on each side. The pawls are connected by a rock shaft traversing the bed, and operated by a lever extension upon one of the pawls.

Claim.—1. The arrangement of outer frames B C B' C', and inner and adjustable frame *b c*, *b' c'*, racks L L, and pawls or levers K, in combination with the series of slats F, supported transversely on the helical springs E, resting upon the ledges B B' and *b b'* of the outer and inner frames respectively, substantially as set forth.

2. In the described combination, the graduated or decreasing series of helical springs E, with the stationary and adjustable frames B C, B' C and *b c*, *b' c'* respectively.

75,927.—JULIUS KING, Hoboken, N. J.—*Piston Packing.*—March 24, 1868.—Between the two disks of the piston are a set of rings having steam-tight joints between them. Each ring is drawn in by a

screw bolt at one point so as to cause the expansion of a portion of the remainder.

Claim.—A piston packing, composed of four or more uncut rings B B, each secured to the piston by means of a screw C, or its equivalent, and all made and operating substantially in the manner herein shown and described, the rings having either perfectly concentric or irregular inner edges, as set forth.

75,928.—WILLIAM KING, New York, N. Y.—*Fur Collar.*—March 24, 1868.—A spring encircling the neck and two attachment springs in front give the required contour to the fur collar.

Claim.—The combination of the spring A and the springs or stays B B, or their equivalents with a lady's fur collar, in the manner and for the purpose hereinbefore set forth.

75,929.—OTTO LAIST, Cincinnati, Ohio.—*Manufacture of Glycerine.*—March 24, 1868.—Animal or vegetable oil, 1; and crude glycerine 4 parts are placed in the retort. A jet of steam enters the retort at a temperature of 420° Fahr. Each lower bend of the vertical worm has a condensing pipe which conducts away the condensed glycerine which falls from the steam.

Claim.—1. The employment of any oleaginous substances, fat, or fatty acids, in the refinement or rectification of glycerine, substantially as and for the purposes set forth.

2. The employment of a jet of superheated steam, introduced into a glycerine retort or still, substantially as and for the purposes set forth.

75,930.—R. M. LA RUE, Andersonville, Ind.—*Saddle and Harness.*—March 24, 1868.—The crupper strap enters the drum at the upper part of the pad or gig saddle, and is wound upon a spindle whose ratchet and pawl prevent unwinding.

Claim.—The drum B, constructed as described, its front end receiving the terret, and its rear end slotted for the passage of the strap of the harness, when the latter is wound within the drum upon the shaft of the ratchet C and thumb screw D, as herein described for the purpose specified.

75,931.—JOSEPH A. LATHAM, New Haven, Conn.—*Garter.*—March 24, 1868.—The circular form of the garter is secured by an inclosed metallic spring, and it bears upon the leg only at certain points, so as to avoid interference with the circulation.

Claim.—The herein-described garter, constructed with the spring *a*, and provided with three or more cushions or pads C, with spaces between them, upon the inside of the band, as an improved article of manufacture.

75,932.—N. F. LEETE, Middletown, Conn.—*Lamp Shade.*—March 24, 1868.—The spring ring embraces the burner, and one end of the S-shaped bar turns in a socket at one side of the ring. The other end of the bar gives bearing to the bail to which the reflector is pivoted.

Claim.—The combination and arrangement of the ring A with one or more sockets *a*, so as to receive the arm B, the said arm having attached thereto the arms C C, pivoting the shade D, so that the said shade may be turned to a different inclination on the pivots *d*, and to different positions to the right or left in the sockets *a*, as and for the purpose herein set forth.

75,933.—GEORGE W. LEWIN, Worcester, Mass.—*Lathe Carriage.*—March 24, 1868.—The carriage is intended to support plates in a horizontal position and to allow their adjustment longitudinally or vertically. The plate rests upon a number of posts whose racks are engaged by spur wheels on a series of connected rods which are actuated by a screw gear.

Claim.—The arrangement of the endless screws *c c*, rack and pinion of the posts F F, with the platform E, as and for the purpose described.

75,934.—EDWARD A. LOCKE, Boston, Mass.—*Cask Label.*—March 24, 1868.—The label is a metallic, concavo-convex disk, whose edge is placed upon the inwardly projecting flange of the annulus surrounding the spigot hole; by flattening the disk the edge enters a groove immediately above the said flange.

Claim.—1. The metal ring, with its flange and groove, for receiving an identifying disk or plate to be applied to a cask, substantially as set forth.

2. Forming the disk *k*, with the slits *o*, substantially as and for the purpose set forth.

75,935.—H. E. LONG, Plymouth, Ind., assignor to W. A. LONG and GEORGE B. LINDSEY—*Printers' Galley.*—March 24, 1868.—On one edge of the face is a dovetailed groove and thereupon is placed a jaw plate having oblique slots therein. The heads of the pins enter the groove, and their shanks pass through the inclined slots, so that by moving the pins either toward or away from each other, the jaw is moved outward or inward.

Claim.—The slotted jaw B, used in combination with the galley, which has one edge grooved, and with the pins C C, substantially as and for the purpose herein set forth.

75,936.—JAMES P. LONG, Osage, Iowa.—*Combined Broadcast Seeder, Cultivator, and Roller.*—March 24, 1868.—The machine may be supported on wheels or upon the roller which is formed of staves secured to two flanged, metallic heads. The roller is kept clean by scrapers. The grain falls upon scattering plates at the lower ends of the spouts.

Claim.—1. The combination of the ears b^6, angular flanges *b* and angular flanges b^1, for securing the staves of the rollers, as described.

2. The combination of the open bearing Q with the detachable caps P, to facilitate the removal of the rollers B B′, substantially as explained.

3. The scrapers S, constructed with sloping backs *s*, and downturned edges *s′*, and fastened under tapering blocks U, attached to the under side of the rear of the frame, substantially as and for the purposes set forth.

4. Constructing the conducting tubes L, with flanges *l*, for attaching them beneath the frame, and permitting their ready removal, as explained.

5. The T-headed scatterers L′ *l′*, when made separately from the tubes L, and attached in connection therewith, but capable of independent removal, substantially as described.

75,937.—THOMAS CARR LONGTON, Trenton, N. J.—*Oil Cup.*—March 24, 1868.—The lower end of the nozzle has a bulbous part, making a ball valve, which is held to its seat by a spiral spring beneath it. When filling the oiler, the valve is depressed and the oil poured into the cavity above the valve.

Claim.—The oil cup, with an adjustable nozzle, having a spiral spring beneath it, all substantially as shown and described.

75,938.—JOHN LOVATT, Tarrytown, N. Y.—*Machine for Winding Button Hole Twist, &c.*—March 24, 1868.—The twist is carried by the flier which revolves in a contrary direction to the rotation of the spool, and at an inclination thereto.

Claim.—1. The adjustable flier and holder, constructed and arranged to operate substantially as described.

2. The parter L^2, or its equivalent, combined and arranged with the flier, substantially as and for the purpose specified.

75,939.—SAMUEL LOVE, Indianapolis, Ind.—*Apparatus for Filling Railroad Tanks with Water.*—March 24, 1868.—The piston rod of the submerged pump is connected to a lever oscillated by connection to the draw bar of the locomotive.

Claim.—The device herein described, when the same is constructed in its several parts and operated in the way and for the purpose substantially as set forth.

75,940.—HENRY LUMBARD, Chicago, Ill, assignor to himself, GEORGE E. GERTS, and JOHN SCHMIDT, same place.—*Tumbler Brush.*—March 24, 1868.—The cylindrical block is axially perforated, and the holes for the bristles lead at an incline into the central

bore. The handle and cap piece are secured to the block by their cylindrical ends entering the bore of the block.

Claim.—The perforated block A, provided with longitudinal bore B and tongued cap C, said block secured to the handle E by means of the tongue F, substantially as herein set forth and specified, when said block and said handle are made in separate pieces.

75,941.—ISAAC B. MAHON, Dunkirk, Ohio.—*Cultivator and Gang Plow.*—March 24, 1868.—Improvement on his patent, September 17, 1867. The object is to adapt the previous invention to a gang plow.

Claim.—1. Constructing the frame A of a single bar, bent so as to form three sides of a quadrangle, and braced by the bars F applied to the frame and axle, substantially in the manner as and for the purposo set forth.

2. The construction of the plow beams K K′, arranged with and applied to the main frame A to operate in the manner as and for the purpose herein set forth.

3. The bar W, applied to the beams K K′, substantially as and for the purpose specified.

4. The oblique draught or brace rods Y Y′, applied to the carriage and to the plow beams, substantially in the manner as and for the purpose set forth.

5. The beam O, attached to the draught pole, and connected with the plow beams, in the manner substantially as and for the purpose herein set forth.

75,942.—JOHN MARSHALL, Hartland, Mich.—*Boiler.*—March 24, 1868.—The communicating pipe between the annular heater and the water vessel has a horizontal diaphragm dividing the said pipe into two passages, the lower one of which is turned downward, and has discharge into the heater below the mouth of the upper passage.

Claim.—1. The divided circulation tube K, (whether the parts *m* and *m′* are of equal length or not,) as a connection between a water or liquid heater and a water or liquid containing vessel B, substantially as described for the purposes set forth.

2. In combination with the divided tube K, the heater A, constructed and arranged substantially as described for the purposes specified.

75,943.—MAHLON MATLACK, Philadelphia, Pa.—*Apparatus for the Manufacture of Lampblack.*—March 24, 1868.—Hook bolts descend from the wooden rafters and support bars upon which the plates or slats are placed. The smoke follows a devious course, and at the bottom of the dead-air chamber is a porous chamber, into which a current is passed from a fan blower.

Claim.—1. Suspending the slates or sheets which form the roof of a lampblack apparatus from the wooden beams C C of the same, substantially as and for the purpose herein shown and described.

2. Making the crown of the furnace low above the pan H, and gradually or suddenly raising it at some distance from the pan, as set forth.

3. Providing the bed G, which supports the pan H, with a gas channel *f*, substantially as and for the purpose herein shown and described.

4. The inclined plate *j*, arranged across the opening to the dead-air chamber E of a lampblack apparatus, substantially as and for the purpose herein shown and described.

5. The perforated damper I, when provided with a plate *l*, above the perforation, as specified.

6. The combination with the dead-air chamber E, having the damper I, of the horizontal flue J, having the alternate up and down shelves *m*, as set forth.

7. The arrangement of the fan L, or its equivalent, by which the gas is forced into a porous vessel or bag in which the lampblack is detained, as set forth.

75,944.—WILLIAM S. MCNEIL, Springfield, Mass., assignor to THOMAS H. WHITE and WARREN JOHNSON, same place.—*Culinary Steamer.*—March 24, 1868.—The steamer has a pan to enter the stove hole and to contain water and a ball valve for escape of steam. The meats or vegetables are placed on the perforated shelves, and access is had by a cloth-packed door.

Claim.—1. A culinary steamer, consisting of the case A, having the pan K at the bottom, and valve at the top, with pipe I, the vessels containing the food being arranged one above the other, so that they can be removed through the door, substantially as described.

2. The cloth packing N, arranged upon the roller O, substantially as and for the purpose shown.

75,945.—CHARLES MERRIAM and CURTIS O. LUCE, Brandon, Vt., assignors to themselves and JULIUS E. HIGGINS, same place.—*Hand Stamp.*—March 24, 1868.—The two type wheels carry numbers and letters to indicate respectively the month and the day of the month. The types are removable. The type having the day number has outward movement by a cam to give it saliency.

Claim.—1. The double type wheel A A′, constructed and operating in combination with the cam *m*, types *t t t*, pinion *p*, and spring catch *s*, substantially as set forth.

2. The cam *m*, in combination with the return cam *e*, when used for the purpose described.

3. The arrangement and combination of the type wheels A A′, type wheel M, cap C, and case E, constructed and arranged substantially as and for the purpose set forth.

75,946.—D. L. MILLER, Madison, N. J.—*Pulley for Hoisting Apparatus.*—March 24, 1868; antedated March 20, 1868.—The supporting loop of the sustaining pulley is hinged to the frame of the hoisting pulleys so that while the load is being raised the traveler rope is clutched between the sustaining pulley and a small pulley on the hoisting frame. When the load is sufficiently raised the traveler ropo is unclutched by the tilting of the frame.

Claim.—The pulley block, provided with the pulleys *a a f*, and having a loop *d* pivoted to it, containing a pulley *e*, all being arranged and operating as described, for the purpose specified.

75,947.—JAMES K. MILLER, New York, N.Y.—*Post Hole Borer.*—March 24, 1868.—The square shaft of the auger is turned by a bevel wheel through which it slides, and has a rack into which the spur wheel is meshed when the earth is to be raised. The said wheel is rotated by a hand crank.

Claim.—1. The weighted shaft H, provided with rack teeth *f* at one side, and the borer K, serrated at its lower end, in connection with the wheel J, placed loosely on the shaft, and the driving wheels G G, on the shafts E E, one or more of the latter being used.

2. The pinion M on the adjustable shaft L, in combination with the rack shaft *f* on shaft H, all arranged substantially as and for the purpose set forth.

75,948.—JOHN W. MINOR and DAVID P. WARD, New Bedford, Mass.—*Carriage Hub.*—March 24, 1868.—The spokes are inclosed between a fixed and movable collar with interposed elastic disks. The moving collar has pins which project from its face and enter the spokes.

Claim.—The collar A′, provided with a series of pins upon its face, entering through the elastic disk *e*, and with the tenons formed in the spokes, when said collar is adapted to slide upon the spindle A, as herein described, for the purpose specified.

75,949.—THOMAS S. MINNISS, Meadville, Pa.—*Sad Iron Handle.*—March 24, 1868.—The lower ends of the handles are turned outward to engage the dovetail mortises in the base of the iron, when the horizontal bars are drawn together to form the handle.

Claim.—The handle, in two parts, hinged as described, constructed and operated as and for the purpose set forth.

75,950.—EDWARD MOLLENHAUER, New York, N. Y., assignor to THEODORE RITTER, same place.—*Apparatus for Regulating the Position and Movements of the Arms of Violin Players.*—March 24, 1868.—The right arm is restricted to certain movements by a bar connected to the belt, preventing the

ontward motion of that elbow. The left elbow is tied to the belt by a strap around the lower portion of the humerus.

Claim.—An apparatus for regulating the position and movement of the arms of violin players, constructed and operating substantially as herein described.

75,951.—James F. Monroe and Edwin P. Monroe, Fitchburg, Mass.—*Apple Parer.*—March 24, 1868.—Improvement on the patent No. 15,683.—The knife at the end of its operative movement, in which it makes a partial revolution around the rotating apple, is thrown off from the same by a finger of the cutter arm, being thrown up by an incline and retained there during the return movement.

Claim.—In combination with the rotary wheel *f*, and with the cutter arm actuated to effect the forward movement of the paring knife, (substantially as set forth,) the incline or cam *m* and finger *k*, arranged to operate substantially as described.

75,952.—George R. Moore, Lyons, Iowa.—*Valve for Water Pipes.*—March 24, 1868.—The valve stem has a fixed and removable disk. The former constitutes the valve, and the latter forms a bearing for one end of a spiral spring, the other end of which rests against a perforated disk fixed in the case. The valve seat is of rubber. Tho water is admitted by depression of the stem.

Claim.—The solid head A, valve stem B, valve F, packing G, removable guide E, spring H, and pipo connection C, all constructed and arranged as herein shown and described.

75,953.—H. C. Moore, Springfield, Mass., assignor to himself and P. H. Derby, same place.—*Iee Carriage.*—March 24, 1868.—The toothed wheel holds to the ice, and is turned by a small spur wheel, which is engaged by a larger wheel actuated by a double-ended pawl lever. The brake consists of a pointed, vertically moving bar, which is ordinarily kept free from the ice by a spring.

Claim.—1. The arrangement of the toothed wheel A with pinion B, and the gear-wheel C operated by lever D in combination with the hand wheel F, with pinion G and the rack H upon the pivoted axle O, substantially as shown and for the purpose set forth.

2. The brake, consisting of the vertical rod M and spring L, constructed and arranged as described.

75,954.—A. F. Morey, Greenbush, Ill.—*Barrel Truck.*—March 24, 1868.—The trunk is formed to enable its use as a skid. The barrel is rolled on so as to lie transversely, and is held on by the claw arms.

Claim.—1. The slides C, in combination with the truck frame, containing holes P P P, constructed substantially as described and arranged, and for the purpose set forth.

2. The hooks V V and W W, constructed as described, and in combination with the slides C C, and truck frame A A, constructed substantially as described and for the purpose set forth.

75,955.—John Mosley, New Haven, Conn.—*Pocket Knife.*—March 24, 1868.—The lower end of the spring enters a recess in the handle, and a rectangular notch in the back of the spring receives a projection on the inner side of the back. The upper end of the spring is held in by the blade. The back is cast with one or both sides of the handle, or handle lining.

Claim.—The spring *i*, inserted in a knife handle having its back cast with one or both of its sides, when said spring is provided at its back with a recess adapted to fit without rivets over a projection cast in the back of the handle, as herein described for the purpose specified.

75,956.—P. A. Mowers, Cleversburg, Pa.—*Horse Hay Fork.*—March 24, 1868.—The semicircular tines have sectional racks which engage together, and one of which is engaged by the rack on a lever by which the tines are operated.

Claim.—The pair of grasping prongs B C, operated in unison by means of cogged segments *b e*, in combination with a lever to open or close them, substantially as and for the purposes explained.

75,957.—Lewis Murr, Philadelphia, Pa., assignor to Joseph and Bernard Metz, same place.—*Printing and Embossing Cloth.*—March 24, 1868.—The engraved plate being placed upon the cloth is heated by the application of a hot plate thereto.

Claim.—The printing and embossing of cloth or other fabric at one operation, by the employment of an engraved plate, applied directly to such fabric, and a heated plate, applied to the engraved plate, substantially as and for the purpose set forth.

75,958.—John Nation, Portland, Oregon, assignor to himself and Absalom B. Hallock, same place.—*Steam Engine Lubricator.*—March 24, 1868.—The upper end of the oil cylinder has connection through cocks with the steam space of the valve chest, and with the oil cup. It has, also, a try cock. The lower end of the oil cylinder communicates, through a downwardly-opening valve, with the valve chest. Oil may be allowed to enter the oil cylinder, and then the communication between the cylinder and the cup being cut off and the steam being turned on above the oil, it will flow into the valve chest.

Claim.—1. The valve Dx, having corrugations *b*, the slotted seat E, constructed and arranged to operate as described.

2. The arrangement of the oil cup A with the cocks B D, cylinder C, steam-pipe G. cock *c*, corrugated valve Dx, upper seat H, and slotted lower seat E, as herein described.

75,959.—H. K. Needham, Titusville, Pa., assignor to himself and Richard E. Hearn, same place.—*Lamp Burner.*—March 24, 1868.—The wicks in the two curved tubes are raised simultaneously by two serrated wheels, which mesh together. The air passes upward both within and outside the wick tubes.

Claim.—The described arrangement and combination of the wick tubes *c e*, base plate *d*, and diaphragm *e*, the latter extending upward, and connecting the edges of the wick tubes, so as to form separate and distinct internal and external air-passages *f* and *b*, as shown, and the whole so constructed that it may be applied to an ordinary lamp collar, substantially as and for the purposes set forth.

75,960.—George Neilson, Boston, Mass.—*Lamp Burner.*—March 24, 1868.—The deflector is hinged to the cylinder by a small hook, the end of which is inserted into a slit of corresponding size in the side of the cylinder. Upon the opposite side of the deflector is a spring catch. The parts of the burner are made detachable, for convenience in cleansing.

Claim.—1. The combination, in a burner such as described, of the air-supply cylinder, with a deflector hinged to the said cylinder, substantially as and for the purposes herein shown and set forth.

2. The combination, with the chimney-rest and wick tube, of an air-supply cylinder, detachable or removable from its seat, and a deflector hinged to the air-supply cylinder, substantially as and for the purposes herein shown and set forth.

3. The combination, in a burner such as described, of a chimney rest, air-supply cylinder, and deflector, when the said parts are capable of being removed from and adjusted to the burner bodily and together, substantially as and for the purposes shown and specified.

4. The combination, with the base and wick tube of a lamp burner, of a chimney rest, air-supply cylinder, and deflector, when the same are detachable from the said base and wick tube, and from one another, substantially in the manner and for the purposes shown and described.

5. The combination, with the air supply cylinder, of chimney supporting springs, attached to and projecting from said cylinder, substantially as herein shown and described.

75,961.—J. Newberger and P. J. Illig, Buffalo, N. Y.—*Die for Stamping Tinware.*—March 24, 1868.—The primary die gives the periphery of the

blank the same circumference as that of the finished article. The finishing die has vertical walls, within which the blank fits neatly, so that its edge cannot spread or crack in the final pressure.

Claim.—1. The primary or "coaxing" die A, when constructed and used for the purpose and substantially as herein described.

2. The secondary or finishing die B, having a shoulder *b'*, for the purpose and substantially as herein set forth.

3. The secondary or finishing die B, having a shoulder *b'*, in combination with the primary or "coaxing" die A, for the purposes and substantially as herein described.

75,962.—SIMON B. PARKER, Springfield, Mass.—*Device for Fastening Shoe-strings.*—March 24, 1868.—The locking plate is pivoted to the base plate, and the end of the lace is passed through the latter, around the serrated end of the former, and then through both.

Claim.—A movable binding and locking lever C, for the purpose of fastening shoe-strings, and preventing the same from untying.

75,963.—BENJAMIN M. PARKS, St. Louis, Mo.—*Churn Dasher*—March 24, 1868.—The tubular dasher rod has a spring valve at its lower end, and has two perforated, inverted, saucer-formed dasher disks.

Claim.—The handle A, when combined with the two dashers B B', and the valve C, as described and shown.

75,964.—HENRY H. PEMBER, New York, N. Y.—*Hanging Rudders.*—March 24, 1868.—A vertical passage is made in the stern, through which the rudder may be drawn up.

Claim.—The collar G, in connection with the flange *i* on cap *h* of rudder-post Cx, and the rod F attached to the keel, all arranged substantially in the manner as and for the purpose set forth.

75,965.—JOHN G. PERRY, Kingston, R. I.—*Sausage Filler.*—March 24, 1868.—One half of the bisected nut of the follower screw is attached to an angular portion of the box end, and said portion is attached to the hinged lid; so that, when the lid is raised, the follower and its operative screw may be removed.

Claim.—Constructing a sausage-filler with a screw and nut, the nut being divided into two parts, substantially as herein described, and for the purposes set forth.

75,966.—JOHN G. PERRY, South Kingston, R. I.—*Sausage Filler.*—March 24, 1868.—The two followers are moved longitudinally within the cylinder by a right and left hand screw. The sausage meat is forced out of a radial spout at the mid-length of the cylinder.

Claim.—One or more of the followers *o o*, in combination with the screw C, all working within the case, substantially as described, and for the purpose set forth.

75,967.—OLIVER E. PILLARD, New Britain, Conn., assignor to FREDERICK H. NORTH, same place.—*Permutation Lock.*—March 24, 1868.—The dog is kept from contact with the tumblers while they are being adjusted, to prevent any intimation of the combination being discovered thereby. The spindle cannot be moved into contact with the tumblers until the bolt is fully projected.

Claim.—The stud 4 on the bolt, in combination with the dog *e*, for raising and holding up said dog and its arm clear of the tumblers when the bolt is projected.

75,968.—GEORGE PINE, Trenton, N. J., assignor to himself and E. R. COOK, same place.—*Napkin Ring and Salt Cup Combined.*—March 24, 1868.—The covered salt cup is attached to one side of the napkin ring.

Claim.—A salt cup and napkin ring or holder combined, substantially as herein shown and described.

75,969.—S. H. PLUMB, Davenport, Iowa.—*Automatic Feeder and Cut-off for Cisterns.*—March 24, 1868.—The float is arranged so as to tilt the lid of a bucket beneath the water pipe when the cistern is sufficiently filled. The increased weight of the bucket depresses the end of the lever from which it is suspended, and moves the valve so as to cause the water to run into the waste pipe.

Claim.—1. The water buckets G G' attached to the valves *b*, substantially as and for the purpose specified.

2. The tilting lids *f* of the buckets, formed substantially as described, and for the purpose set forth.

3. The buoy or float H, so connected with the lid *f* as to change the position of said lid, when the water reaches a certain height, substantially as and for the purpose set forth.

75,970.—T. W. PORTER, Boston, Mass.—*Belt Clasp.*—March 24, 1868.—The fingers have each a crosshead at one end and an eye at the other. The eye end is passed through both ends of the belt and a single rod is passed through all the eyes.

Claim.—1. A belt clasp, consisting of a plurality of fingers *a*, each with a separate bar *b*, and an eye, with the rod A inserted therein, substantially as described and shown.

2. As a new article of manufacture, the fingers *a*, when constructed with the bar *b*, and eye for rod A, when constructed substantially in the manner as and for the purposes specified.

75,971.—T. W. PORTER, Boston, Mass., assignor to himself and CHARLES L. MARSTON.—*Sleigh.*—March 24, 1868.—This relates to various connections of wrought and malleable iron described in the claims.

Claim.—1. The shaft hanger, constructed with wrought-iron stays and malleable-iron center, substantially as described and shown in Figs. 1 and 2.

2. The tip socket B, formed separate from the center A, and to revolve thereon, substantially as and for the purposes specified.

3. The hollow pivot *d*, formed upon socket B, substantially as and for the purposes specified.

4. The incline disk *b*, in combination with the center A and socket B, substantially as and for the purposes specified.

5. The tip C, formed with a recess for the shaft D, and to receive the wrought-iron strap *e*, at the lower bolt hole, substantially in manner as described and shown.

6. The foot rail, constructed with brackets, combined with insertable foot bars, substantially in manner as and for the purposes specified.

7. The coupling C, when constructed with the recess for standard B, the ears *f f*, and the lip *g*, substantially as described and shown.

8. Combining, with the wrought-iron stay or brace *d*, the socketed malleable-iron strap or foot C, substantially as described and shown in Figs. 5 and 6.

9. The dash rail B, formed to extend below the dash board A, substantially as described, and for the purposes specified.

75,972.—T. W. PORTER, Boston, Mass., assignor to himself and CHARLES L. MARSTON.—*Express Wagon.*—March 24, 1868.—This relates to various metallic connections, which are explained by the claims and illustrations.

Claim.—1. The rocker and axle plates *a* and *h*, formed of malleable and white iron, substantially in manner as described and shown.

2. The removable disk or die *d*, in combination with the rocker plate and king bolt, substantially as and for the purposes specified.

3. The combination of packing *g*, cap *f*, and king bolt *e*, substantially as described and shown.

4. The lugs *j j*, formed upon the axle and rocker plates, by which, in combination with wrought-iron straps *k k*, to secure the plates to the axle and rocker.

5. The tube plate *n*, substantially as and for the purposes specified.

6. The pivots *l l*, or their equivalents, formed upon the axle plate, for the purposes specified.

7. The pin *m*, or its equivalent, formed upon the axle plate, for the purposes specified.

8. The coupling *o*, substantially as described and shown.

9. The combination of coupling *o*, strap P, bolt *t*,

and strap *s*, substantially as and for the purposes specified.

10. The metallic corrugated or cellular tail-board frame F, substantially as described and shown.

11. The strap eyes *b b b*, formed upon the frame F, substantially in manner as described and shown.

12. The chain eyes *f*, formed upon the frame F, substantially in manner as and for the purposes specified.

13. The skid brackets *e*, formed upon the frame F, substantially in manner as described and shown.

14. The tail-board adjusting device, consisting of chains *k'*, ratchet drums *i'*, pawls *o'*, and the hand wheel *m'*, or its equivalent, all arranged to operate in manner substantially as described and shown.

75,973.—T. W. PORTER and H. K. PORTER, Boston, Mass., assignor to themselves and CHARLES L. MARSTON.—*Carriage.*—March 24, 1868.—The spring bar and "pole-crab" are made hollow and of malleable iron. The former has cups to receive the ends of the body loops. The perch coupling of the head-stock and the spring loop have iron frames connected to the woodwork.

Claim.—1. A spring shackle, formed with the bed plate A and the three-sided link B, united by the wrought-iron rivet *a*, substantially as described, and shown in Figs. 1 and 2.

2. The stud *c* or its equivalent, formed upon the bed plate, substantially as described, and shown in Fig. 2.

3. The sides *d d* of link B, formed to extend beyond the bar *e*, and cover the spring eye, substantially as and for the purposes specified.

4. The rim *a*, formed upon bar end B, for the reception of the hanging iron, substantially as described, and shown in Figs. 3 and 4.

5. The socket B, formed to receive the hanging iron *a*, and the bar A, Figs. 5 and 6, substantially as and for the purposes specified.

6. The hollow metallic hanging bar A, substantially as described, and shown in Figs. 7 and 8.

7. The rims *a a*, formed upon the metallic hanging bar A, substantially as described, and shown in Figs. 7 and 8.

8. Combining the malleable-iron yoke A with the wrought-iron stay *d*, substantially as described, and shown in Fig. 9.

9. The hollow metallic head block A, substantially as described, and shown in Figs. 10 and 11.

10. The perch couplings *a*, formed upon the head block A, substantially as described, and shown in Figs. 10 and 11.

11. Forming the arms *a a* of the pole-crab hollow, substantially as described, and shown in Fig. 13.

12. Forming the pole-strap studs *b b* hollow, substantially as described, and shown in Figs. 12 and 13.

75,974.—THOMAS E. PURDY, Brooklyn, N. Y.—*Window Shade.*—March 24, 1868.—The window shade is made of the usual, woven material, and is stretched and sized. The ground only of the pattern is printed by wooden, stereotype, or electrotype blocks, and the pattern itself left white or of the color of the fabric.

Claim.—The window shade or window-shade material, made as described, viz, with the woven fabric in its original color, exposed to form the figure, in imitation of lace or embroidery, the groundwork being printed.

75,975.—N. M. RAY, Ellsworth, Me.—*Shoe Knife.*—March 24, 1868.—The detachable cap is secured to the end of the blade, and prevents nicking the "upper" in trimming the sole.

Claim.—In combination with a shoe knife, the detachable cap A, when attached to the knife by a hook, at one end of a slot, and fastened by friction at the other end of the slot, substantially as shown and described, for the purposes specified.

75,976.—JOHN, SAMUEL A., GEORGE E., and FREDERICK F. READING, Birmingham, England.—*Belt Clasp.*—March 24, 1868.—A spring bolt on one part of the clasp has side catches, which engage similar catches of the other part. The bolt is moved backward by a thumb knob, to release the catches.

Claim.—1. The dress fastening or clasp, consisting of a bolt or bolts B', operating within a case B, or its equivalent, and provided with a catch or catches *i*, and a spring or springs *b*, each or all in combination with a catch or catches *e*, or the equivalent thereof, and all constructed and operating substantially as and for the purpose shown and described.

2. The slot *r*, in combination with the case B and spring *b* of a belt clasp or other fastening for dress appendages, for the purpose of holding and providing a point of resistance to the said spring *b*, and also serving as a stop to the pin *t* of the bolt, all substantially as shown and described, and for the purpose specified.

3. The slotted bolt B' of a dress fastening, having a tongue *a*, or its equivalent, for the better holding of the spring *b*, all substantially as shown and described, and for the purpose specified.

4. Forming the bolt B' of a dress clasp or fastening with projections *i* and a tongue *a*, or their equivalents, all substantially as shown and described, and for the purpose specified.

5. The case B, made substantially as shown and described, for the purpose of serving as a guide for the longitudinal movement of the bolt B', and for holding the same against the lateral traction of the belt when the same is on the wearer, and also for assisting in catching and holding the catches *e e*, all as set forth.

6. The spring tongues *l*, in combination with the bolts B', for the purpose of actuating the latter when the formation and employment of the case B render the thumb bit *m* more or less inadmissible, all as set forth.

75,977.—SAMUEL J. REEVES, Philadelphia, Pa.—*Railway Rail Joint.*—March 24, 1868.—The base flange of the rail is clamped to the ribbed base plate by the clamping plates, whose flanges take over both, and are secured by transverse bolts which pass through the longitudinal ribs of the base plate.

Claim.—A rail joint, consisting of the ribbed bar B and clamping bars D and D', adapted to each other and to the rails, substantially as set forth, for the purpose specified.

75,978.—E. B. REQUA, South Bergen, N. J.—*Lamp Burner.*—March 24, 1868.—The cone and the perforated, cup-formed plate beneath it are supported on uprights arising from the base plate. A small passage is left between the edge of the burner and the chimney.

Claim.—1. The perforated cup-shaped plate B, provided with an under concave surface *d*, through which the wick tube *c* passes loosely, substantially as and for the purpose specified.

2. The lower rim A, with the wick tube *c* attached, in connection with the perforated cup-shaped plate B and cone or deflector C, all arranged substantially in the manner as and for the purpose specified.

75,979.—ELISHA ROBBINS, Worcester, Mass.—*Railway Snow Plow.*—March 24, 1868.—The tunneler is arranged to cut a way with vertical or flaring sides, and to scrape the snow from the rails. The spiral borer is rotated by connection with the wheels, and conveys the snow backward and upward, the deflecting plates throwing it laterally to each side.

Claim.—1. The combination of the tunneler A, and the auger or borer C, arranged as set forth.

2. The combination of the tunneler A, the auger or borer C, and one or more deflectors *e e*, arranged so as to discharge the snow laterally from the auger, as specified.

3. The combination and arrangement of the auxiliary deflector or deflectors *f f* of the top of the tunneler with the said tunneler, the rotary auger, and the other deflector or deflectors *e e*, arranged as specified.

4. The combination and arrangement of the antifriction tube D with the auger C, the tunneler, and one or more deflectors, arranged in the rear of the said tube.

5. The combination of one or more supporting wheels *g* with the auger tube D, the tunneler, and one or more deflectors *e*, as specified, such rollers being for supporting the tube while in revolution.

75,980.—Louis S. Robbins, New York, N. Y.—*Process of Cleaning Wool, &c.*—March 24, 1868.—The wool is placed in a close chamber and treated first with the vapor from petroleum, and after proper cleansing is treated with the vapor from oil.

Claim.—1. The process herein described for removing the alkaline, oily, and gummy substances from wool, by the use of the light vapors obtained from petroleum, naphtha, and other similar substances or compounds, substantially as described.

2. The process of saturating wool, preparatory to its being manufactured, by the application of oleaginous vapors, substantially as herein described.

75,981.—Leonhard Rodenhausen, Philadelphia, Pa.—*Car Starter.*—March 24, 1868.—A loop on the draw bar engages a ratchet upon the axle nearest thereto, so as to start the car by forced rotation of the axle.

Claim.—The catch E, attached directly to the tongue or draw bar D, and employed in combination with a ratchet wheel secured to the center of the axle, all arranged and constructed to operate as herein described and represented.

75,982.—Charles Rowland, Washington, D. C.—*Car Seat.*—March 24, 1868.—The head rest is padded, and traverses the seat back so as to be drawn upward from either side.

Claim.—The head rest, consisting of the frame C, provided with the sheet of rubber, or other flexible material, and arranged to slide within the back of the seat, and be protruded from either side thereof, substantially as shown and described.

75,983.—W. W. Rowles and A. J. Russell, Baltimore, Md.—*Invalid Bedstead.*—March 24, 1868.—The patient is raised on a supplementary bedstead, and the part upon which he is immediately supported is run out sideways from the bed.

Claim.—1. The supplementary bedstead C C^1 C^2, when used in combination with the bedstead A A, substantially as and for the purposes specified.

2. The laterally-sliding frame, composed of the end pieces G G and vertically-adjustable side pieces H I, supported upon the sliding standards E E and the posts D D running upon trucks *c c*, substantially as and for the purpose specified.

3. In combination with a laterally-sliding frame, as above described, a roller I for the purpose of holding and adjusting one side of the supporting sheet J, substantially as described.

4. The sheet J, having one serrated edge looped, as shown at *j j*, *n n*, substantially as and for the purposes set forth.

5. The forked lever O, having the hook *o*, substantially as and for the purposes shown.

75,984.—James J. Russ, Worcester, Mass.—*Wood-planing Machine.*—March 24, 1868.—The frame of the feed rollers is made vertically adjustable, and the rollers made yielding, to suit the thickness of the stuff. The cutter spindle has lateral and vertical adjustment. The bed where the surface cutter head acts has a series of slots in the direction of the feed, having bridge bars, to allow the cutter to act upon the edges of the stuff without striking the bed.

Claim.—1. The adjustable frame G bearing the feed rollers, and provided with the bars M N, in combination with the spring O, substantially as described, for the purpose specified.

2. The frame V^2 for the spindle U^2, constructed as described, having the box bearing W^2 and the socket bearing a^2, and arranged to operate in connection with the box B^3, substantially as described, for the purpose specified.

3. The bar carrying the presser shoe to the machine, when arranged in a frame applied to the machine, for adjustment thereon and for its own adjustment through a spring, whether both be combined in one or used separately, substantially as and for the purposes described.

4. The clamp or holder for the presser block, provided with a spring arranged for operating, substantially as and for the purpose described.

5. The bridge plates or slides D^3 for the openings C^3 in bed plates to the machine, in combination with the sliding box B^3, substantially as and for the purpose described.

75,985.—William Serviss, Sidney, Ohio.—*Soldering Tin Cans.*—March 24, 1868.—The cylindrical shell equals in diameter that of the inside of the can, and has a surrounding lip to hold the top of the cylindrical portion of the can blank in place. The can bottom is placed upon the cylindrical part and the two pieces are then held firmly for soldering. The case has a bail, and a knob upon the latter is placed in a holding fork when the can is drawn off the case.

Claim.—1. The holder, composed of the shell A, furnished with the annular lip *a*, substantially as and for the purpose herein set forth.

2. The combination, with the holder, constructed as described, of the knob C, substantially as and for the purpose specified.

75,986.—Francis E. Sessions, Worcester, Mass., assignor to himself and Samuel A. Knox.—*Carbonizing and Hardening Iron and Steel.*—March 24, 1868.—The iron or steel is carbonized by immersion in molten cast iron, and is hardened by immediate immersion in water.

Claim.—The process above described for carbonizing and hardening iron and steel.

75,987.—Josiah Seymour, Coventry, N. Y.—*Mold Board for Plows.*—March 24, 1868.—The face of the reversible mold board has a single, flat surface for some distance backward from the point, and from that point gradually rises in the center, so as to form two faces, whose edges, cut in section perpendicularly to the axis, will have straight lines.

Claim.—The forming of a mold board for plows, either single or reversible, in such a manner that the lines bounding the vertical sections of said mold boards shall be straight, substantially as herein described and set forth.

75,988.—M. R. Shalters and Samuel Ray, Alliance, Ohio.—*Double-Shovel Plow.*—March 24, 1868.—The standards have side arms adjustable in the head of the T-shaped box, and clamped by a set-screw. The handle "round" is made in two portions, one of which slides within the other so as to admit of extension.

Claim.—1. The T-shaped box D, for forming the main frame of a double-shovel plow, substantially as herein set forth.

2. In combination with the box D, the braces C C and handles A A, substantially as and for the purpose specified.

3. The arrangement of the braces F F, C C, and the rod H and tube G, with the handles, and beam for contracting and expanding the frame, substantially as herein set forth.

75,989.—John Sheets, Columbia, Pa.—*Sand Scoop.*—March 24, 1868.—The staff rises perpendicularly from the rear end of the scoop, and has a collar to which the hoisting rope is attached. The rope has a series of loops to engage over a pin on the boat, and the rope attachment to the staff forms a fulcrum in the use of the scoop.

Claim.—The arrangement of the socket, scoop, and handle H, with its shoulder D, ring E, braces F F, in combination with the rope, or its equivalent, and links L, when made substantially in the manner and for the purpose specified.

75,990.—Samuel D. Sheldon, Fitchburg, Mass., assignor to The Whitman and Miles Manufacturing Company.—*Sickle Sections and the Method of Serrating Them.*—March 24, 1868.—The anvil block has a depression formed like the toothed section, and a beveled edge upon which the edge of the section is bent down in forming the serrations. In subsequent grinding the lower side of the section is made flat.

Claim.—1. The beveled-faced anvil or block, for supporting the blank sections while the serrations or cuts are being made, substantially as and for the purposes set forth.

2. The mode of forming the serrated cutting edge *e* of the section, as and for the purposes set forth.

3. The serrated-edged sickle section, as an im-

proved article of manufacture, made as shown and described, and for the purposes set forth.

75,991.—A. M. SHURTLEFF, Boston, Mass.—*Atomizing Apparatus for Surgical Use.*—March 24, 1868.—The shield has a flaring and cylindrical portion and is hinged to the liquid vessel and adjustable in relation thereto. The shield drains into the vessel. By means of the shield the atomized liquid is directed particularly to a certain spot.

Claim.—1. The combination of the elastic bulb *f*, and its flexible connection, with the atomizing tubes, the vessel *a*, the atomizing tubes *b c*, and the shield *h*, substantially as described.

2. Constructing the shield *h* with a mouth tube *k*, substantially as set forth.

3. Arranging the mouth of the shield to drip directly into the vessel *a*, substantially as shown and described.

4. Making the stopper *d* with an orifice *i*, for receiving the edge of the shield, and conducting the excess of fluid back into the vessel, substantially as described.

5. Supporting the shield by means of a ring or band encompassing the mouth tube, substantially as set forth.

6. Connecting the shield directly to and supporting it by the liquid-containing vessel, substantially as described.

7. Applying the shield so as to swing up from and down into connection with the orifice *i*, substantially as set forth.

8. Applying the standard *m* so as to be adjustable in height and in distance from the vessel *a*, substantially as and for the purpose set forth.

9. A stopper of rubber or rubber compound, when made with a center hole for insertion of the atomizing tube, and an orifice for return of the excess of fluid, substantially as set forth.

75,992.—JAMES C. SICKEL, Philadelphia, Pa.—*Composition for Embalming.*—March 24, 1868.—A mixture of glycerine and alcohol in equal proportions has sulphurous acid gas passed through it and is flavored with acetic acid and essential oil of cloves. The mixture is injected into the natural passages and into the aorta. The body is wrapped in bandages saturated with the mixture and covered with India-rubber.

Claim.—The combination of glycerine, alcohol, and sulphurous acid, flavored with acetic acid and essential oils or flavors, for the preservation of dead bodies, in the manner described.

75,993.—CHARLES S. SIDDONS, Rochester, N. Y.—*Fruit Jar.*—March 24, 1868.—The neck is shouldered to sustain the elastic packing ring. The cover is stamped to form, and has an angular flange, which covers the packing on two sides. The cover is held down by atmospheric pressure and is raised by a ring.

Claim.—The fruit-jar cover, composed of a single sheet-metal plate, having a vertical rim B, and projecting flange P, and used in combination with the ordinary packing ring A, and jar having an internal shoulder or projection, as and for the purposes set forth.

75,994.—A. D. SMITH and E. STOW, Townsend Station, Ohio.—*Fence.*—March 24, 1868.—The horizontal, supporting wires are indented to receive the pickets.

Claim.—A fence, constructed with an indented wire or wires, in combination with the hooks *a* and pickets C, as and for the purpose specified.

75,995.—S. W. SMITH, Addison, Vt.—*Flat-Iron Heater.*—March 24, 1868.—The head of the cylindrical heater has apertures to allow the passage of the irons, the handles projecting. Above the head is a similarly perforated plate which turns on the head so as to close the whole of the apertures except that part in each which is traversed by the handle.

Claim.—1. The construction and arrangement of the plate A with the flange or side wall C and the plate F, combined and operating substantially as shown and described for the purpose set forth.

2. The chamber A′, when formed by two open plates, substantially as and for the purpose described.

75,996.—WILLIAM E. SPARKS, New Haven, Conn., assignor to SARGENT & CO., same place.—*Door Button.*—March 24, 1868.—The button has a spring knob which enters one of a series of indentations in the pivot plate.

Claim.—The lever B, provided with a spring point *d*, operated by the plate A, the said plate A provided with one or more indentations to receive the pivot *a*, substantially as and for the purpose specified.

75,997.—J. W. SUMMERS, Sandy Hill, N. Y.—*Horse Hay Fork.*—March 24, 1868.—The tine is hinged to one part of the shank and is operated by the other part so as to take its three positions, of entering, holding, and discharging, in which it is respectively raised, projected, and depressed.

Claim.—The shanks A and B, the single tine G, bands D D, cam-loop H, catch-loop J, notches *l* and *m*, and cord I, all constructed and operating substantially as shown and described, and for the purposes set forth.

75,998.—JAMES SUTHERLAND and FRANCIS MOAKLEY, East Hampton, Mass.—*Steam Pump Engine.*—March 24, 1868; antedated February 18, 1868.—Improvement on the "Rodier" steam pump, patented August 14, 1866. The secondary valves are cylindrical pieces working in corresponding valve seats, and have stems moved by the piston head. Each of the secondary valves performs two functions—one in allowing steam fresh from the main port to enter the valve chest to move the valve, and the other in allowing the escape of steam from the other end of the valve chest.

Claim.—1. The secondary valves *a* and *a′*, with their respective ports *e* and *e′* and *f* and *f′*, whereby each performs the functions of exhausting steam from one end of the main valve, and supplying steam at the other, by their alternate movement respectively, substantially as shown.

2. The arrangement of ports *e* and *e′* and *f* and *f′* with the secondary valves *a* and *a′*, substantially as shown and described.

3. The arrangement of the pieces H and H in the main valve, and channels *g* and *g*, in communication with them, substantially as shown.

4. The arrangement of the piece *h* in the secondary valves, as shown.

75,999.—W. W. SUTLIFF, Town Line, Pa.—*Carriage Spring.*—March 24, 1868.—The wooden springs are clipped at their ends to the middle of the perches, and at a variable distance therefrom rest upon fulcrum bars which are adjustably secured to the perches. The body is secured to the ends of the springs.

Claim.—1. Spring bars F F, provided with metal plates *a a*, perches D D, arranged in combination with clips E E and bolts *c c*, as and for the purpose set forth.

2. The adjustable cross bars G G, in combination with spring-bars F F.

3. The employment of the screw rods K K, in combination with the adjustable cross bars G G and spring bars F F, substantially as and for the purpose specified.

76,000.—JEROME B. SWEETLAND, Pontiac, Mich.—*Harvester Rake.*—March 24, 1868.—The rake is pivoted to a frame sliding on a bar at the rear of the platform. The frame is connected to a belt whose ends are wound on two pulleys. One of the two pulleys has an interior spring to cause the return movement of the rake, and the other pulley may be clutched to a rotating shaft to cause the effective stroke of the same. The belt has a stop collar which acts to unclutch the pulley when the rake has progressed to the proper point. The rake is thrown into operation by a treadle which operates the clutch. The rake has a counter-balancing weighted arm which has a catch by which it is held up in its return movement, being raised to this position by an inclined plate at the beginning of the return stroke, and the catch released by another plate at the end of the stroke.

Claim.—1. The rod Q, with its weight and notch, used with the plate *n* for holding up the rake, as is herein fully set forth.

2. The pulleys M and O, and belt N, used with the rake P for giving it motion, the pulley O being provided with a spring, which draws the rake back after it has been carried forward by the pulley M, substantially as set forth.

3. The arrangement of pulley M and sleeve J′ upon shaft I, with the lever J, spring V, and rod K, as and for the purpose herein specified.

4. The bars *e e*, in combination with lever J and trip bar V′, which is operated upon by the plate *h* on belt N, as and for the purpose specified.

5. The bar R, in combination with the rod Q upon the rake, used as and for the purpose described.

6. The rack or guard *u* upon the reel standard, when used substantially as and for the purpose set forth.

76,001.—D. H. Thayer, Ludlowville, N. Y.—*Harvester.*—March 24, 1868.—The eccentric-faced cam plate is attached to the wheel hub, and turns in the chamber of the flanged disk which is secured to the axle. When the machine is moving forward the cam plate and flange are clutched together through the medium of the roller.

Claim.—The plates D, on the wheels B, provided with curved eccentric edges *b* and springs E, in combination with the chambered disks C, secured permanently on the axle A, and the rollers F, placed in the chambers, between the curved edges *b* of the plates and the rims or edges *d* of the chambers *a*, substantially as and for the purpose set forth.

76,002.—W. R. Thomas and Thomas Evans, Catasauqua, Pa.—*Steam Engine Piston Valve.*—March 24, 1868.—The piston rod traverses both heads and has arms impinging against the bosses at the ends of the valve rod.

Claim.—The valves G G′, operated by the arms D D′, and by the exhaust steam, in combination with a steam engine with steam and exhaust ports *a a* and *c c*, arranged as described, the whole combined and operating substantially as shown and described.

76,003.—I. M. Thompson, Edinburg, Ind.—*Water Wheel.*—March 24, 1868.—The water is received at the top and periphery, and acts on two series of buckets. The connections are such that the gates are opened simultaneously.

Claim.—The combination of the two sets of buckets *c d* with the two sets of gates *g* and F, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

76,004.—J. P. Thompson, Kirkville, Iowa.—*Washing Machine.*—March 24, 1868.—The rollers are ribbed, and are drawn together by elastic bands. They are supported on standards arising from the sides of the suds box.

Claim.—The combination of the corrugated rollers C C′, slotted standards B, blocks E, elastic bands F, and boxes G, arranged to operate substantially as set forth.

76,005.—Robert B. Thompson, New York, N. Y.—*Base Burning Stove.*—March 24, 1868.—At the lower part of the reservoir is an annular air chamber receiving air by pipes passing through the flue space at the base of the stove. The air is discharged into the upper part of the burning fuel, through holes in the bottom of the annular chamber. This chamber has downwardly projecting bars, alternating with the air holes.

Claim.—1. Supporting the reservoir E upon brackets Q Q, in combination with the air pipes H, substantially as set forth.

2. The combination of the annular air chamber F around the lower part of the reservoir E, with the vertical bars or fingers I, substantially as shown.

3. The combination of the annular air chamber F, formed around the lower part of reservoir E, with air pipes H H, when the latter extend downward through the base flues J J, substantially as shown.

76,006.—William E. Twining, Morrison, Ill.—*Car Coupling.*—March 24, 1868.—The recesses are intended to prevent uncoupling and dispense with the use of a coupling pin. The rear end of the link enters the lower recess and is held horizontally for proper presentation to the other drawhead.

Claim.—The drawhead B, constructed with the hook B^1, and recesses B^2 and B^3, arranged substantially as described.

76,007.—Philip Verplanck, Jr., Binghampton, N. Y.—*Dashboard and Rein Holder.*—March 24, 1868.—The rail is bent inward to form recesses at the top and sides, and the holders are arranged therein.

Claim.—1. The combination of the rein holder *z* with the dash board irons A B C, as shown.

2. So forming the side and top irons of the dashboards of carriages as to receive, in an indentation in those irons, the rein holder, the top of which shall be but little above the line of the iron, the ends of the indentations being so shaped as to be a stop or guard to the rein, preventing it from being snatched or switched out of the holder, as hereinabove set forth.

76,008.—Alexander Warner, Williamsburg, N. Y.—*Fruit Jar and Preserving Vessel.*—March 24, 1868; antedated March 18, 1868.—The lid and its seat have vertical perforations which may be brought into connection to allow of the exhaustion of the air in the can therethrough.

Claim.—1. A vessel, with its lid, cover, or stopple, constructed and combined substantially as herein described, whereby a vent is opened and closed by simply turning the lid, cover, or stopple, or the vessel, the one relatively to the other, as herein set forth.

2. Likewise, in combination with the same, a perforated elastic packing or gasket, interposed between the lid or cover and perforated portion of the jar, substantially as specified.

76,009.—Alexander Warner, Williamsburg, N. Y.—*Closing Preserving Vessels.*—March 24, 1868; antedated March 18, 1868.—In the lid are two perforated disks the upper one of which may be turned to allow passage to the air while being exhausted. The air is removed through one or both of the tubular legs of the operative key.

Claim.—1. A cover composed of two principal perforated pieces, combined to operate substantially as herein specified.

2. The perforated gasket, in combination with the perforated valve and perforated seat, substantially as herein specified.

3. The wrench composed of two connected prongs, one or both of which are made tubular, to form an air passage communicating with the corresponding aperture or apertures in the cover of the vessel, substantially as and for the purpose specified.

76,010.—Joseph Watts, Birmingham, Great Britain.—*Heating Furnace.*—March 24, 1868.—The air entering the air-tight fire chamber has a downward tendency owing to its passage between the bent grate bars. The caloric current has downward escape into the flue leading to the smelting furnace where it is utilized. The lower part of the fire chamber is pyramidal, and formed of fire clay or of a series of angle bars. The steam from a boiler surrounding the fire chamber is conducted to a cylinder, and on the pressure of the steam increasing above a certain point the weighted piston rod is raised and the damper closed.

Claim.—1. Arranging the grate bars or fire bars in such a manner as to deflect the draught, or a portion thereof, in a downward direction, or in the direction in which the fuel is introduced, substantially as and for the purpose set forth.

2. The grate bars *f b*, bent in ∧-shape, substantially as and for the purposes described.

3. In combination with the grate bars *f*, a conical hollow bed *d*, and the flue *i*, below the grate and bed, forming a downward and outward passage for the heated air and products of combustion, substantially as and for the purposes described.

4. A grate formed of consecutive rings of ∧-shaped grate bars, arranged above each other in any suitable manner, substantially as and for the purpose set forth.

76,011.—Nelson Webster, Plainfield, N. J.—*Weeding Tool.*—March 24, 1868.—The frame of the cutter supports rake teeth.

Claim.—1. The sluffling hoe and rake, constructed as described, consisting of the cutter C, provided with upturned cutting ends *d*, and secured to the bow B carrying the teeth D, as herein shown and described, for the purpose specified.

2. Making the teeth of the rake, when they are fitted into a bow B, longer towards the rear, substantially as and for the purpose herein shown and described.

76,012.—E. B. Wells, New York, N. Y.—*Roofing Compound.*—March 24, 1868.—Composed of coal tar, 50; burnt clay, 5; lime, 20; magnesia, 15; and silica, 10 parts.

Claim.—The within-described compound, when mixed and used, substantially as and for the purpose specified.

76,013.—Franklin A. Wells, Brattleboro, Vt., assignor to Jacob Estey & Co., same place.—*Reed Organ.*—March 24, 1868.—The swell has a stud which is engaged by an arm on a rock shaft which has another arm connected by a rod to the operative lever. The latter has a vertically adjustable piece by which it is operated by the knee of the performer.

Claim.—The combination and arrangement of the friction spring or brake, with the adjustable knee piece and lever E of the mechanism for effecting the elevation of the swell.

76,014.—W. C. Wendell, Albany, N. Y.—*Slate Frame.*—March 24, 1868.—The frame is secured at the corners by convex-headed studs.

Claim.—The elastic cushions *b b*, formed upon the ends of a contracted neck *a*, and adapted for the protection of slates, substantially as described.

76,015.—C. I. Weston, Cummington, Mass.—*Dressing Hides and Furs.*—March 24, 1868.—After removing the hair, the hide is stretched out, flesh side up, and that side coated ⅛ of an inch deep with the following composition: new milk, 1 qt.; wheat flour, 1 qt.; barley meal, ½ pt.; oat meal, ½ pt.; corn meal, 1 pt.; sal soda, 1 oz.; cream tartar, 1 oz.; salt, 1 pt.; and oil of vitriol, 1 oz. When sufficiently dried, the hide is worked over a beam with a fleshing knife.

Claim.—1. For tanning composite, the combination of the ingredients herein named, when applied substantially in the manner and for the purpose set forth.

2. The composition herein named for coloring furs and leather, substantially as shown and described.

76,016.—Elonzo S. Wheeler, Westport, Conn., assignor to himself and J. E. Wheeler, same place.—*Button.*—March 24, 1868.—The stem of the button has movement therein so that the button may be drawn outward from the face of the garment when engaged with the button-hole, and may be drawn to the garment to show a good appearance when disengaged.

Claim.—The arrangement of the button attachment or rivet within the button, so that, while the button is secured by the attachment to the garment, the button may be drawn from the garment, and return, substantially in the manner herein set forth.

76,017.—A. M. White, Thompsonville, and E. G. Burnham, Bridgeport, Conn.—*Faucet for Soda Water Fountains.*—March 24, 1868.—The tubular stem is attached to the valve which closes the main passage and is arranged in the said passage in such manner that the liquid may be caused to pass through the tubular stem in a small stream previous to the opening of the larger passage. The continued upward movement of the valve of the tubular stem serves to raise the larger valve and permits the larger stream to pass through the passage of the "bib."

Claim.—1. The tubular stem *e* of the valve B, arranged within the passage *c* of the bib A*, substantially as and for the purpose specified.

2. The supplemental valve C*, arranged, in combination with the valve B, on the tubular stem *e*, and so constructed that, after opening the said tubular stem, the continued movement of such supplemental valve shall lift the valve B to open the passage *c* of the bib, substantially as and for the purpose specified.

76,018.—James Whitehill, Frederick, Md.—*Hot Air Furnace.*—March 24, 1868.—Improvement on his patent of November 8, 1859. The cold and warm air tubes are so adjustable in relation to and with each other, and to a blower, that the air can be regulated in temperature and quantity.

Claim.—1. When used in connection with my furnace, as above described, the attachment shown in Fig. 4, substantially as and for the purpose set forth.

2. The combination of a fan S, with a pipe N, leading from the lower part of the room to be warmed to the lower part of the hot air chamber O, by which a circuit of air can be established that will exhaust the cold air from the room, pass it over the heater, and return it warm to the room again, substantially as and for the purpose set forth.

76,019.—D. S. Whittenhall, St. Louis, Mo.—*Portable Building.*—March 24, 1868.—The floors are made from two side joists connected by a series of cross joists mortised therein, traversed by girder rods. The sides are connected to the floors by angle irons. The gables are secured by metallic straps to the batteus of the sides.

Claim.—1. The combination of the rods *c c' c''*, angle irons *h h*^{1} *h*^{2}, &c., straps *p*, hinges *e e*^{1} *e*^{2}, &c., with the sections and battens of a portable house, as and for the purpose specified.

2. The construction of a portable or permanent building, substantially as shown and specified.

76,020.—D. R. Wight, Sturbridge, Mass.—*Awl Handle.*—March 24, 1868.—The screw is cylindrical and the end of the split cone and nut are alone inclined.

Claim.—The conical nut *b*, in combination with the flat ended screw *a* and split cone *c*, when constructed and arranged so that the split cone shall be made to close upon the awl by the action of the conical nut alone when screwed up as herein shown and described.

76,021.—C. Williams, New York, N. Y.—*Pavement.*—March 24, 1868.—The metallic bars are dovetailed into the blocks to form keys of attachment and to add to their durability.

Claim.—The arrangement of metal bars *b*, inserted into suitable grooves in the upper surfaces of the wooden pavement blocks A, so as to produce a wearing surface, substantially as and for the purpose set forth.

76,022.—Edwin Williams, Rowlesburg, W. Va.—*Wood Turning Lathe.*—March 24, 1868.—Improvement on the patent of Peter Prescott, October 8, 1861. The cutters are pivoted at one end and the other ends have pins which traverse the oblique slots in the arms of the sliding sleeve by whose longitudinal movement the cutters are moved out or inward.

Claim.—The sliding collar B, when provided with the arms *c*, passing through slots in the flange *a'* of the hollow spindle A, and having the diagonal slots for the reception of the pin *d'* upon opposite ends of the cutters D, which are also pivoted at opposite ends to the flange of the hollow spindle, all constructed and operating as described for the purpose specified.

76,023.—Jesse Williams, John Forgie, and James Edwards, New York, N. Y.—*Furnace Grate Bar.*—March 24, 1868.—The bar has two side portions which are connected by several cross bars and a perforated concave top.

Claim.—The combination, in a furnace grate bar, of two thin arched webs *a a*, transverse partitions *b*, and concave perforated top bar *c*, all constructed in the manner and for the purpose herein described and represented.

76,024.—Philip Wisdom, New York, N. Y.—*Machine for Opening Hair Rope.*—March 24, 1868.—The end of the rope is clamped between two jaws of a swivel upon a sliding frame. The jaws are drawn

together by a sliding sleeve which is pushed back as the jaws come in contact with the untwisting heads so as to release the rope. The rope is untwisted by passing through rotating tubes and around spools which turn on bent arms at the front ends of the tubes. From the untwisting tubes the rope passes to the elastic rollers and is presented to the revolving beater rods.

Claim.—1. The revolving tube E, operated by the disk D, and arranged eccentrically within the tube *a*, having the handle *b*, said tube E having eccentrically upon its face the arms *c*, bearing the roller *d*, whose revolutions are caused by the passage of the rope, as and for the purpose herein shown and described.

2. The smooth beaters H, in combination with the plate I, rollers F G, rollers *d*, tubes *a* E, and clamp J, as herein described for the purpose specified.

3. The loose conical roller *d*, when arranged in relation to and combined with tube E, in the manner and for the purpose described.

4. The swivel clamp J, when made substantially as herein shown and described, and when provided with the sliding plate or sleeve *h*, in combination with the tube E, substantially as herein specified.

5. The plate I, having curved upper and lower edges, arranged and combined with the rollers F G, and with the beaters H, as herein described for the purpose specified.

6. The arrangement and combination, with each other, of the rail L, block K, swivel clamp J, tube E, roller *d*, rollers F G, plate I, and beaters H, all made and operating substantially as herein shown and described.

76,025.—George L. Witsil, Philadelphia, Pa., assignor to Thomas E. Hauberger, same place.—*Composition for Sharpening Edge Tools.*—March 24, 1868.—The grinder is composed of a mixture of finely ground flint and potter's clay, which is baked to render it sufficiently hard and insoluble.

Claim.—A composition for sharpening tools, compounded and prepared substantially as set forth.

76,026.—James E. Woodruff, Buffalo, N. Y.—*Letter Box.*—March 24, 1868.—The box is for attachment to a lamp post. The letter passage in the top has a cover whose cam projection operates a lever inside, and the lever is connected to the free edge of the hinged plate so as to close the aperture between the plates when the lid is raised. When the lid is closed the letter slides off the plates through the aperture.

Claim.—The box A with stationary plate G and hinged plate F, both of which extend obliquely below the lid A and form a V-shaped throat, which is opened or closed by the cam B attached to the cover A, lever D, and rod E, substantially in the manner herein set forth.

76,027.—William Wright, New York, N. Y.—*Cut-off Valve Gear.*—March 24, 1868.—The adjustable cam is connected to the stem by a stud sliding in a somewhat spiral groove of the stem, so that longitudinal movement of the stem regulates the cut-off. The stem may be connected with the governor.

Claim.—The combination with the separate induction valves to opposite ends of the engine cylinder of the fixed cam E and variable cam G, arranged for action in either direction of the engine's travel, substantially as described, opening and cut-off toes D H and D′ H′, geared by levers J J′, or their equivalents, for joint but independent action in opposite sides of the axes of the cams, and whereby not only are the valves opened and closed independently of each other, and each made capable of different cut-off strokes by the action of said cams on the toes, but whereby both the opening and closing movement is given to either valve, respectively, from the same side of the axes of the cams as that on which the valve lies, essentially as herein set forth.

76,028.—Adolph Yorns and E. J. Smith, New York, N. Y.—*Kite.*—March 24, 1868.—The frame supports a web somewhat in form of a man.

Claim.—The kite frame A when constructed of the downwardly converging rods *a*, cross bars *b e f*, and ring or segment *c*, all combined and arranged to produce a kite of substantially the figure herein shown and described.

76,029.—William Zimmerman, Colfax, Iowa.—*Horse Hay Fork.*—March 24, 1868.—The tines at the rear part are connected to the cross bar which is attached by a chain to the trip head. The upper ends of the tines converge and end in a ring which is engaged by the hook and held thereon by the trip lever. The trip lever has a projection which is engaged by the yoke when the fork is in operation. To free the load, the yoke is raised by the trip cord and the ring escapes from the hook. A plate may be attached to the upper side of the tines to render the fork applicable for raising earth.

Claim.—1. In a hay or manure elevator the combination of the hook C, latch D, yoke E, chain B, and connecting bar G, arranged substantially as and for the purpose set forth.

2. The combination with a horse hay fork of the transverse bar H′, applied and operating in the manner and for the purpose set forth.

3. The combination with a horse hay fork of the scoop or blade K, applied and operating substantially as described.

4. The detachable handle I and rod or brace J in combination with a horse hay fork, substantially as and for the purpose set forth.

76,030.—August Zinsser, New York, N. Y.—*Tapping Piece for Barrels.*—March 24, 1868.—The tube has a frusto-conical screw threaded end for insertion into the bung hole, and has ears for engagement of the key or hands of the operator.

Claim.—The cast-iron tapping piece A with a screw thread B and ears D D, substantially as shown.

76,031.—Emil Zinssmann, New York, N. Y., assignor to himself and Charles Rumpff, same place.—*Compound of Aniline Colors.*—March 24, 1868.—Two to 6 lbs. of glue are dissolved in acetic acid, and of the aniline color, finely pulverized, 1 lb. is added; the mass is then thoroughly worked and placed in a tight vessel, which is heated in a hot-water bath, and the mass constantly kneaded until the color is dissolved. For purple, glycerine may take place of the acetic acid, as the latter injures that color. When glycerine is used the glue must be first dissolved in a small quantity of water.

Claim.—A compound which is soluble in water, and made from such aniline colors which in themselves are not soluble in water, by treating said colors with glue or equivalent substances, either alone or mixed together, and with a liquid, such as acetic acid or glycerine, or their equivalents, either alone or mixed together, as herein set forth.

76,032.—William F. Collier and J. H. Bigelow, Worcester, Mass.—*Broiler and Toaster.*—March 24, 1868.—The frame has lugs which are formed upon it to secure the bars in position.

Claim.—The wire frame A A when provided with a series of ears or projections D D, formed by pressing out part of the metal without bending the wire, in combination with the bars B B and handles, substantially as and for the purposes herein shown and described.

76,033.—Levi Adams, Amherst, Mass.—*Carriage Wheel.*—March 31, 1868.—The spokes are clipped to a conical plate whose apex has a cap which turns on the end of the spindle.

Claim.—1. The metallic cone-shaped shield or deflector C, applied or attached to the hub and spokes of the wheel concentric with the hub, substantially in the manner as and for the purpose set forth.

2. The combination of the metallic hub A with the box D, arranged substantially as shown and described.

76,034.—John Adt, Wolcottville, Conn., assignor by mesne assignments to William H. Hart and George S. Hurford.—*Hinge.*—March 31, 1868.—The pintle is finished with two heads before insertion, and the tongues closed upon the same.

Claim.—A hinge pin formed with a head at each end previous to being introduced into the hinge, in the manner set forth.

76,035.—ABRAM ALEXANDER, Pittsburg, Pa., assignor to ALEXANDER BOLT MANUFACTURING COMPANY, same place.—*Tool for Shearing Bolts.*—March 31, 1868.—The bar is cut by rolling between two edges moving in different directions.

Claim.—1. In tools for cutting round iron bars, the combination of the crank D, pitman E, lever F, cogs H H, with the pieces K K′, dies M and M′, and suitable frame A A′ A′ B, arranged substantially in the manner and operating as set forth.

2. The sliding pieces K and K, carrying sharp-edged steel dies, constructed as described, for indenting or grooving round iron rods for cutting the same, all arranged and operating substantially as specified.

3. The dies M and M′, having sharp ridges *m m′*, and the projection V when used for grooving and breaking round iron, in the manner substantially as described.

76,036.—JOHN BACHELDER and WILLIAM H. BLISS, 2d, Norwich, Conn., assignors to JOHN BACHELDER.—*Harness Operating Mechanism for Looms.*—March 31, 1868.—The jack levers are constructed with a switch lever applied wholly above the axis on which the levers swing. A tubular sleeve is fitted loosely upon the shaft carrying the eccentrics, and having the jack levers fitted loosely upon it, whereby each jack is allowed independent movement, and the shaft allowed to rotate independently of the jacks.

Claim.—1. The vertical jack *c* and pivoted switch lever *k*, both constructed and combined as shown, the switch lever being attached above the axis of the jacks, and arranged with the pattern device, as and for the purpose set forth.

2. The compound jack lever *c k*, constructed as described, in combination with the pattern device and with the mechanism, substantially as shown, which actuates the pattern, all for the purpose set forth.

3. The arrangement of the sleeve *d*, jack levers *c*, shaft *e*, and eccentrics or cranks *f f*, substantially in the manner and for the purpose described.

76,037.—DANIEL W. BANCROFT, Marshfield, Vt.—*Washing Machine.*—March 31, 1868.—The beaters have two sets of arms, by one of which they are hinged to the lid, and by the other connected to the operative cranks. The suds box bottom slopes to the end where the beaters operate, and is lined with zinc. The shallow end of the tub has a washboard.

Claim.—1. The swinging supports *h h*, provided with spiral springs *m m*, in combination with slots *g g* and shaft E, substantially for the purpose specified.

2. The adjustable cross beam B, to which are hinged the beaters *d d*, in combination with hinged arms *f f*, shaft E, swinging supports *h h*, and spiral springs *m m*, all arranged substantially in the manner herein set forth.

76,038.—WILLIAM BANISTER and ALBERT H. ROWELL, Lawrence, Mass., assignor to themselves and ISAAC H. BUTTS, same place.—*Lacing Boots and Shoes.*—March 31, 1868.—The lace is passed through the hooks and the clasp at the top made fast when the lace is secured to the same.

Claim.—1. The clasp for securing the lacings of boots and shoes, consisting of the plate B, having the turned-up lip *b* attached to its lower portion, the tongue *b′* upon its upper edge, and the downward projecting lips *b″* upon each side of said tongue, as herein shown and described.

2. A loop lying flat upon the surface of the leather and attached to a stud, or its equivalent, said loop being allowed to swing with the motion of the shoe string, substantially as herein shown and described.

76,039.—HARVEY BARTON, Elyria, Ohio.—*Dumping Wagon.*—March 31, 1868; antedated March 25, 1868.—The reaches are placed beneath the sides of the box so as to offer no impediment to the hinged sections of the box bottom when they are allowed to drop in dumping the load. The said sections are hinged at the front edges, and the rear edges are sustained by a series of slide latches which are simultaneously retracted by levers.

Claim.—1. The levers N M, links O, and slides J, as arranged, in combination with the bottom H′, in the manner as and for the purpose set forth.

2. The hound D, reach G, and yoke F, as arranged, in combination with the brackets E, for the purpose and in the manner set forth.

76,040.—HENRY L. BEACH, New York, N. Y., assignor to BEACH HORSE HAY RAKE MANUFACTURING CO., same place.—*Horse Rake.*—March 31, 1868.—The upward, forward ends of the toothed bars of the rotating rake head rest, when the rake is in action, upon a bar which is slid forward to release the teeth and allow the rotation of the head when discharging the gathered hay. The rake head is divided at mid-length and pivoted to a connecting piece extending to the cross board.

Claim.—1. The combination of the teeth heads E and teeth F with the jointed bar, rod, or head D, constructed and operating substantially as described.

2. The sliding bar M in combination with the spring N and frame, when the same shall be constructed and operate substantially as described.

3. In combination with the jointed bar, rod, or head D, the connections C, constructed and operating substantially as and for the purposes set forth.

4. Attaching the sliding bar M to the frame, so that the same may be moved away from the teeth heads E, for the purposes set forth.

76,041.—CHARLES BENDER, Hesse Darmstadt, Germany.—*Wire Truss Bridge.*—March 31, 1868.—The upper chord may be formed straight, and is constructed of wood or iron. The lower chord is downcurved and made of wire with suitable connections.

Claim.—1. A bottom chord consisting of an unbroken main cable and side cables, the latter consisting of as many pieces as there are panels, substantially as and for the purpose specified.

2. The joints of the bottom chord, consisting of two side plates and a covering plate, as shown in Figs. 1, 2, 3, 4, 5, the several parts being constructed and used as and for the purpose herein specified.

3. The saddle joining the bottom and upper chords in connection with bottom chords of truss bridges constructed of wire cables, substantially as set forth.

76,042.—JOHN W. BENTLEY, Woonsocket, R. I.—*Machine for Manufacturing Clouded Yarn.*—March 31, 1868.—Intermittingly operating rollers are attached to an ordinary spinning frame, by which a portion of the thread of one color is continuously spun, while roping of another color is combined with them in such manner as to produce changes in the color of the yarn at regular intervals.

Claim.—The combination of the additional rolls H I L, and the change gear G with a common spinning frame, arranged and operating substantially as and for the purposes herein shown and described.

76,043.—GEORGE BRADWAY and N. BRADLEY, Maquoketa, Iowa.—*Reel.*—March 31, 1868.—Reel heads are attached to the spokes of the main wheel and a worm gear to its hub, to enable the reeling and measuring of the yarn as spun.

Claim.—The combination and arrangement of stand D, spindle C, and wheel B, having hooks *g* and worm *h*, with wheel E, pin *i*, shaft *m*, nut *p*, and spring *n*, as and for the purpose set forth.

76,044.—JAMES BRAMBLE and HUGH M. DEIHL, Fort Wayne, Ind.—*Piano Stool.*—March 31, 1868.—The stool top is upon a plunger which is packed at the foot and plays in a cylinder, into whose lower end the water is pumped by movement of a lever which is raised by a spring and depressed by the foot. The water may be allowed to flow from the cylinder by raising the lever to a certain height. The water is contained in a case in the base of the stool.

Claim.—Controlling the height of the seat of a piano stool by hydrostatic pressure, substantially as described.

76,045.—JOSEPH W. BRANHAM, Franklin, Ind.—*Draught Regulator.*—March 31, 1868.—The damper frame is secured to the mouth of the furnace by the hooks upon its sides, and its guillotine damper is

moved by a lever held to its adjustment by a pawl which engages a ratchet upon its upper side.

Claim.—The draught regulator, constructed as described, consisting of the frame A, having the sheet B and the damper C, to which the inner end of the notched lever L is pivoted, having its fulcrum upon the side of the frame A at *a'*, said damper being held in any desired position by means of the pawl *d* engaging with the notches *h* of the lever H, as herein described for the purpose specified.

76,046.—James F. Broadhead, Rondout, N. Y.—*Saw Set.*—March 31, 1868.—The point of the tooth rests against the adjustable gauge, and is set by the action of the sliding tool, actuated by the wedge, which is forced beneath its lower end.

Claim.—The wedge D, in combination with the sliding bar E, plate C, handle A B, and gauge-screw L, all arranged as described for the purpose specified

76,047.—Charles H. Buck, 2d, West Arlington' Vt.—*Attachment for Sewing Machines.*—March 31, 1868.—The guide has an adjustable, removable binder, which is set to guide bands of trimming to any required distance from the edge. A spring presser may be substituted for the binder. The binder has an arm secured to the gauge, and carrying another arm which is removable. The end of the upper arm is bent down and toward the gauge, and the end of the lower arm is bent up and turned toward the gauge. The cloth is laid between the ends of the arms; the upper, being a spring plate, adjusts itself to the thickness of the cloth. The binding band is held between the ends and body of each arm, and rests against the adjustable sliding plates.

Claim.—The binder, constructed as described, consisting of the plate B, having a tapering shank, and fitting in the dovetailed recess in the bar *a*. its forward end bent down and forming a loop bearing the adjustable guide *e*, and its rear end provided with the opening for the reception of the outer end of the plate C, which is held in place by the slide *d*, the forward part of said plate C being bent down and forming a loop having guide *e*, and placed directly above the loop in the plate B as herein described for the purpose specified

76,048.—Charles Buffum, Lynn, Mass.—*Application of an Inner Sole to a Last.*—March 31, 1868.—Improvement on the patent of Charles Buffum and Joseph B. Johnson, February 7, 1865. The last has a row of socket plates along the middle of its sole, and beneath the plates are rubber or metallic springs, which grasp the necks of the pointed pins which are passed through holes previously made in the sole.

Claim.—1. In combination with a last, devices substantially as described, or their equivalents, for centralizing and holding a sole to the last, the same consisting of the sockets and their springs, and the pins therefor.

2. The arrangement of the holding socket and its spring, at the toe of the bottom of a last, so as to enable a person by means of a pin, as described, to secure the upper of a shoe to an insole by passing the pin through the upper and into the socket and spring, as set forth.

3. The mechanism or combination for holding the sole to the last, such consisting of the grooved and headed pin, the socketed plate, and the plate of rubber or the jawed spring, the whole being substantially as set forth.

76,049.—Andrew Carney, New York, N. Y.—*Hose.*—March 31, 1868.—The cross joints are made spiral, and the main pieces being brought edge to edge are covered by a batten, which is riveted at both its edges.

Claim.—The constructing of hose for conducting water, formed of leather or other material of sufficient strength and flexibility, joined substantially as shown and described.

76,050.—J. B. Case, Fletcher, Vt.—*Lever Purchase.*—March 31, 1868.—The fulcrum block is recessed centrally to receive an acorn-shaped projection on the base block, and turns thereon.

Claim.—1. A universal joint lever purchase or lever support, substantially as shown and described and for the purpose set forth.

2. The lever plate D, in combination with the the trunnions *a*, and block B, and pivot C, substantially as shown and described and for the purpose set forth.

3. The block B, in combination with the stand A and pivot C, and any lever arm D, substantially as shown and described and for the purposes set forth.

4. The combination of the set screws E E with the groove F, in the stand A, and with the block B and lever D, all constructed and operating substantially as and for the purpose shown and described.

76,051.—E. M. Chapin and Solon Rust, Pine Meadow, Conn.—*Carpenter's Plane.*—March 31, 1868.—The guide pieces and adjusting screw pass through the upper bar of the fence instead of through the stock, as usual.

Claim.—The joiners' plow, constructed as described, and consisting of the stock A, having slotted, flanged guides C projecting from one side, the fence B, screw D, formed with a tenon *d*, and fitted with a head *e*, and the thumb screws *a' b*, provided with collars *c*, all arranged and operating in the manner and for the purpose set forth.

76,052.—Milton W. Clark, Worcester, Mass., assignor to R. Ball & Co., same place.—*Cutter Head for Tenoning Blind Slats.*—March 31, 1868.—The rotary head carries serrated cutters for the cross cutting, and plane cutters to form the sides of the cylindrical parts of the tenon and shoulder.

Claim.—The combination with the head A of the cutters *a a' b b*, and *c c'*, arranged to operate as described, so that, at the same time a tenon is formed by said cutters, an offset may be cut in the shoulder of said tenon, substantially as shown and set forth.

76,053.—John H. Coldwell, Poughkeepsie, N. Y.—*Baby Jumper.*—March 31, 1868.—The seat is placed at one end of a lever which has an adjustable fulcrum, and whose other end is held down by a spring.

Claim.—1. Making the seat bar of a baby jumper longitudinally adjustable on its fulcrum, substantially as herein shown and described.

2. Making a portion H of the railing around the seat of a baby jumper detachable, or so that it can swing open, substantially as and for the purpose herein shown and described.

3. The arrangement and combination with each other of the base A, ears B, seat bar C, adjustable plate E, lugs *b*, spring F, and screw *d*, all made and operating substantially as herein shown and described.

76,054.—Francis B. Contessa, New York, N. Y.—*Cording Attachment for Sewing Machines.*—March 31, 1868.—To the ordinary foot pad is attached a curved roller, and adjusted thereon is an elastic ring whereby the machine is adapted to cording and welting generally, and especially to sewing the lace of shoulder straps.

Claim.—1. The combination with the presser bar A of the bracket B and roller C, constructed, arranged, and operating with the sewing machine, as and for the purpose set forth.

2. The elastic thimble or band *e*, in combination with the roll C, substantially as and for the purposes set forth.

76,055.—Frederick Coulon, Rockford, Ill.—*Knife for Cutting Straw Bands.*—March 31, 1868.—The knife has a sickle edge.

Claim.—A knife having the handle B and blade A, the latter being provided with an incline sickle-edge *a*, curved outwardly, or in a convex line, from the handle to the point of the blade, substantially as and for the purpose specified.

76,056.—John Cumnock, Salmon Falls, N. H.—*Mule for Spinning.*—March 31, 1868.—The mechanism is such as to give an equal motion when running out, but a quick return except at the end of the return stroke, when the speed is reduced to prevent rebound.

Claim.—The combination, for operating the car

riage, of a mule in manner as set forth, such consisting of the chain C, and its impelling and guide-wheels, the pinion *c*, toothed sector *d*, arm *g*, the pin *h*, and the slotted plate *k*, the whole being arranged substantially as specified.

76,057.—M. S. CURTIS and W. D. TEWKSBURY, New York, N. Y.—*Hose and Pipe Coupling.*—March 31, 1868; antedated March 16, 1868.—One end of the ring extends beyond the ear and passes beneath an outwardly-inclined portion of the other end.

Claim.—A split or divided and adjustable ring clamp, constructed with its one end recessed, as at *n*, to receive within it a tongue or lip *m*, arranged to project from the opposite end, substantially as and for action or operation, as described.

76,058.—BENJAMIN P. CUTLER, Boston Mass.—*Safety Guard for Fire-Arms.*—March 31, 1868.—The end of a guard rod is presented at the side of and beyond the nipple to receive the impact of the hammer until such time as it is desired to fire the gun, when the rod is slid forward. The guard is thrust into position by a spring and is retracted by a spring lever which acts through the curved lever.

Claim.—1. The combination of the sliding rod *m*, having projection *i*, the pivoted plate *d o*, curved pivoted lever *a*, and springs *s b*, all arranged within a recess in the stock A, to operate substantially in the manner and for the purpose set forth.

2. The auxiliary spring *b*, or its equivalent, substantially as shown and described, in combination with plate *d*, rod *m*, and lever *a*, all as and for the purpose set forth.

76,059.—S. S. DANIELS, Kendallville, Ind.—*Machine for Bending Carriage Circles.*—March 31, 1868.—The blank is clamped to the hollow "former" and bent around in the suitable groove thereof by the revolution of the follower wheel. The follower wheel is upon an adjustable lever and may be arranged to act with either of the grooves of the "former," which contains water to prevent heating.

Claim.—The combination of the hollow former A, having two or more shoulders a^1, formed upon its face, clamp C, cam-lever D, slotted and jointed pivoted shaft E, adjustable lever G, and flanged and recessed followers H with each other, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

76,060.—JOHN C. DELAVIGNE, New Orleans, La.—*Steam Plow.*—March 31, 1868.—A gang of vertically-adjustable cultivators or plows is attached to a frame mounted on wheels and driven by steam power. The machine is guided by a wheel journaled on a vertical shaft. The cultivators are flanked by fenders for protection of the plants which are under cultivation.

Claim.—1. The construction and arrangement of the frame A, of any desired size, in combination with the traction wheels D, substantially as shown and described.

2. In combination with the frame and wheels, the shaft H, formed substantially as described.

3. The arrangement and operation of the gangs of plows or cultivators D, and the manner in which the same are controlled, substantially as described.

4. The vertical protecting rods E, substantially as and for the purposes herein described.

76,061.—JEREMIAH DEPUE, California, Mich.—*Combined Feed Trough and Rack.*—March 31, 1868.—The device may be used as a sheep rack, in which case the cover of the feed trough prevents the entrance of seed or dust therein. When the trough is used, the cover is turned up in front of the rack. When used for horses, the hinged roof is opened at the comb, and its two sections folded down at the side.

Claim.—The feed box K and rack H, in combination with the roof A, slats C, button *f*, and board D, arranged substantially as herein shown and described, for the purpose set forth.

76,062.—ARCULE ELMS, North Granville, N. Y.—*Railway Chair.*—March 31, 1868.—The chair is made in sections, each of which holds one side of the rail, and the sections hold together by counterpart catches made in their base plate.

Claim.—Forming the chair for railroad rails in two parts, B and B′, which are drawn and held together by their hooks *a a′* substantially as shown and described, for the purpose of clamping and holding the rails A, all as set forth.

76,063.—GEORGE ERTEL, Liberty, Ill.—*Compressing and Beater Press.*—March 31, 1868.—The beater is attached to a rope which is coiled on the driving wheel at the top of the sweep-shaft. The rope is tripped from the driving wheel, by an inclined arm, once for each rotation of the wheel, and allows the beater to descend upon the hay. The pressure is completed by toggle levers operated by a cord winding upon the cylindrical part of the sweep-shaft.

Claim.—1. The driving wheel H, formed with a slotted bar *o* and movable tongue *a*, when constructed substantially as shown and specified.

2. The levers W W′, yokes P and P′, rope *x*, collar *z*, and pawl *d*, all in combination, when constructed and arranged substantially as shown and specified.

3. The driving wheel H, levers W W′, platform M, rock-shaft N, levers *s s′* and *t*, pawl *d*, and collar *z*, of a compressing and beater press, all constructed and arranged in relation to one another and the other parts of the machine, substantially as and for the purpose specified.

76,064.—DAVID H. FANNING, Worcester, Mass.—*Hoop Skirt.*—March 31, 1868.—The vertical tapes are woven with pockets for the hoops on the inner side. The hoops are held in position by clasps which are made in a crucial form. Two of the arms of the clasps are bent around a portion of the hoop which is exposed between the pockets, and the other arms lie over the edges of the pockets.

Claim.—In combination with the pockets C C and hoop B, the clasps D, provided with lips *b b* and *c c*, the former extending laterally upon and clasping the edges of the pockets, as shown in Fig. 2, the latter inclosing and clasping the hoop, as shown in Fig. 3.

76,065.—JOHN FEELY, New York, N. Y.—*Bookbinder's Roll.*—March 31, 1868.—The annular type plate is removable from the turning disk, for substitution of one having another pattern.

Claim.—A bookbinder's roll, consisting of the handle A, which carries the revolving disk C, and of the annular or circular type plate D, secured to the face of the disk, all made and operating substantially as herein shown and described.

76,066.—P. S. FELTER, Cincinnatus, N. Y.—*Door Lock.*—March 31, 1868.—The flat key has curved edges which act on the tumblers, and allow the rotation of the barrel, which actuates the bolt through the cam which turns therein, and is attached to the barrel. In operating from the outside, the tumblers of the inside division of the lock serve to complete the connection by which the bolt is moved, so that when an inner key is in place the bolt cannot be manipulated from the outside.

Claim.—1. A series of bent tumblers *a* or *a′*, in connection with a flat or saw-plate key E, notched at its sides or edges, an arbor D or G, and thimbles F or H, arranged to operate conjointly, one arbor, D, with the other, G, when the lock is to be operated from both sides of a door, as shown, or to operate separately, each arbor with its concomitant parts, when the lock has but one key-hole, substantially as shown and described.

2. The combination of the cam or eccentric C, with the arbor D or G and thimble F or H, and the sliding tumblers *a* or *a′*, all arranged substantially as and for the purpose set forth.

76,067.—EUGENE FONTAINE, Fort Wayne, Ind.—*Cattle Car.*—March 31, 1868.—The movable platform is suspended on chains, running over sheaves at the upper corners of the car chamber, and the platform may be drawn up to the roof of the car by winding the chains upon a longitudinal shaft beneath the center of the roof.

Claim.—1. The adjustable platform B, in combination with the pivoted bars *h*, for supporting said platform in the top of the car, and with the slotted hori-

zontal arm *e*, for holding the same in position when lowered to the center of the car, as herein shown and described.

2. The platform B, having the pivoted bars *h*, when adjusted by means of the single longitudinal shaft D and the chains C, as herein described, for the purpose specified.

76,068.—James H. Foote, Pittsfield, Mass.—*Slate Frame.*—March 31, 1868.—The top of the mortise is held thereon by the spring, but in such a manner that either end of the cap may be raised up to gain access to the cavity; the spring drawing it down again.

Claim.—The case *c*, in combination with the double-acting spring *e* and mortised frame *a*, substantially as described and for the purpose specified.

76,069.—Charles S. Ford, Philadelphia, Pa.—*Gas Burner.*—March 31, 1868.—The burner turns on a cylindrical extension of a piece which is supported on a frusto-conical plug attached to the gas pipe. This plug has an axial, screw-threaded bore, in which is a thumb screw by whose position the passage of gas is regulated.

Claim.—1. The application to gas burners of a universal articulated joint, composed of body A, nut N, and projection P, burner B U and head of burner B′ U′, the whole constructed and operating in the manner and for the purpose set forth and described.

2. The peculiar construction of body A, combined with screw *s c*, for the purpose above described and set forth.

76,070.—Mrs. John Ford, Salem, Oregon.—*Back and Abdominal Supporter.*—March 31, 1868.—The front part of the band is gathered by a cord at top and bottom, so that its central position may take an outwardly convex form.

Claim.—The abdominal supporter, constructed as described, consisting of the band B, provided with the shoulder straps F and thigh straps G, and having a gathered center H, upon each side of which the eyeleted strips I J are secured, the ends of said band provided with the eyeleted strips L and clasps C D, all arranged as described, whereby the supporter can be converted into a band, to be used after confinement, as herein set forth.

76,071.—Leonard F. Fuller, Providence, R. I.—*Steam-Engine Governor.*—March 31, 1868.—The barrel turns with the spindle, but has turning movement independently thereof by the oscillation of the weighted governor arms. The arms are upon a spindle which carries a segmental bevel gear engaging a bevel gear on the barrel. The independent turning of the barrel causes a similar movement of the tongue by which the valve rods are moved through the medium of the frame. The tongue is thus made to cut off earlier or later according to speed.

Claim.—1. The disk M and tongue L, in combination with the frame N, substantially as herein described, and for the purpose set forth.

2. The combination of the segment gear wheel F, gear wheel G, and barrel H, arranged substantially as specified, and for the purpose set forth.

3. The spring S, collar T, and barrel H, arranged substantially as described, and for the purpose set forth.

4. The spring R, with tongue L, substantially as described, and for the purpose set forth.

76,072.—G. W. Gardner and Oliver Higgins, Napoleon, Ohio.—*Pump.*—March 31, 1868.—The submerged pump has open ends. The inner cylinders have a limited, vertical movement communicated to them by the friction of the plungers and constitute the valves, by alternately opening and closing the ports through the "barrel."

Claim.—1. The internal movable cylinder H, having diaphragm *h* and openings *m m′ a a′*, in combination with the pistons I I′ and passage *g*, all as and for the purpose set forth.

2. The tube post A, in combination with the internal movable cylinder H, lever C, barrel G, pump rod D, and pistons I I′, as and for the purpose set forth.

76,073.—R. T. Gill, Poughkeepsie, N. Y.—*Combined Hay Spreader and Cocker.*—March 31, 1868.—The hay is taken from the rake by the endless carrier and dropped into the receiver. The latter has a swinging back and a drop bottom to afford means for depositing the load.

Claim.—1. An improved machine for cocking and tedding hay, formed by the combination of the gatherer G H J K and carrier L, or their equivalents, with the receiver box N, having an upper grate S, a lower grate Y, and a swinging door *n′*, substantially as herein shown and described.

2. The receiver box N, furnished with an upper grate S, a lower grate Y, and a swinging door *n′*, substantially as herein shown and described.

3. The combination and arrangement of the arm *y′*, connecting rod Z, lever W, connecting rod V, and lever U with each other and with the grate Y, grate S, and swinging door *n′*, substantially as herein shown and described, and for the purpose set forth.

76,074.—Thomas Gillespie, Jr., Paulding County, Ohio.—*Sorghum Evaporator.*—March 31, 1868.—The evaporating pan stands in the tank which is over the furnace, and has flues passing through it. The steam from the tank may pass into the chimney.

Claim.—The combination of the furnace A, tubes B, and tank C, substantially as described.

76,075.—T. L. Goble, Orange, N. Y.—*Wagon Jack.*—March 31, 1868.—The lifting bar is notched to receive the axle, and is pivoted to the standard at one end, while the other end is pivoted to the end of the hand lever. At a short distance from the end the lever is pivoted to the top of the hinged standard.

Claim.—The combination of the base bar A, stationary standard B, pivoted notched bar C, pivoted eccentric lever D, and pivoted standard E, with each other, substantially in the manner herein shown and described, and for the purposes set forth.

76,076.—A. W. Halbert, Taylor, N. Y., assignor to himself and J. F. Stark, same place.—*Sewing Machine.*—March 31, 1868.—The motions are all derived from a horizontal disk pulley immediately beneath the table. The end of the curved bar, which operates the needle bar, enters a cam groove in the pulley top, and the shuttle carrier is pivoted to a wrist pin upon the lower side of the pulley. The feeder is actuated by a lever which is pivoted to the shuttle carrier, and whose fulcrum is adjustable to regulate the feed.

Claim.—1. The driving wheel C, the shuttle carrier *e*, connected therewith by the wrist *d*, and the oscillating shuttle guide box *g*, pivoted by the tubular pivot *k*, constructed, arranged, and operating substantially as and for the purpose herein described.

2. The combination of the wheel C, the shuttle carrier *e*, the feed lever *m*, the slide gauge *n*, and the feed plate *o*, all arranged and operating substantially as and for the purpose herein described.

76,077.—L. K. Hawes, Whitewater, Wis.—*Bed Bottom.*—March 31, 1868.—The slats are supported on elastic straps which are clamped to their ends by the serrated bars, attached by screws to the slats, and whose other ends are looped to staples, which may be inserted in the rails and retained by buttons.

Claim.—1. Slat A, elastic strap B, bent staple C, and clamp D in combination, substantially as described.

2. Securing strap B to slat A by the serrated clamp D, substantially as described.

3. Staple C, with button E, in combination, substantially as described.

76,078.—Albert S. Hopson, Plainview, Minn., assignor to himself and S. C. Harlan, Red Wing, Minn.—*Horse Shoe.*—March 31, 1868.—The calks are made of angle pieces which are inserted in transverse slots and retained by a key.

Claim.—In combination with a horse shoe, having slots or openings at the toes and heel, the calks, when provided with a rib or projection, and secured by wedges or keys, substantially as and for the purpose specified.

76,079.—Alonzo J. F. Howard, Milford, Mass —*Boot Crimper.*—March 31, 1868.—The shanks of the moving jaws have lateral movement in the mortise through the top of the clasp. The moving jaws are forced outward, to clamp the leather, by the wedge-shaped nut upon the clamping screw whose point bears against the tree.

Claim.—The construction of the movable jaws *f f*, that is, as made with the elongated shanks *g g*, for the purpose of lowering the jaws *f f* below the top of the clasp *a*, and forming the spaces *h h'*, as and for the purposes before described.

76,080.—J. Huston, Jr., and O. W. Stanford, Sharonville, Ohio.—*Fastening for Carriage Curtains.* —March 31, 1868; antedated March 23, 1868.—The spring catch-pin is attached by a plate to the curtain, and its somewhat spiral point enters the aperture of the plate attached to the body. The pin turns in entering the plate, and is returned by the spring so that its shoulders engage the plate.

Claim.—The plates A and B, and thumb-nut C, in combination with spring-catch D, constructed and operating substantially as and for the purpose described.

76,081.—John L. Janeway, Flemington, N, J. —*Gate.*—March 31,1868.—The uprights are supported by rollers which track on the sill extending from post to post, and the rails rest on swivcled rollers turning in brackets on one of the gate posts. A lip on the said post prevents the raising of the gate.

Claim.—The employment, in combination with the sustaining post A and gate, of the swivelling caster-wheel stands *e d e d*, the whole arranged and operating as described, for the purpose set forth.

2. In combination with the above, the retaining lip *i*, as and for the purpose set forth.

76,082.—Frederick J. Jones, Detroit, Mich., assignor to himself and Adolph Dick, same place.— *Belt Hook.*—March 31, 1868.—The transverse bars of the hooks are connected by a sleeve to form a joint between the connected ends of the belt.

Claim.—The construction of a double hook and sleeve, substantially as and for the purposes herein set forth and described.

76,083.—Samuel Kime, McVeytown, Pa.— *Shaft Bearing or Millstone Bush.*—March 31, 1868.— The adjustable bushing consists of four anti-friction rollers which are carried at the ends of pivoted arms adjusted by set screws. The whole is contained in a case.

Claim.—1. The arms D, hung at one end to studs *e*, and bearing at their opposite extremities the friction rollers B, when said arms are provided with adjusting screws *g* passing transversely through them, and adapted to rest against the inner face of the side of the box A, all constructed, arranged, and operating as and for the purpose specified.

2. The stuffing-box H and follower G, substantially as shown and described, in combination with the box A containing the rollers B and hinged arms D, all substantially as shown and described, and for the purpose of being used as a millstone bush, all as set forth.

3. The set screw *g*, in combination with the hinged arms D, rollers B, box A, and stud *e*, substantially as shown and described, for the purpose of adjusting the rollers B, all as set forth.

76,084.—J. Kirchfield and F. Heyl, Riegelsville, Pa.—*Match Box.*—March 31, 1868.—The fuse is fed out by turning the wheel, and serves to hold the fire when a match would be blown out by the wind. The end of the cigar is inserted in a hole of the box end and the knife upon the inside of the lid is brought down upon the same by closing the lid.

Claim.—1. The wheel Dx, fitted in the box B, in connection with the opening in the end of the box, and the slide *g*, all arranged substantially as and for the purpose specified.

2. The cutter *e*, attached to the lid D, in connection with the opening in the end of the compartment *c*, substantially as and for the purpose set forth.

3. The combination of the box B, hinged lids A D, wheel Dx, slide *g*, and cutter *e*, all arranged substantially as and for the purpose set forth.

76,085.—William Lang, Brooklyn, N. Y.— *Umbrella.*—March 31, 1868.—The bent lever curves partially around the runner, and has a projection at one end which enters cavities in the staff; and a spring beneath the other end which forces the projection inward.

Claim.—The umbrella runner, provided with a fastening device consisting of the channel *a* and catch or lever D, in combination with the projections B, substantially as described.

76,086.—William H. Leach, Dorchester, Mass., assignor to himself and Samuel I. Pressey, same place.—*Scissors Sharpener.*—March 31, 1868.—The file is held in oblique grooves in the faces of the guide blocks, which are drawn inward by the set screws, and pressed outward at the lower side by the bent, metallic spring.

Claim.—The inclined file C, in combination with the parallel blocks A B, screw or screws D D, and spring *d*, all constructed, arranged, and operating substantially as and for the purpose set forth.

76,087.—Julius Lehmann, Bloomington, Ill.— *Compound for Welding and Refining Iron and Steel.* —March 31, 1868.—Composed of dry sand, 384; sulphate of iron, 8; sulphate of magnesia, 4; prussiate of potassa, 2; rosin, 1; Venetian red, 1; fluid muriatic acid, 2; and muriate of ammonia, 4 parts.

Claim.—A composition for welding and refining steel and iron, and for restoring burnt steel, made substantially in the manner and of the ingredients herein set forth.

76,088.—E. T. Ligon, Demopolis, Ala.—*Formation of Joints of Steel or Iron Plates.*—March 31, 1868; antedated March 20, 1868.—The faces of the flanged edges of the plates which come in contact are coated with copper.

Claim.—The application of the coating of copper to the bent-over edges of steel or iron plates, as described, for the purpose of forming a tight joint, less liable to oxidation than steel or iron, as herein shown and described.

76,089.—John Magee, Chelsea, Mass.—*Lamp Burner.*—March 31, 1868.—The chimney holder has bearing against the upper curved portion of the cone, and against the outward extension from its lower part. The holder and chimney may be freely raised from the cone.

Claim.—A stationarye one B, in combination with a perforated chimney holder E, all constructed and arranged substantially as and for the purpose set forth.

76,090.—Ezra P. Marble, Sutton, Mass.— *Shuttle.*—March 31, 1868.—The bearing of the serpentine spring is so placed on the spindle head as to hold the spindle up, when completely raised for the substitution of the bobbins; but when the spindle is slightly depressed the spring acts to return it to working position, and with accumulative force.

Claim.—The spindle B and head C, provided with the inclines, as shown, in combination with the volute spring D, arranged and operating as and for the purpose set forth.

76,091.—Canceled.

76,092.—Isaac D. Mathews, Worcester, Mass. —*Journal Box.*—March 31, 1868.—The box is surrounded by a shell whose lower portion contains the oil which is raised by inclined wires in the shoulders of the shaft. The oil is carried up to the points which depend from the upper portion of the shell, and it then drops into the oil holes of the box.

Claim.—1. The combination, with the inner box I, of the shell F, substantially as and for the purposes set forth.

2. The combination, with the shell F and the points or projections *g g*, of the collars O O and oilers 1 1, substantially as and for the purposes set forth.

3. The combination, with the bearing or journal box of a shaft, of one or more collars O and oilers 1, substantially as and for the purposes set forth.

4. The combination of the points *g g* with the caps F' F' and the top part L, of the box I, substantially as and for the purpose set forth.

5. The combination of the oilers 1 1 with the collars O O, as described, whereby they draw against the points or projections *g g*, which scrape the oil from the oilers, as set forth.

6. The combination of the shell F and caps F′ F′ with the collars O O and oilers 1 1 and shaft N, substantially as and for the purposes set forth.

76,093.—ALEXANDER MCCREIGHT, Tranquility, Ohio.—*Carving Machine.*—March 31, 1868.—The stuff is clamped to a longitudinally-moving carriage, and passes beneath the grooving tools, which are secured in a beam that is oscillated by a lever whose cam groove receives the pins on the periphery of a rotating wheel. These pins are so placed as to cause the desired pattern.

Claim.—The pivoted lever I, having the curved slot L fitting upon the pin wheel J, said lever connected to the pivoted tool stock O, by means of the adjustable bar M, all operating as described, whereby the curved slot in the lever I, by the operation of the pin wheel imparts a vibrating motion io the cutters P to form the slots U, as herein shown and described.

76,094.—ARTHUR W. MCMILLAN, Chicago, Ill., assignor to himself and ALEXANDER ADAMS, same place.—*Cast Iron Chimney.*—March 31, 1868.—The base sits upon the comb of the roof, and the lower part of the chimney depends therefrom. The chimney is made of cast-iron sections secured together by bayonet joints. At the lower end of the chimney is a soot box, to which access is gained by a door.

Claim.—1. The cylindrical cast-iron chimney, constructed substantially as described.

2. Constructing and connecting the several sections B, substantially as described.

3. Connecting and supporting the section A with and upon the base C, by means of the collar I, substantially as specified.

4. Connecting the section D with the base C, substantially as and for the purposes specified.

5. The soot box F, with or without the opening H, in combination with the sections A B and base C, substantially as described.

6. The adjustable shield or cap E, in combination with the sections A B D, and base C.

7. The guard G, in combination with the sections A B and base C.

76,095.—E. S. MILLER, Baltimore, Ohio.—*End Gate for Wagons.*—March 31, 1868.—The two ends of the tail gate fold past the ends of the side boards, and when the gate is used as a trough, it is placed in a horizontal position, and front and back boards are slipped into place in the grooves of the ends.

Claim.—The combined gate and feed trough, constructed as described, and consisting of the bottom *m′*, having end pieces B adapted to receive pieces *i n*, and provided with buttons *g* and hooks *h j*, when said pieces B are notched at *l* to fit over the projections *f′* of the slotted rest bar *f*, and are furnished with spring hooks *e*, which catch under pins *d* fixed in the sides A of the wagon body, all arranged and operating as described for the purpose set forth.

76,096.—JAMES H. OSGOOD, Jr., Boston, Mass.—*Window Sash Frame.*—March 31, 1868.—The rubber friction rollers bear strongly against the sashes when closed, to tighten the joints between the sashes and the parting strips. When the sashes are open the friction rollers enter grooves in the sashes so as to permit their easy movement.

Claim.—The combination with the sash or frame respectively of grooves *d*, constructed as described, and the rollers *e* mounted on fixed bearings, and operating together as and for the purpose herein described.

76,097.—JOHN PAAR, New York, N. Y.—*Fire Escape.*—March 31, 1868.—A three-sided metallic box is attached to the outside of a tenement house. The box contains a ladder and has doors communicating with iron balconies connecting with the windows of each story.

Claim.—The metallic or non-combustible box *f g h*, doors K K K′, ladder I, and metallic balconies L, combined and arranged together substantially as and for the purposes described and set forth.

76,098.—HORACE PARK, Columbus, Ohio.—*Ironing Table.*—March 31, 1868.—The board is made of usual form and supported by the larger end. A rack beneath holds the portions of the article not under action.

Claim.—The combination of the top A, bridge C, braces D, rack B, and legs F, all arranged as described.

76,099.—JAMES H. PATTERSON, Glen's Falls, and HENRY B. NORTHUP, Sandy Hill, N. Y.—*Radiating Drum Stove.*—March 31, 1868.—Improvement on his patent, January 30, 1866. The semi-annular chambers are placed at the back of the stove, and connected by descending flues. The caloric current passes into the upper chamber, and then descends into the lower one, from which it ascends by the exit flue.

Claim.—The construction and arrangement of the semicircular drums D D′ at the top and bottom of the stove, corresponding to its back B, and connected by means of the vertical pipes E and pipe F, the latter extending through the drum D to the chimney, and said drum connected to the stove by the pipe G, as herein described for the purpose specified.

76,100.—JACOB REESE, Pittsburg, Pa., assignor to himself and ROBERT C. TOTTEN, same place.—*Ore Crusher.*—March 31, 1868.—The lower end of the moving jaw rests against the anti-friction roller, and its upper end receives motion by a cam turning in the rectangular opening. The concave faces of the jaws are thus made to roll together with a slight but powerful movement.

Claim.—1. The crushing jaw *c′*, provided with the square opening *d*, in combination with the cam *d′*, friction roller *m*, and adjustable jaw *c*, all constructed substantially as shown and described.

2. A square head or T-head bolt *s′*, in combination with a correspondingly shaped groove *s* in a stationary jaw for adjusting the stationary jaw of an ore crusher, substantially as set forth.

76,101.—CHARLES O. and JAMES H. RITCHIE, North Madison, Ind.—*Press.*—March 31, 1868.—The cam lever turns on a pin at the top of vertically adjustable standards by which the cam is brought into position to act on the follower at various heights.

Claim.—An improved press, composed of the matrix G, provided with binding rods *c c*, the follower E, the slotted uprights B and C, with their set screws, and the cam lever D, all combined and arranged substantially as and for the purposes shown and described.

76,102.—W. E. ROBERTS, North Coventry, Pa.—*Portable Fence.*—March 31, 1868.—The uprights have two pieces which are secured to a foundation block and connected by notched cleats which support the notched rails. A notched block is placed above each rail and held in position by a button.

Claim.—1. The post, composed of the uprights B, cleats C, base D, and pins G, for the purpose and substantially as herein specified.

2. The stop E and button F, for the purpose and substantially as herein described.

3. The combination of the rails A, uprights B, cleats C, base D, stops E, buttons F, pins G, and cleat H, when constructed in the manner and used for the purpose substantially as herein specified.

76,103.—ALMON ROFF, Southport, Conn.—*Wood Boring Machine.*—March 31, 1868.—The cutter is for hand use. It has a central screw for attachment to the work, and has rotating cutter arms.

Claim.—In combination with a central stationary screw or shaft, the feed nut K, whether locked to the rotary arms, or operated by the crank L, constructed to operate substantially as set forth.

76,104.—G. W. SARGENT, New York, N. Y.—*Nail Machine.*—March 31, 1868.—The rod receives vertical compression between the adjustable anvil and hammer and side compression from two hammers which approach each other in a horizontal plane.

Claim.—The levers C and D, connecting rods 1 2 3 4 5, wheels A′ and E, with eccentric pins P P′ P″, arranged to operate the wooden shank and vertical

hammer G, adjustable anvil H, horizontal hammers F F′, and cut-off bar I, substantially in the manner and for the purpose set forth, and shown in the drawings.

76,105.—CHARLES H. SAWYER, Buxton, Me.—*Steering Apparatus.*—March 31, 1868.—The segments of gear surrounding the shaft of the hand wheel give rotation to the small wheels which engage the inside gear wheel at the head of the rudder post.

Claim.—The steering apparatus, as herein described, having the wheel shaft B, with its right-and-left screw *d*, and the two small double gears *a b*, the larger gear D, with the teeth on the inner periphery thereof, as and for the described purposes.

76,106.—C. SCHULTZ and T. WARKER, New York, N. Y.—*Stop Cock.*—March 31, 1868; antedated March 18, 1868.—The cock is intended for use with corrosive material, and when the cylindrical valve is retracted from the seat it still closes the passage leading to the valve stem.

Claim.—The stop cock herein described, the same having its body constructed of glass or other vitreous material, with a valve B, provided with recess *h* and lips *i*, for connection to the operating stem, and with a lateral passage *d*, beyond the valve seat of the supply channel *a*, the same valve thus having two faces and two seats, and closing the passage *a* by its direct thrust, and the channel *d* by its lateral expansion, when all parts are constructed and operating substantially as described.

76,107.—CHARLES SEIDEL, New York, N. Y.—*Vegetable Coloring Matter.*—March 31, 1868.—Cashew nut is taken during the season of vegetation and its pith being removed it is powdered in a mortar. Oil of turpentine is then mixed with it and the liquid filtered.

Claim.—An indelible vegetable fluid, having for its basis the pigment of the cashew nut, as a new combination of matter, substantially as and for the purposes described and set forth.

76,108.—SIMON B. SIMON, Washington, D. C.—*Watch for Canes, Umbrella Handles, &c.*—March 31, 1868.—The train of watch gearing is extended longitudinally to enable its insertion into the tubular part of the walking cane.

Claim.—The arrangement of the extension movements A, B, C, D, E, G, H, J, K, L, and M, combined and operating between the plates W and T, as herein described and for the purpose set forth.

76,109.—GEORGE SINGLETON, Paterson, N. J.—*Silk Cleaning Knife.*—March 31, 1868.—The knives are upon a fixed and a moving standard. The latter is secured to the frame by a screw which passes through a slot so as to allow the movement of the standard to regulate the distance of the scraping knives.

Claim.—The improved parallelly-acting silk knife, composed of the blade S, holder B, and plate A, the blade S′, holder E, foot F, slotted hole I, screw H, lugs K and L, and screw M, combined and arranged in the manner and so as to operate substantially as set forth.

76,110.—JOHN D. SMEDLEY, Chicago, Ill.—*Box and Bag for Packing Butter, &c.*—March 31, 1868.—The box is made of paper, felt, or wood, and in either case, after drying and heating, is immersed in a bath of melted stearine at a high temperature. From the bath the vessel is removed to an oven. The stearine may be combined with wax or gum.

Claim.—1. The process of preparing paper boxes and paper bags, for the purpose of packing lard, butter, or fluids of an oleous character, in the manner as herein described.

2. As a new article of manufacture, a paper box or bag, when constructed and prepared in the manner and for the purpose herein described.

3. Hermetically sealing paper boxes, when constructed and prepared as herein described, by means of creases *d* and a mixture of wax and stearine, substantially as herein set forth.

4. Lining a containing vessel, to hold packages of perishable substances, with a paper bag, when constructed and prepared in the manner herein set forth.

5. Packing butter, lard, &c., in containing vessels, either in bulk or packages, when said containing vessels are lined with paper, or its equivalent, prepared in the manner herein described.

76,111.—E. L. SPRAGUE, Leicester, Mass., assignor to himself and HENRY EDDY, same place.—*Making Hand and Other Cards.*—March 31, 1868.—The teeth are inserted in a board composed of three thin layers of veneer cemented together. The grain in the outer sheets runs in the direction of the bends in the teeth, and the grain of the inner layer runs at right angles thereto. Leather may be substituted for either layer.

Claim.—1. A card sheet for supporting the teeth *a* in hand and other cards made of three strips or veneers of wood, substantially as and for the purposes set forth.

2. A card sheet made of one or more strips or veneers of wood, and one or more thicknesses of leather.

3. A card sheet made of two or more veneers or strips of wood, so arranged and glued or cemented together as to have the grain of the wood of the separate veneers cross each other at right angles, or nearly so, for the purposes stated.

76,112.—THEOPHILUS STEINHAUER, Syracuse, N. Y.—*Car Coupling.*—March 31, 1868.—The coupling pin is sustained by a plate attached to two spring pins which are pushed in by the approaching draw head and the pin is allowed to descend to engage the link.

Claim.—An improved self-acting car coupling, formed by the combination of the body A and hopper-shaped mouth B, bars or rods C, springs D, plate E, coupling pin F, coupling link G, plate and pin guide H, and plug I, with each other, and with the body of coupling, said parts A, B, C, D, E, F, G, H, I, being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

76,113.—J. W. STRANGE, Bangor, Me.—*Thread and Twine Cutter.*—March 31, 1868.—The knife and attaching screw are fixed in the mold and the stock is cast upon them.

Claim.—A thread and twine cutter, constructed with a metallic stock A, cast upon and embracing the ends of cutting blade B, with the shields *a a*, and screw *b*, all substantially as described and shown.

76,114.—JAMES STRATTON, Philadelphia, Pa.—*Apparatus for Carburetting Air.*—March 31, 1868.—The air is blown through the tubular axis of a cylinder rotating within the cylindrical case containing the gasoline and passes through the perforations of the said axial pipe to the space within the cylinder. The sides of the cylinder have two foraminous plates, the space between which is stuffed with cotton batting.

Claim.—1. The combination of the tank A, cylinders B and D, and the intervening cotton batting C, substantially as and for the purpose set forth and described.

2. The perforated pipe or hollow shaft E, in combination with the cylinders B and D, substantially as shown and described, and for the purpose specified.

76,115.—JAMES STRATTON, Philadelphia, Pa., assignor to himself, WILLIAM WALLACE, and ROBERT N. WETHERILL, same place.—*Hydrocarbon Burner.*—March 31, 1868.—Improvement on his patent, March 26, 1866. The burner has a closed end and small radial horizontal openings, and is placed at the lower end of a pipe descending vertically from the stop cock in the supply pipe.

Claim.—The downward projecting straight burner A, its lower end so perforated that the jets will flow in horizontal radial directions, in combination with the vertical pipe B, the said parts being constructed and arranged to operate together, substantially as and for the purpose described.

76,116.—OTTO EDWARD HENRY STURCKEN, San Francisco, Cal.—*Window Frame.*—March 31, 1868.—The side strips are pivoted to the frame at top and secured by a pin at bottom. The pin may be taken

out and the strips swung out at the lower end. The sash is then disconnected from the cord and removed. The cord is attached to the sash by a hook.

Claim.—1. A swing side strip B, combined with the adjustable cord fastening D and grooved sash E, all constructed and operating as described.

2. The lock C, in combination with the sash E, strip B, fastening D, as described, and for the purposes set forth.

76,117.—S. B. TERRY, Waterbury, Conn., assignor to himself and WATERBURY CLOCK COMPANY, same place.—*Clock.*—March 31, 1868.—The count-wheel is placed on an axis separate from the main pinion shaft, to render unnecessary the fine gearing required in the "French" movement, and to allow the use of the "American drilled pinion," and still to preserve the compactness of the "French" movement.

Claim.—A clock movement in which the count-wheel is placed upon a shaft, or its equivalent, independent and separate from the main pinion shaft, but connected therewith through pinion and gear, substantially as described for the purpose specified.

76,118.—JAMES H. THOMAS, Lacon, Ill.—*Rock Drill.*—March 31, 1868.—The drill rod is operated by the cross head through intervention of the sleeve, to which it is clamped by arms which are hung to the ratchet wheel, and pressed inward at the bottom of each descending stroke by the band against which the cams impinge. The ratchet wheel and the drill rod receive partial rotation each stroke by the pawl, which is reciprocated by the inclined guide rod. The rod of the piston valves is operated by the cross head.

Claim.—1. The tube E, having the drill D, when secured to the cross head F, on one side, by means of the ratchet wheel *g*, fitting between the horizontal plates, the clamps *m n*, upon the plate H, and the band *h* upon the cylinder head, as herein described for the purpose specified.

2. The combination, with the drill D and tube E, of the plates *e e*, cams *d d*, pieces *f f*, ratchet wheel *g*, spring pawl *i*, and inclined rod J and band *h*, arranged and operating substantially as described.

76,119.—WILLIAM THOMPSON, Dublin, Ireland.—*Mouth Piece for Cigars, &c.*—March 31, 1868.—A piece of cotton wool for absorption of the essential oil is placed in the mouth piece between the month and the cigar. The said cotton may be placed in a chamber formed therefor, or may be placed in the rear of the cavity into which the end of the cigar is inserted.

Claim.—1. The provision, in mouth pieces for cigars and pipes, of a chamber containing cotton wool C, or its equivalent, through which the smoke has to pass on its way to the mouth, substantially as and for the purposes hereinbefore set forth.

2. The employment of a case for containing the cotton or other wool, constructed and operating substantially in manner hereinbefore described, with reference to Figs. 3, 4, and 5, on the accompanying drawing.

76,120.—WILLIAM VEBER, Jr., Shingle Creek, N. Y.—*Milk Shelf.*—March 31, 1868.—The pans are set in circular apertures in the top of the shaft, through which a current of air passes to keep the milk at the proper temperature.

Claim.—The tubular shaft A, arranged with reference to the milk pans and the building or milk house, substantially as shown and described, for the purposes set forth.

76,121.—JOHN WAGNER, Cumberland, Md.—*Dinner Kettle.*—March 31, 1868.—The bucket has a vertical series of trays set one within the other and held together by the bail, which is attached to the lower one. The trays are capped with a close vessel to contain liquid.

Claim.—A dinner kettle, composed of a series of cups or vessels, fitted one within the other, and connected together by the bail and suitable catches, in the manner substantially as herein shown and described.

76,122.—F. WALPERT, Baltimore, Md.—*Machine for Removing Burrs from Hair.*—March 31, 1868.—The burry hair is passed between a spring board and the rotary beater.

Claim.—The combination of the frame A, having feed board D, the spring *c*, pivoted board C, and rotating covered beater B, all constructed, arranged, and operating as and for the purpose described.

76,123.—WILLIAM C. WELLS, Newark, N. J.—*Drill Gauge.*—March 31, 1868.—Improvement on his patent, Nov. 28, 1865. The blade is fixed to the angle of the cutting edge of the drill, and the inclination of the sides may be made equal, as well as the point made in the exact center, by testing by the scale on the blade. A center may be made on the end of a cylindrical bar by making two scribe marks angularly to each other and taking the intersection.

Claim.—1. In a drill gauge, the employment of a movable or rotating blade A, in combination with a V-shaped or concentric guide B, said blade being movable to or from the end of the said guide, above which it is placed in a line parallel with the vertical plane of the said guide B for the purpose of enlarging or diminishing the area of the angle which it is intended to describe, substantially as herein specified.

2. The projection *c* on the blade A, and projection *c'* on the supporter M, in connection with the stud screw D, Fig. 3, which conjointly forms a pivot joint, when the said parts are attached to a concentric guide, as and for the purpose shown and described.

76,124.—DANIEL K. WERTMAN, Centralia, Pa.—*Breast-Pad.*—March 31, 1868.—The pads are attached to each side of the breast strap to fit the cavities of the horse's collar.

Claim.—The breast pads A A, constructed as described, and consisting of the plates *e f*, riveted together, the covering *d* and filling *b*, when said pads are secured to the breast strap B by means of screws *a*, all arranged as described for the purpose specified.

76,125.—JOEL M. WHEELER, Oxford, Conn.—*Steam Jet Head for Cleaning Boiler Flues.*—March 31, 1868.—The reversible ring enables the throwing of an inclined, annular, steam jet in either direction, to cleanse the flues or tubes.

Claim.—1. The reversible ring B, with the stop *i*, substantially as described.

2. The combination of the parts A B C with the pipe K, substantially as set forth.

76,126.—M. S. WILCOX, Union Mills, Ind.—*Setting Wheels on Axles.*—March 31, 1868.—The wheels are clamped in a frame with the depending spokes vertical and the tread set to the proper distance; the boxes and axle are arranged accordingly.

Claim.—1. The bed piece A and the standards B B', in combination with the straight edge and scale D, constructed and operating substantially as and for the purposes described.

2. The clamp hooks *b b*, in combination with the perpendicular standards B B', as and for the purpose set forth.

76,127.—M. H. WILEY, Boston, Mass.—*Potato Digging Machine.*—March 31, 1868.—The potatoes are combed out, and being raised by the curved teeth of the rotary lifter, are thrown into the screen, which is reciprocated by a crank.

Claim.—The combination and arrangement of the reciprocating screen, the excavating comb, and the rotary lifter, and the mechanism applied to each for operating it, substantially in manner as described, the whole being supported by and applied to a frame A, and its wheels B C, so as to be operated thereby, as and for the purpose explained.

76,128.—SUSAN R. WINDLE, Chillicothe, Ohio.—*Measure for Cutting Dresses.*—March 31, 1868.—The pattern chart is formed with a series of inclined scales by which dresses of different sizes may be laid out.

Claim.—1. The chart, provided with scales of part on its edges and surfaces, and of the herein-described contour, for the purpose of facilitating the cutting of dress patterns, as specified.

2. The dart-point H and inner dart-point H' of

smaller dimensions and scales upon their edges for the measuring of the parts of the pattern cut out, substantially as and for the purpose set forth.

76,129.—William W. Winter and Theodore Mueller, Philadelphia, Pa.—*Umbrella.*—March 31, 1868.—The drip cup is formed of impervious, flexible material, stretched upon ribs of spring wire and attached to the handle.

Claim.—The expanding drip cup C, the ribs of which form the loose ends *d* of a series of springs *a*, in combination with the closing ring *c*, substantially as shown.

76,130.—Aurin Wood, Worcester, Mass.—*Engine Lathe for Turning Shafting.*—March 31, 1868.—The main rest carries two hinged tool holders, and the auxiliary rest carries an inverted tool whose tendency is to counteract the strain of the other tools upon the shaft.

Claim.—1. The combination with the auxiliary rest E, of the slide pieces E′ H, and hinged adjustable tool rests or supports G G′ and H′, substantially as and for the purposes set forth.

2. The combination, with the auxiliary rest E, of the hinged adjustable rest H′, cup 3, and spring 2, substantially as and for the purposes set forth.

76,131.—De Volson Wood and Stillman W. Robinson, Ann Arbor, Mich.—*Steam Engine Valve Gear.*—March 31, 1868.—The circular tappet upon the piston rod impinges against the shoulders of a sliding block which has shoulders upon the other side, impinging against a side projection of the valve stem.

Claim.—The combination and arrangement of the piece C, tappet B, and piston rod A, as and for the purposes described.

76,132.—Samuel H. Yocum, Tipton, Ind., assignor to himself and Marion E. Clark, same place.—*Post Hole Hollow Auger.*—March 31, 1868.—The lower end of the shell of the tubular auger has cutters similar to plane bits, and has a series of pivoted blades which are moved inward to divide and support the core by reversing the rotation of the auger, which is then raised from the ground, drawing up the core with it.

Claim.—1. Principal cutters *x x*, pivoted on rim P P by pivots *n n*, in combination with hollow auger D.

2. The cutters x^2 x^2, with slots H H, in combination with pin K in principal cutters *x x*, substantially as herein set forth and for the purposes specified.

76,133.—E. H. Ashcroft, Lynn, Mass.—*Compound for Use in Safes and Powder Magazines.*—March 31, 1868.—Vials or tubes stoppered with fusible alloy, and containing sulphuric acid, are placed in immediate contact with bi-carbonate of soda and carbonate of ammonia. In case the heat of the chamber is raised to the fusing point of the stopper, the sulphuric acid runs out, and carbonic acid gas is formed, which fills the chamber.

Claim.—The salts or chemical compounds herein described, with or without liquid acids, or any other materials substantially the same, all as and for the purposes set forth.

76,134.—Henry W. Adams, Milton, Pa.—*Tanning.*—March 31, 1868.—The hides are placed in open-sided rotating cylinders, which are partly submerged in vats containing tan liquor and have inwardly-projecting pins to work the hides.

Claim.—The use of the revolving tanners E F G armed with pins, and working partially submerged in tan liquor, in the vats B C D, for the purpose of tumbling hides and skins against the said pins, and forcing out the exhausted water from their centers, and working into them fresh tannin, substantially in the manner and for the purpose set forth.

76,135.—Edward M. Allen, Darlington, Md.—*Harvester Cutter.*—March 31, 1868.—The recesses formed in the cutter bar for reception of the teeth have under-cut, angular ends, and the teeth are sprung into place.

Claim.—Securing knives to cutter-bars of reapers or mowers, by means of the elasticity of said knives, substantially as and for the purpose set forth.

76,136.—Jonathan Amory, West Roxbury, Mass.—*Hot Air Furnace.*—March 31, 1868.—Improvement on his patent, April 5, 1859. A series of vertical heating pipes traverse the chamber, and are heated by the calorie currents after they pass the curves, which are similar to those in the patent aforesaid.

Claim.—The combination of the fire chamber B, the combustion chamber C, the curves D and E, and the heating tubes F, constructed and arranged substantially as described.

76,137.—J. J. Andrew, Saltilloville, Ind.—*Straw Cutter.*—March 31, 1868.—One end of the lever is pivoted to a link whose other end turns on a fixed pin, and the other end of the knife receives the wrist pin of a crank. The knife, consequently, has a rocking draw cut. The feed motion has a wheel driven by connection with a screw gear upon the crank shaft.

Claim.—The shaft B, provided with its balance wheel, screw thread, and crank, in combination with the knife E, and bar or rod J, as and for the purpose set forth.

76,138.—Herbert L. Andrews, Chicago, Ill.—*Inkstand.*—March 31, 1868.—The flange at the top of the cup has one or more projections which pass through suitable cavities in the guard plate, and are turned beneath the latter to secure the cup in place.

Claim.—1. The reservoir B, provided with one or more projections *a*, in combination with the guard D, provided with corresponding indentations, and annular grooves beneath, substantially as specified.

2. Raising a ridge or border around the upper surface of the lid or cover, so as to make it concave or dish form, to form a cup to hold loose pens, substantially as described.

76,139.—Nathan Atherton, Philadelphia, Pa.—*Steam Engine.*—March 31, 1868.—The rim of the wheel upon the main shaft has waving side-curves, and receives the impact of anti-friction wheels upon the cross head. In the reciprocation of the piston the anti-friction wheels bear alternately upon the sides of the curved rim of the wheel, and upon the main shaft, and cause the rotation of the latter.

Claim.—The curved ring C R, beveled wheels B V and B V′, cross head C H, guide G, and piston rod P R, all arranged as herein described, for the purpose of changing reciprocating motion into rotary, and producing a continuous motion at right angles, and overcoming friction.

76,140.—C. W. Baldwin, Boston, assignor to Lafayette Huntoon, Milford, Mass.—*Steam Engine.*—March 31, 1868.—The course of the steam is regulated by puppet valves, which are placed so low that the water of condensation has free escape through them.

Claim.—1. The arrangement of puppet valves, with reference to that class of steam engines in which two cylinders of different capacities, and exhausting from one to the other, are employed, substantially as herein shown and described.

2. The arrangement of the valves, their casings, and the steam passages, in relation to each other, and operating essentially as before explained.

76,141.—James W. Barnum, New Orleans, La.—*Cotton Bale Tie.*—March 31, 1868.—The ends of the plate are turned into two cylindrical shells, and the web connecting them is cut out centrally to form two lips, which are folded against the said shells.

Claim.—The device herein described, to wit, the plate A, when provided at its ends with cylindrical supports B B′, the opening C, between said supports, and tongues D D′, for the strengthening of the supports B B′, as and for the purpose set forth.

76,142.—James W. Barnum, New Orleans, La.—*Cotton Bale Tie.*—March 31, 1868.—One end of the cord is passed around the grooves upon the surfaces of the head, and the other end is carried around the

groove in the said head, and brought back for attachment to the cross bar at the end of the arm.

Claim.—The device herein described, consisting of the two supporting curved surfaces A B, the projecting arm C, provided with the head or shoulder D, the whole being constructed as described, and constituting a new article of manufacture, for the purpose set forth.

76,143.—James W. Barnum, New Orleans, La. —*Cotton Bale Tie.*—March 31, 1868.—The parallel bars are attached to the cylindrical part. The cords are attached to the arms, and are then coiled around the cylinder until sufficiently tight. The frame is then placed beneath the rope to prevent the unwinding of the latter.

Claim.—The combination of the bars A A′, when provided with the notches *a a′*, with the cylinder B, or its equivalent, as shown at Fig. 3, substantially as herein described, for the purpose set forth.

76,144.—James W. Barnum, New Orleans, La. —*Cotton Bale Tie.*—March 31, 1868.—The cord is wound around the half cylinders between the plates; and unwinding is prevented by a pin which is passed through both plates, and lies upon the cords.

Claim.—The half cylinders A A′, when placed in relation to each other, as herein described, and secured in position by the plates B B′, when the latter are perforated so as to receive the key C at one of their ends, as herein described, for the purpose set forth.

76,145.—James W. Barnum, New Orleans, La. —*Cotton Bale Tie.*—March 31, 1868.—The cylindrical part has a diametric slot, through which the ends of the rope are passed. The ropes are then tightened by turning the cylinder. The back rotation is prevented by a key, which is passed through the side extensions of the plates upon the cylinder ends.

Claim.—The cylinder A, when provided with the aperture B, the flanches C C′, in which are holes E E′, for the reception of the bolt or key F, the whole being constructed and operating as described for the purpose set forth.

76,146.—James W. Barnum, New Orleans, La. —*Cotton Bale Tie.*—March 31, 1868.—A cylindrical portion connects two plates, one of which has hooked ends, beneath which the rope is passed.

Claim.—The cylinder A, when provided with the two projecting plates B B′, in which are cut the notches C, as herein described, for the purpose set forth.

76,147.—A. Barthole, New York, N. Y.— *Saw Gumming or Toothing Machine.*—March 31, 1868; antedated October 1, 1867. The feed motion is adjustable to admit of a regular or gradated feed, so that the teeth may be cut of even size from end to end, or may be cut in regular gradation.

Claim.—1. The combination, with a reciprocating punch and suitable die, of an automatic graduating feed to the saw-plate, substantially as specified.

2. In combination with the lever K of a friction feed or driving device to the saw-plate, the adjustable stop L, with its ratchet wheel N and pawl P, or the equivalents of these devices, for giving at pleasure a graduating or uniform feed to the plate, essentially as herein set forth.

3. The adjustable automatic feed, constructed and operating substantially as shown and described, in combination with a circular saw plate holder and driving mechanism, as set forth.

4. The adjustable spring presser U, in combination with a revolving plate holder, and its driving mechanism, for operation in connection with a reciprocating punch, and relatively to the die thereof, essentially as shown and described, for the purpose or purposes specified.

76,148.—A. John Bell, Cincinnati, Ohio.— *Folding Couch.*—March 31, 1868.—The posts are hinged to the side rails, and the head and foot boards are hinged at the middle so as to admit of bending inward. The bed is held in its extended position by cross bars. The bottom is formed of interwoven strips of flexible webbing.

Claim.—1. The hinged and folding bedstead A A′, B B′, C, D, E, *d d′*, *e e′*, capable of extension by means of the bars F F′, G, all substantially as described.

2. The combination of hinged folding, and extensible bedstead, as above claimed, with the bottom I, either with or without the permanent mattress J.

76,149.—John Bellerjeau, Philadelphia, Pa. —*Sealing Cans and Jars.*—March 31, 1868.—The lid has cross straps which end in down-curved spring catches taking over the beveled shoulder at the top of the can. The strap may be loose, and a wedge driven between it and the lid.

Claim.—1. The cap or top C, having clasping springs D, and the body A with the bevel flange B, combined and operating substantially as described.

2. The clasping springs D and hook or hinge F, in combination with the cap or top C and the body A, having flange B, and operating substantially as described.

3. The combination of the wedge H, hooked bar or strip G, and body A, having angular flange B, substantially as described, for the purpose specified.

76,150.—Lyman R. Blake, Boston, and Asa S. Libby, Lawrence, Mass.—*Nailing Machine.*—March 31, 1868.—The shoe is placed on the pivoted horn, and the presser-foot brought to bear upon the same. The height to which the said foot is raised by the sole automatically governs the length to which the pins are cut, and the position of the driving mechanism. This length may be adjusted to allow a little for clinching or spreading upon the metallic horn, or may be so adjusted that the pins will scarcely penetrate the whole thickness of the sole. The inclination at which the pins are inserted may be adjusted. The pins may be inserted at varying or in opposite inclinations.

Claim.—1. A work-supporting horn, substantially as described, in combination with a mechanism which operates to drive nails or pins by pressure or percussion.

2. In the aforesaid combination, arranging the horn so that it can be rotated.

3. In the aforesaid combination, arranging the horn so that it can yield and move in a vertical direction, substantially as described.

4. The combination, with the presser-foot, of mechanism which operates by reason of any change in height, at which the presser-foot rests on the stock, to automatically cut nails or pins from material supplied for that purpose, to a length proportioned to the thickness of the work at the place where the presser-foot operates.

5. In combination with mechanism by which nails are supplied to the action of a nail or pin-driving mechanism, means for automatically driving the nails in a direction which is inclined in the general direction of the row of driven nails.

6. Means for automatically driving each nail in an inclined direction opposite to the inclination of the driven nail preceding, substantially as described.

7. Combining with the presser-foot or other device resting on the surface of the stock, and with the nail-driver, means for automatically changing the position of the operative end of the driver, so that the point to which said end will descend at each stroke will depend upon the thickness of the stock at the point where operated upon, and will have a definite relation to the surface of the stock at each descent of the driver.

76,151.—Louis W. Bosart, Ste. Marie, Ill.— *Portable Wire Fence.*—March 31, 1868.—The wires are attached to the corner posts, and passed through all the uprights, and the capstan blocks at the midlength of the fence. The panels have strut-bars at top, and a triangular trestle supports each corner transversely. The capstan blocks are separate, so as to allow the independent tightening of each wire; and are turned by radial arms which are secured by wires to the nearest post.

Claim.—1. In combination with the wires C, a corresponding number of capstans B, through the shafts of which the wires pass, and around which they may be wound, substantially as and for the purpose set forth.

2. The combination of the wires C, corner posts

D, intermediate triangular trestles, boards F, and strips E, constructed and arranged substantially as described.

3. The combination of the frame A, capstans B, wires C, and posts D, arranged substantially as described.

76,152.—Peter H. Bowers, Brooklyn, N. Y.—*Printing Wall Paper.*—March 31, 1868.—The printing blocks are made of wood, whose surface has been thoroughly cleansed by an alkaline solution. The object is to transfer the grain of the wood in some degree.

Claim.—In the printing of wall papers, the use or employment of natural wood, properly prepared, as a type from which to print.

76,153.—George W. Bowlsby, Monroe, Mich.—*Government Revenue Stamp.*—March 31, 1868.—The box is lined with the stamped paper, and the cigars are stuck thereto in such manner that the paper will necessarily become destroyed in removing the cigars. One flap of the paper lies across the box half-way down, and is destroyed in gaining access to the lower half of the cigars.

Claim.—1. Stamping the cigars themselves, in bulk, substantially as described, or any colorable modification of the same, in contradistinction to stamping the box as now done.

2. A stamp so made as to be adapted to said purpose, and substantially as described.

3. The stamping of cigars directly upon the cut ends, to prevent damage to the body of the cigar.

76,154.—C. H. Brady, Mount Joy, Pa., assignor to himself and William Brady.—*Corn Sheller.*—March 31, 1868.—Improvement on his patent No. 68,941. A more capacious passage is provided for the corn by a change in the semicircular shellers, by means of a broad dividing blade, whose beveled cutting keel connects with a spirally curved blade on each side. The frame is clamped to a horizontal support and the corn passed in, point foremost.

Claim.—1. The arrangement of the semicircular shelling plates K with their dividing plate *k*, keel R, in combination with the spirally-inclined and curved blades *l*, centrally united at P for a pin *p*, to support a coiled spring, constructed substantially in the manner shown for the purpose set forth.

2. In combination with my semicircular plates K, arranged as aforesaid, the bearing plates F, for the pin *p*, said plate F being also provided with cross arms E E′, and bearings for the guide rods *h*, in combination with the annular handled rims C C, and their socket bearings, all arranged in the manner shown and specified.

3. In combination with the foregoing revolving frame, the use of a stationary case A A, with its standard, spout, and set screws, arranged in the manner shown for the purpose set forth.

76,155.—George C. Brown, Philadelphia, Pa.—*Portable Derrick.*—March 31, 1868.—The three supporting legs are pivoted at their upper ends to the head frames supporting the sheaves.

Claim.—The portable derrick, composed of the head, with its cap and sheaves, sockets and legs, the whole arranged as and for the purpose set forth.

76,156.—Franklin P. Bush, Cincinnati, Ohio, assignor to himself and Jeptha Garrard, same place.—*Still.*—March 31, 1868.—A blast of cold air is forced through an air-pipe surrounding the condensing pipe.

Claim.—The vapor-discharge pipe D, inclosed within the cold-blast pipe E, the whole being arranged and adapted to operate in the manner and for the purpose set forth.

76,157.—Edward A. Calahan, Brooklyn, N.Y.—*Telegraphic Indicator.*—March 31, 1868; antedated March 23, 1868.—Over a disk marked with the signals is turned a lever pointer, which makes and breaks the circuit by contact with the undulating edge of a metallic ring. The receiving instrument is formed of a dial corresponding to the transmitting disk, and actuated by clockwork controlled by a let-off mechanism worked by the magnet, so that the receiving dials in the telegraphic circuit are all brought to the same indicating point by pulsations from the transmitting instrument.

Claim.—1. The transmitting instrument, formed of a disk, in combination with the arm *e* and undulating edge of the metallic ring, the parts being connected and operating as and for the purposes set forth.

2. The escapement and arm, constructed as specified, in combination with the armature, magnet, clockwork, and dial, as and for the purposes specified.

76,158.—Frank Calvert, Lowell, Mass., assignor to himself and Stephen W. Huse, same place.—*Hair Picker.*—March 31, 1868.—The hair rope is placed in the cylinder, and the end which has been passed through the nose is passed through the crotch and comes in contact with the middle, fluted rollers, and then with the back fluted feed and draft rollers. The fibers are then caught by the radiating concentric toothed cylinder and carried under the pressure plates and over the cylinder, where the hair is discharged by a fan.

Claim.—1. Untwisting hair rope, by running it the reverse from the twist, so that the untwisted part may be operated upon continually and simultaneous with the untwisting, for the purposes substantially as described and set forth.

2. The radiating concentric toothed cylinder *g*, in combination with the can or hair receptacle *y*, for the purpose as described and fully set forth.

3. The can or hair receptacle *y*, with its nose *a′* or their equivalents, when arranged to operate substantially as described and fully set forth.

4. The application and arrangement of the fan and cleaner *q*, clearer or finisher *j*, radiating concentric toothed cylinder *g*, fluted dranght and feed rolls *r* and *r′*, *s* and *s′*, *t* and *t′*, and hair receptacle *y*, when arranged to operate substantially as described and fully set forth.

76,159.—R. W. Carpenter, Chicago, Ill.—*Coupler for Organs, &c.*—March 31, 1868.—The coupler is made of a single wire bent into the requisite form and acting as a simple lever. A block beneath each key may, by the action of a lever upon the coupler, be brought to act on the coupler when the key is depressed. The key sounds its own note by the tracker pin, and its octave by the coupler.

Claim.—A simple lever coupling formed from a single rod, bent and applied substantially in the manner shown and described.

76,160.—John F. Chambers, Calistoga, Cal.—*Shingle Machine.*—March 31, 1868.—The bolt is clamped to the carriage, and the shingles severed therefrom by the descending knife. The shingle is then carried to the roughened tilting table, and a clamping roller, followed by a shaving knife, is passed over it. The shingle may then be inverted and the other side shaved. The edges are shaved simultaneously with the sides.

Claim.—1. The combination and arrangement of the dog *b*, movable table U, eccentric shaft *a*, and levers W, for clamping and holding the shingle while it is being shaved; and in combination with the parts above claimed, the sliding frame *h* and knife *i*, for shaving the shingle.

2. The combination and arrangement of the flat shaft *c*, pinion *g*, wheel *f*, ratchet *e*, and pawl *d*, to alternately raise and lower the end of the table U, to shave the shingles tapering.

76,161.—Edwin Coburn, Jr., Lewiston, Me.—*Tooth Plugger*—March 31, 1868.—One end of the plugger stem is bent around and has a face presenting in the same direction as that upon the straight end, so as to admit by the same hammer mechanism of giving a draw blow upon the filling.

Claim.—1. The rod *c*, passing longitudinally through the cylinder C, and having its coils *d* and *e*, for the purpose of making the tool double in its operation, as herein set forth.

2. In connection with the rod *c*, the hammer *i*, with its hinged spring arm *k*, and the inclined piece *o*, as and for the purposes set forth.

3. The means of making the rod stationary, as shown in Figs. 1 and 4, as described.

4. The method of stiffening the coil *d*, as shown in Figs. 1 and 3, as set forth.

5. Constructing a tooth plugger, as described, so that the blow of the hammer *i* shall operate to compress the filling of a tooth when either a pulling or pushing force is applied, in the manner and for the purposes herein described.

76,162.—George P. Cole, Hudson, Mich.—*Tug Buckle.*—March 31, 1868.—The attaching cross pin is made to screw into the frame, so as to allow the introduction of a new pin (in case of fracture) without cutting the stitching.

Claim—The plate A, as constructed in combination with a bolt F, made adjustable, as described, substantially as and for the purpose herein fully set forth.

76,163.—E. G. Cone, East Hampton, Conn.—*Sleigh Bell.*—March 31, 1868.—The upper and lower cup-formed portions are connected by a stem, by whose upper end the bell is connected to the strap.

Claim.—The combination, with the two open-mouthed bells A B, of one or more loose or detached "jingles" *b*, substantially as and for the purposes herein specified.

76,164.—William S. Cooper, Philadelphia, Pa.—*Globe Valve.*—March 31, 1868.—The collar of the stem has a steam-tight joint with the cap, and is kept to its seat by a spiral spring. The stem has a screw at the lower end which turns in the square valve and actuates the same. Between the valve and its guide piece, and lapping over flanges on each, is stretched a piece of rubber pipe, by which the working parts are protected from the liquid.

Claim.—1. The arrangement of the cap C, collar *n* of the spindle W, the washer *r*, spring K, central guide piece G, and key P, with reference to the body B, substantially as specified and described.

2. The combination and arrangement of the central guide piece G, valve *v*, and tube T, with the body B, substantially as described and specified.

76,165.—Joseph Corduan, Brooklyn, N. Y.—*Lubricating Composition.*—March 31, 1868.—Composed of plumbago, 1, and asbestos, 2 parts, with sufficient glue to make it plastic, but not liquid. The hardness may vary according to the purpose.

Claim.—1. The use of asbestos, substantially as and for the purpose described.

2. The use of asbestos in combination with plumbago or other known lubricating substances, being mixed with a glutinous material, substantially as and for the purpose described.

76,166.—Joseph Corduan, Brooklyn, N. Y., assignor to himself and R. W. Potter, same place.—*Fluid Indicator.*—March 31, 1868; antedated March 17, 1868.—The spiral blades occupy the whole space of the frusto-conical chute through which the water passes, and are supported on a shaft which turns easily on its adjustable centers, and is connected to a registering device.

Claim.—1. A screw composed of blades, of a spiral tapering form, in combination with a conical-shaped vessel or surface adapted to such screw, and a registering mechanism, substantially as and for the purpose herein described.

2. The employment, in the ends of the spindle of said screw, of horned recesses, substantially as and for the purpose described.

3. The arrangement of the registering mechanism around the spindle of the screw, and within the body of the indicator, substantially as and for the purpose described.

4. The construction of the registering mechanism, substantially as described, so as to form an endless screw throughout and thereby overcome friction and increase the facility of the indicator to register.

5. The arrangement of gauze wire work within the induction aperture, substantially as described, in order to prevent substances from passing into the indicator.

6. The arrangement of gauze wire work within the eduction aperture, so as to destroy the circular motion that the fluid receives in passing through the indicator.

76,167.—W. S. Cornell, New York, N. Y.—*Manufacture of Cheese.*—March 31, 1869.—Seventy-five per cent. of the water of the milk is evaporated *in vacuo*, at a temperature of 90° or over. The rennet may then be added and the process continued under vacuum, or according to the usual way.

Claim.—1. In the manufacture of cheese, concentrating the milk by evaporation preparatory to introduction of the rennet, or substitute therefor, substantially as specified.

2. The formation *in vacuo* of the curd from which the cheese is made, essentially as herein set forth.

3. In the manufacture of cheese, retaining the butter usually lost in the whey, by evaporating the latter from the curd, substantially as specified.

76,168.—J. W. Currier, Newbury, Vt.—*Sap Bucket.*—March 31, 1868.—The bucket has a hole which receives the head of the pin which is driven into the tree. A cover is secured by springs over the tub and spile.

Claim.—The cover C, provided with a bridge or support D, and springs E for attachment to a bucket, all arranged, combined, and operating substantially as shown and described, for the purpose set forth.

76,169.—A. B. Davis, Philadelphia, Pa.—*Box or Case for Scale Beams.*—March 31, 1868.—The beam has one or more graduated sliding bars with marks hidden from the operator, who is merely governed by the adjustable stop on the bar, drawing the latter as far as feasible.

Claim.—1. A box or case, constructed substantially as described, in combination with a scale beam contained within the box, and having one or more sliding bars which can be drawn through a slot in the box to an extent limited by a stop on the said bar or bars, as set forth.

2. The within-described box having two doors, one on each side, in combination with a scale beam graduated on both sides, as set forth, for the purpose specified.

76,170.—Charles R. Doane, Williamsburg, N. Y.—*Window Shutter Holder.*—March 31, 1868.—The fastener is forked and slightly bent down at one end to embrace the web of the inner part of the hinge, and its outer end is turned up into a latch which allows the opening blind to pass over it, but prevents its return until the forked and heavier end is raised.

Claim.—The fastener C, applied between the parts of the shutter hinge so as to vibrate on the pivot thereof, and constructed so as to operate substantially as herein described.

76,171.—Hugh Dool and P. B. White, Dowagiac, Mich.—*Boring Machine.*—March 31, 1868.—Either of the two bevel wheels upon the spindle may be brought to engagement with the motive wheel by adjustment of the latter wheel upon its shaft and vertical adjustment of the spindle. The spindle wheels vary in diameter, and the device gives means for adjusting the speed.

Claim.—The adjustable shaft K, provided with wheels E and F, of different diameters, in combination with the horizontal shaft B, provided with an adjustable wheel D, when constructed and used substantially as and for the purpose specified.

76,172.—Alexander C. Decker, Bushnell, Ill.—*Ditching Machine.*—March 31, 1868.—The shovel has an inclined cutting edge and runs backward in a chute which conveys the earth to the conveyer, by which it is carried aside. The plow has forwardly and backwardly extending arms, which are connected by chains to the flanged rollers, by which they are adjusted to regulate the inclination of the plow, and consequently the depth to which it runs.

Claim.—1. The shovel D, constructed as described, with cutting edge d d^1, arms d^6, and shoe d^2, in combination with clevis R, rod r, chains d^4, rollers d^3 d^5, levers u u^1, and racks u^2 u^3, substantially as described.

2. The frame A, constructed as described, frame B, buckets M, wheels K, and roller L, when combined and arranged as and for the purpose set forth.

3. The shaft F, shaft G, shaft H, wheel H′, wheel I, with driving shaft and spur wheels, when combined and operated in the manner set forth.

76,173.—G. Designoble and John Casthelaz, France.—*Explosive Powder.*—March 31, 1868.—Carbazotate of potassa is used with azotate of potassa, to which charcoal and sulphur may be added. Analogous substances may be used. For blasting purposes the compound may have carbazotate of potassa, 56.908 parts; with azotate of potassa, 43.092 parts. For sporting purposes, carbazotate of potassa, 12 to 28; charcoal, 20 to 10; and azotate of potassa, 62 to 68 parts, may be used.

Claim.—The application and use, substantially as described, of picrate or carbazotate of potassa, as well as the salts formed from picric or carbazotic acid, and also the derivatives from such acid, and the acid itself, in and to the manufacture of powder, under the reservations set forth.

76,174.—I. S. Eastman, Madison, Wis.—*Rotating Fan.*—March 31, 1868.—The fan shaft is telescopically jointed and depends from the case containing the works. The case is attached to the ceiling.

Claim.—The combination of the rotating shaft B, cylinders C and C″, suspended from the ceiling above, and provided with arms 1, 2, 3, so arranged as to be held at any adjusted height by means of cord E and clasp F, substantially as and for the purpose described.

76,175.—George W. Eddy, Waterford, N.Y.—*Warming Cars on Railways.*—March 31, 1868.—The steam pipes have flexible connection between the cars and pass beneath both lines of seats. Side bends from the main pipes pass beneath each seat, and the passage of steam through the bends is regulated by valves.

Claim.—1. The combination of the main pipe P, for conveying a portion of the steam directly through the car, and the auxiliary pipes C, for conveying a portion of the steam around under each seat and back into the main pipe P, when said pipes are arranged substantially as described.

2. In combination with the pipes P and C, the check or valve *a*, arranged substantially as and for the purpose set forth.

76,176.—Matthew C. Edey, New York, N.Y.—*Medical Compound.*—March 31, 1868.—The carbolic acid and sugar, with an addition of water, if necessary, is made into lozenges, drops, or pills. The object is to render the carbolic acid less offensive.

Claim.—The medicinal compound above described.

76,177.—William H. Elliot, New York, N. Y.—*Brewing Beer and Other Malt Liquors.*—March 31, 1868.—The vapors of the boiling wort are condensed and returned to the boiling tank. The contents of the said tank are afterward cooled by passing through an inclosed surface cooler as they are conducted from the tank to the reservoir,

Claim.—1. Condensing the vapors of the boiling wort, and returning them to the boiling tank as fast as condensed, and afterward cooling the condensed vapors and the wort together by passing them through an inclosed surface cooler, as herein specified.

2. The combination of an inclosed surface cooler with a boiling tank, which is provided with a condenser for condensing the vapors of the wort, and with a pipe for conducting the condensed vapors back to the boiling tank as fast as condensed, as herein specified.

76,178.—William H. Elliot, New York, N.Y., and Isaac Osgood, Utica, N. Y.—*Apparatus for Dyeing and Bleaching Yarns and Thread.*—March 31, 1868.—Dyeing, bleaching, and cleansing liquids are forced through fibrous material when wound upon the corrugated and perforated bobbins or cop tubes. The liquid is forced through by a pump, which may be also used to force air through to dry the yarn.

Claim.—1. Grooves, flutes, or corrugations *i* and *i′*, for conducting dye and other liquids to the interior of a cop of yarn, when employed substantially as herein described.

2. The grooved or fluted bobbin *d*, when employed substantially as and for the purpose herein specified.

3. Grooved or fluted skewer *g*, when employed substantially as and for the purpose herein set forth.

4. The cup-shaped receivers *c*, through which the liquids pass from the conducting pipes to the cops, substantially as specified.

5. The combination of the receiver *c* with the bobbin *d*, when the receiver is made to embrace a portion of the bobbin, substantially as and for the purpose herein specified.

6. The combination of spring *n* and *n′* with the upper receivers to adjust them to the length of the cop or bobbin, substantially as and for the purposes set forth.

7. The follower *m* and spring *n*, in combination with bobbin *d*, substantially as and for the purposes specified.

8. The combination of an upper adjustable receiver with a lower receiver, when constructed substantially as specified.

9. The employment of a fluted or grooved skewer, in combination with a perforated cop tube or bobbin, substantially as described.

10. The metallic bobbin or spool-head *e*, when struck up so as to form an inner and outer cylinder, in combination with corrugated or perforated body *d*, substantially as specified.

11. The combination of corrugations and perforations in the same body, substantially as and for the purpose specified.

12. The employment of a skewer for supporting a bobbin, cop tube, or spool, in combination with the receivers *c*, substantially as and for the purpose herein specified.

76,179.—Henry J. England, Delhi, N. Y.—*Dirt Scraper.*—March 31, 1868.—The shovel turns upon pivots in the frame and its rear end is engaged by spring catches which are retracted by levers beneath the handles.

Claim.—1. The levers *d d′*, rods *e e′*, springs *g g′*, and catches *f f′*, in combination with a shovel dirt scraper, when constructed in the manner and for the purposes set forth.

2. The projecting pieces *a a′* and *i i′*, in combination with a shovel dirt scraper, when constructed in the manner and for the purposes set forth.

76,180.—Alfred S. Foster, Indianapolis, Ind.—*Steam Generator.*—March 31, 1868.—The steam generator consists of a vertical series of cylindrical sections which communicate by outwardly-bowed pipes and are traversed by vertical flues. The flues of each section are placed out of line with those above and below, and flue chambers are interposed between the sections.

Claim.—1. The arrangement of a flue boiler of sections, whereby the bridges of one section are opposite the flues of the adjacent section, substantially as set forth.

2. The combination of all the several parts herein in one device, when constructed and used substantially as set forth.

76,181.—Harvey C. Fowler, Great Bend, Pa.—*Apparatus for Cooling Liquids.*—March 31, 1868.—The water space is between two concentric metallic spheres and has an upper and lower inlet and outlet, respectively. The globes are surrounded with ice contained in a chest. The interior cold air space communicates with the ice chamber and has an upper pipe for the escape of air.

Claim.—1. My improved apparatus for cooling liquids, consisting substantially of a narrow refrigerating space, extending radially from and beneath an upper inlet aperture, and communicating with an outlet aperture, said space being inclosed between concentric or parallel walls surrounding a central cold-air chamber, which communicates with an outer inclosing ice chest.

2. The combination of diffusing flanges *s s* with the inner surface of the upper or lower walls of the refrigerating space *e*, of my apparatus, substantially in the manner and for the purpose herein set forth.

76,182.—George P. Ganster, New York, N. Y.—*Apparatus for Generating Illuminating Gas.*—March 31, 1868.—The compartments of the carburetting wheel are packed with capillary material which,

by the rotation of the wheel, is kept saturated with the hydrocarbon. The air is received at the end, passing through a check valve, and has exit at the top of the chamber after passing through the saturated material.

Claim.—1. In an apparatus for generating gas from volatile hydro-carbons, the combination of the air forcing and carburetting apparatus in the manner described and shown.

2. Filling the compartments of the meter wheel with any suitable capillary material, for the purpose of enriching the air with the hydrocarbon with which the capillary material is saturated.

3. A valve, placed on the inlet pipe of the apparatus, so arranged as to close the opening when not in operation.

76,183.—George H. Gardner, Philadelphia, Pa.—*Thill Coupling.*—March 31, 1868.—The thill irons are formed to be raised from the pins when the points of the thills are upon the ground, and a block of rubber is attached to the clip to receive the pressure of the cam-ended iron when in working position.

Claim.—The thill iron C, having the eccentric head F and inclined slot D, in combination with the clip B, united by the bolt *e* and the rubber E, all constructed and arranged as described.

76,184.—John Glydon, New York, N. Y.—*Truss.*—March 31, 1868.—The truss has double pads, one for each groin, and a supplemental pad is placed between the main pads.

Claim.—1. The combination of the rigid plate *g*, slotted to receive the spring *i*, with the spring *i* and the swinging pad *e*, substantially as described.

2. The arrangement and combination, in a truss for inguinal rupture, of two pads *e e*, for the purpose of securing stability of position, with or without the supplementary protecting pad *f*, substantially as described.

3. Making the body spring or band of the truss, which encircles the body of a patient, in two independent parts *a a*, connected and adjusted to each other, substantially as above described.

76,185.—E. T. Harlan, Star City, Ind.—*Churn.*—March 31, 1868.—Two diamond formed blocks are supported on a horizontal shaft beneath the disk. A spur wheel upon the shaft engages a vertical rack extending from the bottom to the lid.

Claim.—1. The combination of the perforated disk E and the paddles H, revolving in opposite directions with the movement of the dasher, substantially as set forth.

2. The combination of the handle, the rack bar, the dasher, the pinion, and the paddles, arranged to operate substantially in the manner set forth.

76,186.—William H. Hart, jr., Philadelphia' Pa.—*Packing Neck Ties.*—March 31, 1868.—The tray has a series of elastic loops to hold the cravats.

Claim.—1. The holder A, provided with the yielding tongues *a*, for supporting and exhibiting the neck tie or cravat, substantially as described.

2. The combination, with a cravat holder or show card, of one or more bands, cords, or other fastenings, whereby the cravats may be securely retained in position without protruding through the card, substantially as described.

3. The construction of the box body or frame D with ledges or supports *d*, to adapt the show card or holder to be used as a bottom to the box, substantially as described.

76,187.—Nehemiah L. Hatch, Cape Elizabeth, Me., assignor to himself and J. W. Gavett, same place.—*Meat Chopper.*—March 31, 1868.—The chopper is operated by a crank, and the crank shaft carries a pawl which actuates a ratchet wheel upon a shaft on which a cord is wound to move the frame gradually from end to end of the chopping tray.

Claim.—1. The sliding frame *a*, with the crank *f*, shaft *e*, gears *g h*, crank shaft *i*, jointed driving rod *j*, balance wheel *n*, and handle *o*, in combination with the railed tray, substantially as described.

2. The sliding frame *a*, with the shafts *e* and *i*, crank *f*, gears *h g*, knife *l*, and jointed rod *j*, in conjunction with wheel *n*, pawl *r*, spring rod *s*, pawl *t*, ratchet *q*, shaft *p*, cord *u*, and post, all in combination with the railed tray, as and for the purposes set forth.

76,188.—J. Wilson Heath, Memphis, Tenn.—*Earth-Boring Auger.*—March 31, 1868.—The lower end of the drill rod has lugs, which enter vertical slots extending from the sides of the socket of the auger stem, and by a turn of the latter are made to enter cavities extending sideways from the slots. The stem is then prevented from turning by a key. The auger stem is tubular, and has side openings at the upper end, leading into the axial bore, which is stopped at the lower end by the sliding point, which descends as the auger is raised and allows the air to pass in, to fill the space beneath the auger.

Claim.—1. The combination of the valve *a* with the slotted stem *b*, pin *f*, hollow shaft *s*, and inlets *t t*, all constructed, arranged, and employed substantially as and for the purposes specified.

2. The collar *g*, when used in combination with a double spiral earth auger, as and for the purposes stated.

3. The coupling *h i j* j^1 j^2, constructed and arranged as described, and for the purpose specified.

76,189.—Levi Hermance, Hudson, N. Y.—*Stone-Drilling Machine.*—March 31, 1868.—The frame has adjustment on the crank shaft as a center, and is held in position by the side plates, which have trunion bearings for the shaft and curved slots as guide ways for the feet of the frame. The drill rod is raised by anti-friction rollers upon studs projecting from the fly wheels; and is adjustable by a screw sleeve, which is turned upon it by a hand wheel. The anti-friction rollers act upon the connecting bars, each of which is pivoted at one end to the sleeve, and at the other end has a cross pin sliding in the horizontal slot of a fixed frame.

Claim.—1. The arrangement of the slotted plates *u u*, connecting bars T T, and sleeve J, in combination with the wheels E E, having grooved pulleys *s s* on their inner faces, the whole arranged and operating substantially as specified.

2. The combination of the frame A and its bolts *w w* with the plates C C, having trunion bearings, curved slots D, and recesses *e e e*, whereby the frame A may be placed at an angle with the frame B, as specified.

76,190.—F. M. Hickman, Rolling Prairie, Ind.—*Gate.*—March 31, 1868.—The "hook" part of the hinge is extended upward the distance it is desired to raise the gate, and the upper "hook" has a chain leading beneath a sheave in the gate, and connected to a lever, by whose movement the gate may be raised sufficiently to allow passage to hogs or sheep.

Claim.—The combination of the hinges C C, lever D, and pulley E, respectively, constructed and arranged substantially as set forth.

76,191.—H. D. Hinternesch, Baltimore, Md.—*Saw Mill.*—March 31, 1868.—The ends of the saw are connected by cords which pass over the sheaves to crank pins, by which the cords have reciprocal retraction.

Claim.—Bands or cords S S′, when combined directly with cranks or eccentrics upon a revolving shaft K, and so arranged as to communicate therefrom a reciprocating movement to a scroll saw A, substantially in the manner herein set forth.

76,192.—John Holmes, Johnson, Vt.—*Dumping Wagon.*—March 31, 1868.—The box bottom consists of a series of trap doors, whose free ends are supported by ledges on springs attached to the side of the box. The springs are drawn back by the levers to release the traps, the pairs of levers being connected by transverse shafts.

Claim.—The arrangement of the levers G, connections F, and springs A, with their offsets C, when constructed, combined, and operating as herein described, and for the purpose set forth.

76,193.—Calvin Horton, Somerville, Mass.—*Trunk.*—March 31, 1868.—The trunk is covered by thin veneers instead of leather, and the joints of

the veneer are covered by wooden or metallic battens.

Claim.—A traveling trunk, the outer surface of the body of which is covered with strips of thin wood, the abutting edges of which strips are protected by the cleats or straps, substantially as described.

76,194.—GEORGE HOWELL, Philadelphia, Pa.—*Filling Marshes.*—March 31, 1868.—Improvement on his patent Nov. 12, 1867.—The excavating and pumping apparatus is suspended beneath the scow, and has vertical adjustment by geared connection with the driving shaft of a steam engine.

Claim.—1. The combination and arrangement of the case A with a scow or boat by means of the vertical screw rods N, wheels *o*, pinions *o'*, and shafts O, O^1, and O^2, the said parts being arranged and operating substantially as described.

2. The combination of the links Y, Y^1, and Y^2 with the case A and scow A', for giving a parallel motion to the former, substantially as described.

3. The combination of the vertical rods Z Z with the case A and scow A', substantially as described.

4. The geared shifting lever Q, arranged and operating in relation to the driving shaft K and shaft O^1, substantially in the manner and for the purpose specified.

5. The combination of the chains T, pulleys U, standards V, and gripes W with the case A and scow A', for holding the case in its altitudinal position, substantially as described.

6. The combination of the coupling rods M and M' with the case A and scow A', substantially as described and for the purpose specified.

76,195.—JOHN S. HULL, Cincinnati, Ohio.—*Gas Heater.*—March 31, 1868.—A pressure of air is imposed upon the quantity of inflammable liquid contained in a tight vessel, and a jet of the liquid thrown in the manner of a blow pipe through the flame of a gas burner. The conducting pipes have the necessary stop cocks.

Claim.—1. A burner, supplied by the force of compressed air, in combination with a tinner's fire pot, for the purpose herein specified.

2. The chambered gasifying and superheating disk G, substantially as and for the purpose herein set forth.

3. The screw cap *g* applied to the disk G, substantially as and for the purpose specified.

4. The enlarged passage *k* in the burner head, for the purpose set forth.

5. The screw plugs *l l*, *m m*, substantially as and for the purpose herein specified.

6. The swell or dome O in the top of the heater, substantially as and for the purpose herein specified.

76,196.—JACOB JAMESON, Philadelphia, Pa.—*Process and Apparatus for the Manufacture of Iron and Steel.*—March 31, 1868.—The reducing furnace receives the fuel with the flux, and the desulphurizing chambers receive the ore with the accompanying flux. The blast of air is heated by the passage of the pipes passing through the heated space above the desulphurizing chambers. The boiler contains water, and is placed in a chamber above the furnace. It is to supply steam to the current passing over the ore in the desulphurizing chambers. The molten ore runs down into the reducing furnace and the blast passes into the mass.

Claim.—1. The reducing furnace B, in combination with the chambers D and chimney flue F, constructed and arranged for operation, substantially as described, and for the purposes set forth.

2. The chamber G, boiler H, and pipes *h h'*, in combination with the reducing furnace B and chambers D, constructed and arranged for operation, substantially as described, for the manufacture or production of cast iron direct from the ore.

3. Reducing the size and changing the form of the reducing furnace by blocks M, arranging the chamber G for the production of large quantities of carbon, and introducing the carbon into the blast, and so into the reducing furnace B, substantially as described, for the purpose of producing steel direct from the ore, as set forth.

4. The process of treating ores, for the purpose of making cast iron or steel, in the manner and by the means substantially as herein described.

76,197.—JESSE JOHNSON, West Fallowfield Township, Pa.—*Bolt Cutter.*—March 31, 1868.—The levers have segmental racks, which engage the rack bar and force it forward by a toggle action. The end of the rack bar carries a knife, which operates with a knife in the frame. The levers also carry shear blades for light work.

Claim.—The compound tool herein described, consisting of the two levers D D working in a rack B, with pinions; the steel knife E secured to the end of the rack B by screws or rivets, and made to slide in a slot or groove in the side of the frame A, which keeps it in line; the stationary knife F, made rounding on the back side, and secured in the end of the frame by a tenon; the two steel plates C C adjusted near the end of the levers; the set screw G which prevents the knives E and F from colliding, and on the end of which screw G there is a punch, constructed to work in a die on the opposite lever; the whole arranged, constructed, and employed as shown in the drawing.

76,198.—PHINEAS JONES, Newark, N. J.—*Thill Coupling.*—March 31, 1868.—An open ring bushing is placed around the bolt, and the loop of the thill iron is bent around the bushing, which may be of rawhide. The end of the iron is bent around and traversed by a "temper bolt."

Claim.—The combination of the metallic spring *b* b^1 formed upon the thill iron, the sleeve E, and the tightening bolt C, when arranged and employed substantially as and for the purpose herein set forth.

76,199.—WILLIAM C. JOSLIN, Putnam, Conn.—*Machine for Rolling "Cots" on Drawing Rollers.*—March 31, 1868.—The machine operates by roller pressure to give a uniform surface to the top rolls of drawing rolls of spinning frames, either when the same are merely clothed up or after the cots are drawn on. The lower rollers are driven in a like direction, and the upper and free roller is made to rise and fall at intervals for reception and delivery of the work which is fed in at one side and delivered at the opposite.

Claim.—The combination of the rollers B C, feeding and delivering boards J K, and roller D, the latter having an intermitteut motion to and from the others, all arranged for operation substantially as and for the purpose specified.

76,200.—GEORGE W. KINTZ, West Henrietta, N. Y.—*Potato Digger.*—March 31, 1868.—The vines are cleared away by the barbed teeth on the inclined curved bar, and the potatoes are thrown out by the share to be deflected by the open mold board, and to fall upon the screen. This consists of fixed and spiral bars which are swiveled and rest on the ground so as to acquire a rotary motion by contact therewith.

Claim.—1. The combination and arrangement of the revolving spiral tines *q q* and the angular teeth *o o'* with the vibrating shaker E, operating in the manner and for the purpose herein set forth.

2. The angular vine puller H, jointed at one end, employed in combination with the rod I, having a free end movement to discharge the vines, and a stay chain *u* which limits the back motion, the whole arranged and operating in the manner and for the purpose herein set forth.

3. The construction and arrangement of the machine as a whole, consisting of the wheel D with cams *l l*, vine puller H with rod I and chain *u*, shakers E E with arms *m*, share G with divider *r* and wings *s s*, truck frame B with adjustable standard *b*, and the skeleton beam A, the whole operating as described.

76,201.—S. W. KIRK, Coatesville, Pa.—*Lock Nut.*—March 31, 1868.—The threaded part of the bolt is flattened off upon one side, and a washer is made to slip thereon and enter a recess in the nut to prevent its turning.

Claim.—The within-described nut retainer, consisting of the concavo-convex ring D, having a straight portion *y* adapted to a flat place on the stem

of the bolt, and being arranged for fitting and being jammed in the recess of a nut, all substantially as set forth.

76,202.—George Knell, Moorestown, N. J.—*Chair and Lounge.*—March 31, 1868.—The back of the jointed frame forms the lounge bottom when turned down into a horizontal position. The foot is extensible by means of a draw shelf, and is supported by additional legs.

Claim.—1. The frames A and B in combination with the legs *l*, the whole being arranged for adjustment, substantially as described.

2. The combination of the above and a strap *q*, or its equivalent, for the purpose of regulating the inclination of the several parts, as described.

3. The frame D adapted to the frame B, and adjustable thereon, substantially as and for the purpose set forth.

4. The combination of the frame B and a sliding frame C, substantially as and for the purpose described.

76,203.—Andrew Knobel, Monroe, Wis.—*Hot Air Furnace.*—March 31, 1868.—The ash pit contains water which evaporates and rises through the fire. From the combustion chamber the caloric passes through radial flues, and ascending to the top descends and finds exit at the side. The air circulates around the furnace and flues.

Claim.—1. Providing the ash pit *a* and fire box *c* with lined openings *a′ c″* extending through the outer wall, substantially as specified.

2. The suspended gas burner *e*, constructed and operating substantially as specified.

3. Constructing the furnace in cylindrical sections, so arranged that the middle sections *s″* and *t‴* may be removed or others added without changing the other sections, substantially as specified.

4. Supporting the chambered and flued portion of the furnace upon the pillars *m* and the combustion portion upon the pedestals *a″*, as described, so that the combustion portion *a* and *c* may be removed or replaced without disturbing the heating portion.

5. The small central chamber *f*, located immediately above the gas burner *e* and fire box *c*, for burning the unconsumed products of the fire below, and provided with side openings at the top door *r*, and conical inverted plate *o*, substantially as specified.

6. The combination and arrangement of the fire box *c* and gas burner *e* with the cylindrical sections *t′ t″ t‴ t⁗* and *s′ s″*, divided and supported by the horizontal plates *x′ x″ x‴ x⁗*, substantially as and for the purposes specified.

76,204.—Andrew Knobel, Monroe, Wis.—*Coal Stove.*—March 31, 1868.—The caloric current ascends a cylindrical flue to the top of the stove and then passes downward through a nearly semi-annular flue which communicates at its lower end with a similar flue communicating with the chimney.

Claim.—1. The combination of the vertical annular flues *f o′* and the flue between the cylinders *i* and *k* with the horizontal flues *m′* and *f″* and fire box *d*, substantially as specified.

2. The removable cap *f′* in combination with the pipe or flue *f* and register cap *r*, so that all of the flues can be readily cleaned, substantially as specified.

3. The open passage *e′*, opening into the fire below the gas burner, in combination with the grated gas burner *e*, fire box *d*, and opening *d′*, substantially as and for the purposes specified.

76,205.—Frederick Kraus, Philadelphia, Pa.—*Hollow Auger.*—March 31, 1868.—The cutter and rest are moved in the head simultaneously by the right and left hand screw, so as to be held at the same distance from the axis.

Claim.—The rest G and bit stock E when said rest and stock are operated by a right and left screw D, in the manner herein described.

76,206.—Peter C. Laub, Allentown, Pa., assignor to himself and Samuel Shaffer, Williamsport, Pa.—*Churn.*—March 31, 1868.—The wooden barrel has an inner metallic barrel, and one of the heads is common to both. The space between the barrels is for introduction of water to temper the cream.

Claim.—The combination of the barrel-shaped churn B with its inner corresponding-shaped division B and chamber G when constructed, arranged, and operated as herein described, and for the purposes set forth.

76,207.—Richard C. Lambert, Raynham, Mass., assignor to David Whittemore.—*Heel Cutting Machine.*—March 31, 1868.—The shoe is clamped in an oscillating frame and is shaped on the side by the adjustable cutter.

Claim.—1. A heel cutting machine having a swinging and sliding jack, constructed and operating substantially in the manner described.

2. The combination and arrangement of the toothed segment E, driven as described, the sliding journal block F, and the jack frame G, constructed and operating as specified.

3. The mode described of jacking the shoe or boot by means of the screw L, operated as described, which holds the heel against the pattern H, and the jaw clamp I I′, which confines the toe, as set forth.

4. The manner of automatically releasing and fixing the center of oscillation of the jack by means of the levers Q, operated by the pins *b b′*, and raising and lowering the sliding stop R, as specified.

5. In combination with the knife stock, the guides *x y*, one running in the rand of the shoe, and the other in contact with the edge of the pattern H, as described.

6. In combination with the swinging jack frame, the wheel K, and screw L, constructed, arranged, and operating as specified.

7. In combination with the swinging and sliding jack G, the guide ways P, for guiding and steadying the horizontal and oscillating movements of the jack, as set forth.

8. The combination of the lever T, pivoted and operated as described, with the ways W of the knife stock, to give both horizontal and vertical movements to the knife, as specified.

9. The toe clamp I I′, constructed, arranged, and operating as described.

76,208.—John Lane, Chicago, Ill.—*Plow.*—March 31, 1868.—The place in a steel plow where the lay is welded to a landside bar is protected by a removable slip point. A pin cutter may be made on the point.

Claim.—The particular form and construction of the slip point, as arranged, either with or without the flange *n*, and either with or without the pin cutter *m*, in combination with a lay and landside welded together, as described and for the purpose shown.

76,209.—John Laughlin, Gettysburg, Pa.—*Straw Cutter.*—March 31, 1868.—The two knives are made to act as shears upon the hay. The operative levers are connected together, and the fulcrum of the upper one is carried beneath its pivot, and has an anti-friction roller which rests against the frame and keeps the knives in contact.

Claim.—1. The gates C F playing in grooves in the legs B B, and provided with V-shaped knives constructed as specified, and used in combination with the apron P, lever G, handle J, and bar K, all constructed and operating substantially as set forth.

2. The bar K, provided with a friction roller, and used with the handle and frame of a straw cutter for assisting in causing the edges of the knives to bind against each other or against a cutting plate, as is herein fully set forth.

76,210.—William J. Lewis, Pittsburg, Pa.—*Die for Heading Bolts.*—March 31, 1868.—The bolt is headed in two operations, between which it is turned 60° to bring the action of the dies upon a fresh surface of the head.

Claim.—Constructing the dies B B and header A, as hereinbefore described, so that said dies will embrace four sides of the bolt head, and leave two openings for the two remaining sides and space for the surplus iron, said dies and header being so arranged with relation to each other that, by turning the bolt one-sixth way round, the surplus iron and

the "flash" or "fin" will be brought in contact with a solid portion of said dies and header, and thereby be driven into the head of the bolt, substantially as herein described and for the purpose set forth.

76,211.—JOHN C. LIBBY, Biddeford, Me.—*Table Waiter.*—March 31, 1868.—A fixed metallic waiter is raised on legs, and has a central turning post giving support to wire dish frames, and an upper waiter to whose sides the bail is attached.

Claim.—The combination of the revolving zinc waiter A, center revolving post F with its waiter C at top, and wire waiters E E projecting from each side of the center post, when constructed, arranged, and operated as herein described, and for the purposes set forth.

76,212.—LEVI LISCOM, Boston, Mass., assignor to himself, RUFUS S. MERRILL, and WILLIAM LINTON.—*Bridge.*—March 31, 1868.—Improvement on the patent of A. Cottrell June 14, 1864. An arched truss work is combined with the horizontal layers of the above, so as to constitute the upper layer the chord of the truss work.

Claim.—The combination with the double lever, constructed as herein described, of truss work, united with the said lever by means of tie bolts or rods, as herein described, so that the said lever shall in effect constitute the bottom chord of the truss, substantially as set forth.

76,213.—G. W. LOVE, Jackson County, Mo.—*Soap.*—March 31, 1868.—Composed of spirits of turpentine, 1 pint; alcohol, 1 pint; aqua ammonia, 2 oz.; gum camphor, 1 oz.; sal soda, 1 oz.; salt of tartar, 2 drachms; borax, 1 drachm; and soap, 1 lb.

Claim.—The combination of the several parts, as above named, to be used in connection with soap, for the purpose set forth.

76,214.—THOMAS LOVELIDGE and JOHN GRINDROD, Philadelphia, Pa.—*Skate.*—March 31, 1868.—The stud heads pass through holes in plates attached to the sole, and the studs are moved into slots extending from the holes so that the head is held by the sides of the slot. The nose of the rear runner occupies a vertical longitudinal groove in the upturned portion of the fore runner, so as to guide it in the same line, but allow vertical flexion in the foot plate. The studs slide in the foot plate and are fixed by thumb nuts.

Claim.—1. A skate having an elastic foot plate and two runners, arranged to move independently of each other in a vertical direction, but to guide each other laterally, all substantially as and for the purpose herein set forth.

2. Securing a skate to a boot solely by studs on the skate, adapted to holes in plates on the sole and heel of the boot, substantially as described.

3. The sole plate A and its runner B in combination with the heel plate A′ and runner B′ when the said plates and runners are rendered adjustable to suit boots of different sizes, substantially in the manner described.

4. The studs *n n′*, either fixed to or arranged to slide on the foot plate of the skate near the toe, in combination with the plate E on the boot, and holes so formed and arranged therein as to admit and retain the said studs, substantially as specified.

5. The stud *m* in conjunction with a plate D on the heel of the boot, the said plate having a hole of the character described, into which hole the head of the stud can be introduced, and in which it can be secured, either by moving the plate to which the stud is attached backward, or by moving the stud itself in a slot in the plate, all substantially as specified.

76,215.—ORRIN LUCE, Virgil, N. Y., assignor to himself and MARTIN LUCE, same place.—*Hay Raker and Loader.*—March 31, 1868.—The shaft of the lifter which raises the hay from the rake and deposits it on the elevator, is placed eccentrically; and the arms slide in blocks following a guide track concentric with the wheel, the blocks forcing the hay from the arms.

Claim.—1. The eccentric bar J, when supported as described, and operating in connection with the arms *m m m*, the revolving bars I I I, and the teeth D D, substantially as and for the purposes set forth.

2. The combination of the independent lever *d′* with the rocking shaft *d*, teeth D D, gauge E, and spring *e*, substantially as and for the purposes indicated.

76,216.—TIMOTHY LUCEY and JAMES E. MURPHY, Salem, Mass.—*Lining Boots and Shoes.*—March 31, 1868.—The lining, having the cement applied thereto, is placed in a frame whose bottom fits the shoe, and is raised by a lever. The shoe is placed so as to envelope the case whose sides keep it from contact with the lining, and the lever being depressed, the lining is raised and forced into contact with the insole.

Claim.—1. In combination with a jack or plate supported at its heel on a post or standard, an elastic or yielding surface for holding a cement-applied lining, to be applied to a shoe, substantially as set forth.

2. Combining the lining plate *e* with the jack *c* and its flanges *d*, or the equivalents thereof, the plate *e* being supported upon a rod, and being raised and lowered substantially as described.

76,217.—GEORGE W. MACK, Hamtramck, Mich.—*Feed Water Heater for Steam Generators.*—March 31, 1868.—The heater is between the cylinder and condenser, and has a coiled pipe through which passes the water to be heated. The exhaust steam in rushing through the exhaust pipe toward the condenser strikes the deflectors attached to the valves opening into the heater, which admit a portion of the steam to the heater. The pressure of the steam within the heater closes the valves as the steam is condensed.

Claim.—1. The valves H and deflectors I, in connection with the exhaust pipe G, when operating substantially as and for the purposes described.

2. The combination of the above-named parts with the heater A, the connection pipes B and F, the chambers C and E, the coil pipes D, and the openings J, when constructed, arranged, connected, and operating as and for the purposes herein set forth and shown.

76,218.—JOHN W. MARSH, Oxford, Mass.—*Combination Tool.*—March 31, 1868.—The jaws, when brought together form a conical reamer. The holder may be applied to the shank of a screw driver. The jaws are clamped together upon a drill by the action of the thumb screws in the backward arms, which, through the medium of the springs may be brought to bear on each other or on the intervening shank of the driver.

Claim.—1. The combination of the jaws A B, provided with externally grooved conical ends F, with the springs D and set screws E, the said parts being constructed and arranged as herein described, so as to constitute a combined drill-holder and countersink.

2. The combination, with the jaws A B, whose ends, F, are provided interiorly with notches 1, for receiving and holding the head of the screw of the springs D, with or without set screws E, by which the screw-driver, placed beneath the jaws, is steadied and held, the said parts being constructed and arranged for operation as herein shown and set forth.

76,219.—W. H. MARTIN, Brooklyn, N. Y.—*Creating Draft in Chimneys by means of Steam.*—March 31, 1868.—The steam passes through an annular opening at the verge of the top of the head within the chimney.

Claim.—In combination with a smoke stack or chimney, the blast-head *a*, constructed substantially as described, so as to deliver the steam in said stack in a circular volume or volumes, substantially as set forth.

76,220.—JOHN L. MASON, New York, N. Y.—*Machine for Threading Screw Caps.*—March 31, 1868.—The sheet metal cap is placed upon a screw-threaded head upon the screw-threaded mandrel. Rotary and advancing motion being communicated to the mandrel, the cap is brought under the action of the screw-threaded roll dies surrounding it and a thread formed thereon.

Claim.—The arrangement of one or more roller-

dies, *e*, secured, and made adjustable in a disk or face plate, C, in combination with the screw chuck D and longitudinally sliding mandrel E, substantially as and for the purpose shown and described.

76,221.—JOHN A. MCCLELLAND, Louisville, Ky. *Mold for Artificial Teeth.*—March 31, 1868.—The metallic mold is constructed in sections within a metallic flask in such manner that a rubber plate may be molded by pressure.

Claim.—1. A dental plate mold, formed in sections within a metal flask, substantially as described.

2. A metal clamp flask, A, for said sectional dental plate mold, constructed and operating substantially as herein described.

3. The method of forming a dental plate of plastic material within the said sectional mold, substantially as herein described.

76,222.—EMORY MCCLINTOCK, New Brunswick, N. J.—*Gas Fixture.*—March 31, 1868.—The gas is turned on or off by turning the bracket, whose end constitutes the plug.

Claim.—As a new article of manufacture, a revolving gas bracket for illuminating gas, constructed as described, in such a manner that when the bracket stands in one or more particular positions, the gas will flow through it, but when turned in all other positions the flow of gas will be cut off, as herein shown and described.

76,223.—HUGH MCDONALD, Allegheny, Pa.—*Treating Cinder for Fixing Furnaces.*—March 31, 1868.—The cinder, slag, dross, or recrement of iron, (while in a melted state), is treated to a strong current of air, and so manipulated that all parts are acted on by the air. After this it is placed around the sides of the furnace.

Claim.—Subjecting melted cinder, slag, dross, or recrement of iron, and of furnaces used in the manufacture of iron and steel, to an active current of air, substantially as herein described, and for the purpose set forth.

76,224.—JOHN K. MCDONALD, Newark, N. J.—*Door and Package Holder.*—March 31, 1868.—The fastener "piece" has side pins which pierce the door casing, when the door is closed, and the loop being placed across the crack, the door cannot be opened. The link or "loop" has two hooks, one of which is sharp pointed for attachment to the seat back, and the other is for suspension of a package. The snap hook is for a hat. All the accompaniments of the link may be passed to its ends and turned inward when it is placed in the pocket.

Claim.—The combination of the piece B, hooks D, E, and G, with the loop A, substantially as and for the purpose specified.

76,225.—S. D. MCPHERSON, Normal, Ill.—*Compound for making Pictures Transparent.*—March 31, 1868.—Composed of fir balsam, 2 oz.; Demar varnish, 1 oz.; alcohol, ½ oz.; and turpentine, 1 oz.

Claim.—The within-described ingredients, compounded and used substantially as and for the purpose set forth.

76,226.—HENRY MEYER, Grafton, Wis.—*Machine for Dressing Chair Seats.*—March 31, 1868.—The chair-seat is clamped to the carriage and passed over the rotary cutter. The guides are so formed that the seat receives the proper conformation from the cutter.

Claim.—The guides E F, the latter provided with the concave upper edge, whereby, as the carriage G is reciprocated, a rising and falling motion is imparted to it, by which the depression in the chair seat is cut, all arranged and operating as described.

76,227.—ALEXANDER MILLER and C. MASON, Chicago, Ill.—*Wood Pavement*—March 31, 1868.—The blocks are wedge-shaped and stand upon their broad ends which are allowed to touch. The angular space between the upper parts of the rows of blocks are filled with concrete.

Claim.—A pavement, constructed of wedge-shaped blocks A, when laid so as to break joints with those of the opposite rows, in combination with a concrete filling, and in further combination with a continuous wood foundation, and so laid as to form continuous rows across the street.

76,228.—WARREN P. MILLER, New York, N. Y.—*Attaching Cross-Cut Saws to their Handles.*—March 31, 1868.—The pins in the arms of the collars enter notches in the edges of the plate. The attachments are secured by the curved wedge blocks which are interposed between the handles and plate.

Claim.—The collars *e e*, pins *d*, fitting in notches in saw, and the eccentrics *e e*, when constructed, applied, and operating for the purposes shown and described.

76,229.—DAVID MILLER, Allegheny City, Pa.—*Paint Can.*—March 31, 1868.—The top of the can has an inturned flange and a thread spun on the side beneath the top. The head has a thread upon its downturned flange, and screws down tightly upon the inturned flange of the body.

Claim.—The combination of the flange *x* and male screw threads x^2, at the mouth of the body of the can, when used in connection with the female screw threads in the flange of the lid, substantially as herein described and for the purpose set forth.

76,230.—JOSEPH W. MOORE, Cambridgeport, Mass.—*Paint Brush.*—March 31, 1868.—The bristles are inserted into the socket from the upper side and a conical wedge being forced into the bristles, the top is screwed into the socket. The tubular end of the handle rests upon the shoulder of the wedge.

Claim.—The removable screw-top *a*, and the handle C, with a screw thread, *b*, in combination with wedge B, with its shoulder *e*, all constructed and operating substantially as and for the purpose described.

76,231.—FRANCIS MORANDI, Malden, Mass.—*Culinary Apparatus.*—March 31, 1868.—The bottom of each steamer, and the lid, have each a downward annular lip which enters a trough around the top of the vessel beneath, and makes a steam-tight water-joint from whence the overplus of water escapes (to the boiler) through the overflow tubes.

Claim.—Providing a compound steam cooking apparatus, such as described, with water joints and return tubes, substantially in the manner and for the purpose specified.

76,232.—EDWARD S. MORSE, Salem, Mass., assignor to himself and AARON GOLDTHWAITE, Jr.—*Shelf Bracket.*—March 31, 1868.—The inner end of the horizontal bar of the bracket has a hook catch, and the lower end of the brace has a notch, which respectively take over or bear against the bars of the vertical series which are placed in the back of the case.

Claim.—1. The method herein described of supporting shelves upon removable brackets, constructed and operating as and for the purpose described.

2. The combination and arrangement of the bracket D, upright C, recess *r*, and pin *d*, in the manner and for the purpose specified.

3. The combination of the bracket D, eye *e*, and upright E, in the manner and for the purpose set forth.

76,233.—WILLIAM F. MUCHMORE, Astoria, N. Y.—*Glue Can.*—March 31, 1868.—The prepared glue is kept in the inner can, and it is surrounded by another tin vessel in the manner of an ordinary glue pot, which gives means for heating the glue.

Claim.—A glue can, consisting of the water can A, from the annular cover B of which the glue reservoir C is suspended, substantially as herein shown and described.

76,234.—JAMES NEALEY, Jr., Bangor, Me.—*Lacing Device.*—March 31, 1868.—The ends of the device hook into the eyelets and are tightened therein, and the middle is turned into an eye through which the lace is passed.

Claim.—1. The hook B, as a new article of manufacture, when constructed within turning eyes, and the lacing eye closed, substantially as described and shown.

2. Combining with shoe C, the lacing hooks B, when constructed and combined with the shoe, substantially as described and shown.

76,235.—Thomas Nevison, Jr., Morgan, Ohio.—*Hoe Seed Dropper.*—March 31, 1868.—The seed slide is worked by a spring and by a cord which is attached to its upper end. The seed cavity is adjusted in size by the gauge block which slips within the slide.

Claim.—The sack I, chamber D, attached to the hoe handle A, in combination with the sleeve E, gauge block F, brush G, and spring *f*, substantially as and for the purpose set forth.

76,236.—Abner W. Newhall, Horse Heads, N. Y.—*Machine for Sharpening and Gumming Saws.*—March 31, 1868.—The leaves are jointed to the upper ends of the bifurcated support, which is adjustable vertically upon the standard, to regulate the inclination of the leaves; the latter have thus equal inclinations to present the saw to the emery wheel at an equal incline for both series of teeth.

Claim.—A table for supporting saws in being ground and gummed, constructed with two folding leaves D D, so adjustably supported by the bifurcated support E as to maintain equal angles to the horizontal plane, substantially as and for the purpose set forth.

76,237.—W. A. Nichols, West Liberty, Iowa.—*Ditching Machine.*—March 31, 1868.—A double mold board plow has cutting disks to shave the sides of the ditch, and is followed by a similar but smaller plow connected to its rear end. The rear part of the share of the rear plow has upwardly-projecting cutters.

Claim.—1. The ditching machine, consisting of the forward plow C, attached to the beam B, the cutting disks D^1, in front of said plow, in line with its outer edges, the cutting disk D, in line with its point, the rear plow C′, having cutters *a*, and secured to the beam E, bearing the cutting disk D^2, and attached to the forward beam by the clevis and link, all constructed and arranged to operate as herein shown and described.

2. The rear plow C′, when provided with the vertical cutters *a*, for shaping the sides of the ditch, as herein shown and described.

3. The arrangement of the forward cutting disks D D^1 with relation to the forward plow C, as described, whereby the earth at the sides and center of the ditch is cut, to enable the plow to throw the dirt equally upon each side, as herein set forth.

76,238.—Henry W. Oliver, Jr., Pittsburg, Pa.—*Band for Baling Cotton.*—March 31, 1868.—The band has a single bolt hole in one end and a series in the other, and is secured by the said bolt and its nut.

Claim.—The band A, bent around the head of the bolt B, as indicated at *x*, said band being used in combination with the bolt B and nut C, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

76,239.—W. Onions and H. Roberts, St. Louis, Mo.—*Lamp Chimney.*—March 31, 1868.—The expansible, downwardly-flaring, open ring is riveted at its middle to the bottom of the metallic cap, and has supporting pins which pass through slots in the cap, and rest upon the top of the glass portion.

Claim.—The elastic band C, attached to the lower part of the upper metallic portion B of the lamp chimney, and extending down below the same, to fit into the upper end of the glass portion A of the chimney, substantially in the manner as and for the purpose set forth.

76,240.—Charles R. Otis, Yonkers, N. Y.—*Hoisting Apparatus.*—March 31, 1868.—The drum is connected with a valve in the steam pipe in such manner that when it is relieved from the tension of the hoisting rope the steam is shut from the engine.

Claim.—1. So combining the drum B with the steam valve and friction brake, that when released from the tension of the suspending rope, it shall automatically cut off the steam from the engine and tighten the brake against the wheel substantially as herein set forth.

2. The studs *f f** and spring *g*, in combination with the band wheel *a* and drum B, whereby the drum is moved in advance of the band wheel when released from the tension of the suspending rope, substantially as herein set forth.

3. The cam-faced, annular slide *a**, furnished with an arm *d*, connected with the drum B, in combination with the cam-faced enlargement *b* of the shaft A, and the sliding rod *e*, whereby the turning of the aforesaid slide is caused to operate the valve in the supply pipe A*, substantially as herein set forth.

4. The rod *m** and lever *m*, so combined with the valve in the supply pipe A* and the loaded lever D of the friction brake, that the said brake shall be held away from the friction wheel *b* when the valve is opened, substantially as herein set forth.

76,241.—Francis Parkerson, Philadelphia, Pa.—*Wheel Barrow.*—March 31, 1868.—The middle bottom board is made removable, and the axle is jointed beneath it so that the hand cart may be narrowed.

Claim.—A wheel barrow, composed of the above-described parts, all arranged, constructed, and operating in the manner above set forth and shown.

76,242.—Joseph Peevy, Orono, Me.—*Rock Drill.*—March 31, 1868.—The walking beam has a spring ratchet bar extending from its free end, and the ratchet end of the spring impinges on the ratchet surface of the disk upon the drill rod, and not only raises it, but causes a partial, rotary motion in the drill rod. The spring presses against the disk beneath it to increase the force of the down stroke.

Claim.—1. The adjustable and notched collars *n n′*, in combination with the drill shank *m* and the bifurcated and notched shaft *k*, as and for the purpose set forth.

2. The spring arm *k*, in combination with the walking beam A and the drill rod, as and for the purpose set forth.

76,243.—Mathias Penning, Leavenworth City, Kan.—*Plow.*—March 31, 1868.—The colter has a horizontal extension by which it is connected to the land side.

Claim.—The combination and arrangement of the colter A, having a horizontal extension B bolted to the land side, the rod E, eye bolt *n*, eye plate *e*, clip *b*, upright *d*, plow handle G, and plow beam H, all constructed and operating substantially as and for the purpose shown and described.

76,244.—John M. Perkins, Plainfield, N. J., assignor to R. R. Perkins, same place.—*Compound Fabric for Covering Walls, &c.*—March 31, 1868.—The lamina is turned from the cylindrical piece of wood, and is applied, with the grain transverse, to the paper pulp in a machine before passing through the rolls. The calender roll on the side of the wood may be run at a higher speed to cause a polish.

Claim.—1. A compound fabric, composed either of lamina of wood and paper, or lamina of wood and paper pulp, or lamina of wood and some textile material, for covering and decorating walls or furniture, prepared, employed, and preserved from injury while being handled or transported, in the manner and for the purposes herein set forth.

2. Preserving thin lamina of wood, or any compound thereof, from liability to injury, and securing ease and freedom in unrolling the same, by forming the rolls in such a manner that the grain of the wood shall run in the direction of and around the roll, substantially as described.

76,245.—David Pheteplace, Lewiston, Me.—*Varnish for the Surface of Rolls used in Textile Machinery.*—March 31, 1868.—Composed of glue and gum tragacanth in equal parts, dissolved in vinegar. The mixture is applied while both the roll and it are warm, and in several successive coats.

Claim.—The described compound, consisting of the ingredients substantially as set forth.

76,246.—Cyrus Powers, Greenwich Village, Mass.—*Clamp for Holding Palm Leaf Warp.*—March 31, 1868.—The two parts of the clamp are hinged together and one part has a longitudinal rib which enters a groove in the other part. The clamp is applied to the breast beam while the end of the leaf warp is passed over the grooved part. The

ribbed part is then brought down, and the parts held upon the warp by the clamping buttons, when it is disengaged from the breast beam of the loom, ready for weaving.

Claim.—The removable clamp for holding palm leaf warp, constructed as described, consisting of the grooved piece B and tongued piece A, hinged together at *a*, and provided with the notches and catches *c*, as herein shown and described.

76,247.—E. L. Pratt, Boston, Mass.—*Nut Cracker.*—March 31, 1868.—The short arm of the lever is pivoted to the moving jaw, and it has fulcrum bearing in shackles which are pivoted to the fixed jaw, and curved backward to give access to the jaws.

Claim.—1. In combination with jointed jaws *a b*, the lever *d*, jointed to one jaw *b*, and hung upon a swinging fulcrum, substantially as described.

2. Connecting the lever to the jaw *a* by the curved link or links *e*, substantially as and for the purpose set forth.

76,248.—William Richardson, Baltimore, Md.—*Limb and Basket Holder.*—March 31, 1868.—The staff has a fixed hook engaging an upper limb; the lower hook slides upon the staff and acts to engage a lower limb or support a basket.

Claim.—The instrument above described, consisting of the staff A, fixed hook H, sliding hook H′, and the knob *a*, or its equivalent, all the parts being constructed and arranged substantially in the manner and for the purpose specified.

76,249.—P. R. Ridgely, Iron Mountain, Mo.—*Wagon Wheel.*—March 31, 1868.—The spokes are strengthened by strips of metal which pass around the hub tenons, and have their ends clinched over the felloes.

Claim.—The rib *b*, when combined with the spoke B and felloe C, in the manner herein shown, and for the purpose set forth.

76,250.—D. W. Roche, Rochester, N. Y., assignor to himself and J. P. Roche, same place.—*Shingle Machine.*—March 31, 1868; antedated February 25, 1868.—The bolt is clamped between the jaws of the oscillating platform by a hand wheel through medium of a screw and spur wheels. When shingles are sawn, the inclination is given to the bolt allowing it to settle, when undogged, upon a tilting platform; and this platform is tilted by connection with an eccentric, actuated by a star wheel, turned by a pawl upon the carriage.

Claim.—The screw *l*, revolving nut *n*, and hand wheel *o*, geared to said nut, all arranged and operating in connection with the movements of the carriage, substantially as and for the purpose herein specified.

76,251.—Elias Roth, New Oxford, Pa.—*Gate.*—March 31, 1868.—The latch is heaviest at the lower and engaging end, so that when the weight of the pivoted beam is removed from its upper end, the latch is disengaged. The said lever is connected by a bar to the gate in such a manner, that when it is raised by the cords, it draws the gate open. The cords are carried over sheaves at the upper ends of posts beside the track, so that riders may open the gate without alighting.

Claim.—1. The combination of the pivoted lever E and connecting rod or bar G with the gate A, substantially as herein shown and described, for the purpose of opening and closing the gate.

2. The combination of the rope H, swiveled pulley I, two or more ropes or wires K, and pivoted pulleys L, with each other and with the lever E and posts F and M, or equivalent supports, substantially as herein shown and described, and for the purpose set forth.

76,252.—Lewis J. Schaefer, Philadelphia, Pa.—*Curtain Fixture.*—March 31, 1868.—The curtain cord passes beneath the knob of the rod, and is stretched by the spring. The tension is regulated by projections on the rod which pass between the coils of the spiral spring and may be turned upward or downward therein.

Claim.—The combination of the rod C with its projections *a a′*, or their equivalent, and the spring D, so arranged that the adjustment of the fixture is effected by turning the said projections between the coils of the spring, substantially as herein specified.

76,253.—Samuel R. Scottron, Springfield, Mass.—*Mirror.*—March 31, 1868.—The two mirrors are gimbal-jointed upon the two frames which are hinged to the vertically-adjustable staff of the stand. Intended for the toilet.

Claim.—1. An arrangement of mirrors *b c*, in frames *d e f*, and set into wings C and D, hinged together, substantially as and for the purpose shown.

2. The combination of the above with the rod B, having the shoulder *a* and set nut E, and arranged in a stand, A, so as to be adjustable in height, substantially as shown.

76,254.—Jonathan Scribner, Franklin, N. H.—*Animal Tether.*—March 31, 1868.—The fork of the pole is pivoted to a piece turning on the top of the post. The pole is weighted at the forked end so as to have a horizontal position.

Claim.—The forked and curved pole C, with weights D, in combination with cross bar B and standard A, substantially as described.

76,255.—Antony Shebanck, Cleveland, Ohio.—*Harvester.*—March 31, 1868.—The drum turning loosely upon the axle is clutched thereto to drive the cutter bar. This motion of the cutter is communicated through cog wheels and a crank with its pitman rod. The ground wheels are allowed free backward rotation but in their forward movement actuate the cutting mechanism.

Claim.—1. The drum K, placed loosely on the axle C, and provided with the internal teeth *j*, the pinion L, connected with the fixed plate M, and the pinion N attached to the bevel wheel H, placed loosely on the axle C, all arranged in connection with the clutch O, for the purpose of driving or operating the sickle Y, substantially as and for the purpose set forth.

2. The collar *e*, provided with the circular disks D, having two flanges *d d*, in combination with the right-angular flanged hub *c* and pawls F F, whose guide rods *g*, surrounded by spiral springs, operate upon each side of the axle C, all constructed, arranged, and operating as herein described for the purpose specified.

3. The rod T applied to the finger bar P and rod S, as shown, and connected with the bent lever U, arranged relatively with the lever V, to operate in the manner substantially as and for the purpose set forth.

76,256.—Thomas Sheehan, Dunkirk, N. Y.—*Process for Steelifying Iron.*—March 31, 1868.—Mix water-saturated charcoal, 200; muriate of soda, 30; sal soda, 12; "black" resin, 5; and black oxide of manganese, 5 parts. A cast-iron box receives a layer of broken limestone 1½ inches thick, covered by a perforated plate. A 2-inch layer of the mixture is put on the plate, and then a layer of iron, and the box filled with the alternate layers, finishing with the mixture. The cover is then luted down, and the box placed in a furnace for about 7 hours. Immediately on removal the iron is dropped into cold water. The mixture may be used again.

Claim.—1. The combination of the ingredients composing the charcoal compound, substantially as and for the purpose set forth.

2. The combination of the charcoal compound with the broken limestone, substantially as and for the purpose described.

3. The employment of a perforated plate, when used as and for the purpose specified.

76,257.—A. M. Shurtleff, Boston, Mass.—*Saliva Pump.*—March 31, 1868.—The device is attached to the upholstery work of the chair by the points on the fixed and movable frame.

Claim.—1. Combining with the saliva vessel or chamber, a device for attaching it to a chair or other surface, substantially as described.

2. In combination with the vessel *a*, and its flexi-

ble pipes and mouth piece and pump bulb, the let-off pipe *r*, substantially as described.

3. Combining with pipes *s* and *b* and vessel *a*, the reversable bulb *c*, or reversable valves for drawing the saliva into vessel *a*, or for expelling it therefrom, substantially as set forth.

4. Covering an elastic pump bulb with a close woven or equivalent covering, substantially as shown and described.

76,258.—A. J. SMITH and H. C. REED, Decorah, Iowa.—*Bee Hive.*—March 31, 1868.—When the bees are hived a box containing small pieces of comb is placed on the top of the hive and in communication therewith. On the queen entering this box the communication is closed and the queen put in a gauze cage which is placed in the hive. The queen is fed by the bees, but laying no eggs, the energies of the bees are devoted to accumulation of honey.

Claim.—The combination of the queen trap and cage with the hive, substantially as described for the purpose specified.

76,259.—ORREN M. SMITH, Philadelphia, Pa., assignor to S. W. EVANS and A. AGNEW, same place. —*Runner for Umbrellas.*—March 31, 1868.—The cylindrical part of the runner is of ordinary construction and the rib attachment is made of a single flat annulus which is bent so as to form the necessary recesses and is fastened to the cylindrical part.

Claim.—A "runner" or "notch," consisting of a tube A, and a bent plate or ring *a'*, constructed and secured to the tube, substantially as described.

76,260.—JOEL H. SOULE, Georgetown, N. Y.—*Milk Stirrer.*—March 31, 1868.—The stirrer is allowed to float in the milk and is moved by a pendulous arm upon a beam which has a tilting box at one end and a weight at the other. A stream of water flows into the box and causing it to descend it is tilted and again raised by the weight.

Claim.—1. The stirrer I, constructed as described, resting upon the milk to be stirred, and operated by means of the arm H, from the beam A, having the weight B and bucket C, said stirrer being allowed to rise and fall with the milk in the vat, as herein shown and described.

2. The combination of one or more buckets C and stop chain or chains F, or their equivalents, with the pivoted beam A, substantially as herein shown and described, and for the purpose set forth.

3. The combination of one or more spring catches G with the end or ends of the pivoted beam A, substantially as herein shown and described, and for the purpose set forth.

76,261.—ALBERT H. SOUTHWICK, Oskaloosa, Iowa.—*Wind Mill.*—March 31, 1868.—The shutters are connected together and to the ball governor by which the apertures are regulated in size.

Claim.—The arrangement of the platforms B C and wheel E with the shutters G G, connected together by the fastenings *q q* and rods H H, and combined with a governor, substantially as and for the purposes set forth.

76,262.—ALBERT H. SOUTHWICK, Mahaska County, Iowa.—*Heel Protector.*—March 31, 1868.—The metallic plate which is attached beneath the heel has side flanges lying against the sides of the heel.

Claim.—The metallic rim *d*, for attaching to and around the entire under surface of the heel, when said rim is provided with the curved and beveled flange A, to extend up the side of the heel and keep the same level, as and for the purposes described.

76,263.—ALFRED R. STANLEY, Boston, Mass.—*Former for Hoop Skirts.*—March 31, 1868.—The frame slides upon the standard, and its head is attached to a cord which passes over a sheave at the head of the standard, and is attached to a counterpoise weight. The tape clamps slide upon the bars.

Claim.—1. Combining the skirt-former frame with its standard, by a turning and sliding joint, and counterpoising mechanism, substantially as and for the purpose specified.

2. In combination with the skirt-former frame, the series of adjustable clamps, or equivalents therefor, substantially as and for the purpose specified.

76,264.—CHARLES L. STEVENS, Galesburg, Ill., assignor to himself, and ALBERT A. DENTON, same place.—*Steam Water Elevator.*—March 31, 1868.—The vacuum chamber is made of wooden staves and heads. It is hooped with iron, and has iron and stay bolts from head to head. The bolts have wooden cases, which prevent contact between the metal and steam, and act as struts to prevent collapse. The steam acts upon the top of the water through the intervening float, and forces the water into the tender tank. The tank is refilled by allowing the steam to condense therein.

Claim.—The construction of a wooden air-tight tank, strengthened and supported with the iron bolts, battens, and wooden casings, substantially in the manner and for the purpose as herein set forth.

76,265.—EDGAR M. STEVENS, Chelsea, Mass., assignor to himself and W. N. ELY, trustees.—*Compound Rubber Enameled Cloth for Boots and Shoes.* —March 31, 1868.—A percentage of plastic rubber is mixed with the other ingredients in enameling "American enameled cloth," and the material used for manufacture of shoes.

Claim.—1. The use of the compound rubber enamel cloth, as described, in the manufacture of boots and shoes.

2. As articles of manufacture, boots and shoes made, as to their uppers, of the compound rubber enamel cloth, substantially as described.

76,266.—GEORGE STOREY, Wheeling, W. Va.—*Treating Malt and other Liquors.*—March 31, 1868; antedated March 20, 1868.—The ale or beer is exposed in a shallow, extended tank to the action of frost to enable the removal with the ice, of the matters subject to decomposition.

Claim.—The process of treating malt liquors and the fermented extracts of cereals by freezing, substantially as herein described.

76,267.—ALBERT STRASSER, Montgomery, Ala. —*Artificial Leg.*—March 31, 1868.—The sliding frame works in grooves of the leg frame, and its arms have rectangular ends which enter notches in the knee joint and prevent its flexion except when the foot is bent at the ankle. The said frame has a pendent bar sliding in a fixed cross bar and surrounded by a spiral spring, tending to keep the frame engaged with the notches. The sliding bar is connected by a strap to a temper bolt in the heel.

Claim.—The combination of the frames E F, hinged together with the stop-joint G, the sliding frame H, having arms I engaging with the notches O of the frame E, the cross bar K, stem J, spiral spring N, strap L, and adjustable eye-bolt T, all constructed and arranged to operate as herein described for the purpose specified.

76,268.—WAGER SWAYNE, U. S. Army.—*Piston.*—March 31, 1868.—The annular packing, or valve, has some end play in the piston head, and a space on each side of it is opened by its dragging somewhat in respect to the head. The space within the tubular piston rod communicates with the spaces at the sides of the valve, and conveys water thereto to lubricate the surfaces of the piston and cylinder on the exhaust side. The piston rod receives water from a flexible hose.

Claim.—A piston, constructed substantially as described, so as to operate automatically, during nearly the whole movement of the piston by its motor, to discharge water against the inner surface of the cylinder on the exhaust side of the piston, for the purposes specified.

76,269.—C. R. TABER and J. OSCAR TABER, Salem, Ohio.—*Dropping Platform for Harvesters.*—March 31, 1868.—The arm supporting the dropper is thrown upward and backward to deposit the grain from the dropper, whose slats are attached to a horizontal arm extending outwardly from the lower end of the oscillating arm.

Claim.—1. A vibrating or swinging dropper composed of slats supported at their rear ends only, in

combination with the ledge or rebate upon the finger bar, substantially as described.

2. A slatted dropper suspended upon a single vibrating arm at its inner end, substantially as described.

3. The combination of the vibrating dropper with the single standard or support of the overhung reel, substantially as described.

4. The links or arms *e e*, in which the reel shaft has its bearing, by means of which the reel is adjusted upon its single standard or support, as described.

76,270.—JOHN TAGGART, Roxbury, assignor to himself and JEROME A. BACON, Bedford, Mass.—*Machine for making Paper Pulp.*—March 31, 1868.—The rags are passed between the frusto-conical screw-threaded grinders. The inner frustum has a prismatic shank which has free vertical movement in its motive wheel, and has adjustment by movement of its step bar. The frustums are placed in an outer case, and have an aperture beneath their lower ends, through which the pulp circulates. The screw threads upon the concave and convex faces the wind in contrary directions.

Claim.—1. The combination of the male and female cylinders or frusta, and the helical threads thereof, arranged on them so that that or those of one cylinder or frustum shall be pitched in a direction opposite to that or those of the other, as specified, the same being for use in manner and for the purpose substantially as hereinbefore set forth.

2. The reducing cylinders or frusta, made with helical threads, arranged with opposite pitches, as described, and as having teeth formed on the upper part of either or each cylinder or frustrum, as set forth.

3. The application of the shaft of the inner of the two frusta, made as described, to the driving pinion and bearing of such shaft as to enable the frustum to rise within its fellow under circumstances substantially as set forth.

4. In combination with the reducing frusta, so made with helical threads, arranged to pitch in opposite directions, as set forth, means, substantially as described, or its equivalent, for supporting the inner frustum, and adjusting it in altitude, as specified.

5. The arrangement or combination of the two frusta, made, as described, with a tank or tub, substantially in manner as set forth, whereby the contents reduced in a liquid, when in a tub, and the inner frustum may be in revolution, are made to flow radially and vertically with respect to the outer frustum, as specified, such causing the pulp, in passing into the reducing frustum, to converge toward a common center, and, in passing out of such frustum, to diverge from the frustum tangentially, or thereabouts, whereby the pulp will be mixed to great advantage.

76,271.—JOHN BLAKE TARR, Fair Haven, Mass.—*Manufacture of Spherical Shot and Shell.*—March 31, 1868.—The spherical ball, hot from the molds, or from subsequent heating, is placed in the cups which are preferably caused to rotate in opposite directions, and at different speeds. One of the cups is upon a spindle which has longitudinal motion by a tail center, actuated by a hydraulic press or otherwise, and serves to press the cups together. The cups are slacked off at times, during the operation, to bring fresh surfaces of the ball under operation.

Claim.—1. A combination of mechanical devices, substantially such, and operating essentially so, as that hereinbefore described, for compressing and forming spherical shot while in a plastic state from heat.

2. In a machine such as is hereinbefore described, giving the outer edges of the retaining and forming dies an additional flare, in the manner and for the purpose above set forth.

3. In combination with a pair of concave dies, arranged to compress or form spherical bodies of heated metal, as above described, mechanism for imparting to each of said dies a different motion from that given to the other, substantially as and for the purpose above described.

4. In a machine for forming spherical bodies from heated metal, in the manner above shown, the construction and use of a stop-gauge, constructed substantially as described, in combination with compressing and forming dies.

76,272.—CYRUS K. TAYNTOR, Cuyler, N. Y.—*Medical Compound.*—March 31, 1868.—To prevent abortion in cows. Composed of bone dust, 20 lbs.; and sulphate of iron, 1 lb.

Claim.—A medical compound, composed of the ingredients herein set forth, and for the purposes described.

76,273.—CHARLES E. THOMPSON, New Haven, Conn.—*Curtain Fixture for Carriages, &c.*—March 31, 1868.—The tubular roller conceals a helical spring upon the journal shaft by which the curtain is rolled up, when the rubber tube upon the shaft is relieved from the pressure of the friction lever.

Claim.—The combination of the metal socket *a* and India-rubber tube *b* with the binding lever *c* H and the springs *d* and B, when they are constructed, arranged, and fitted for use, substantially as herein described and set forth.

76,274.—CHESTER TURNER, Grand Rapids, Mich.—*Water Meter or Motor.*—March 31, 1868.—The water enters each of the cavities in the hub alternately, and passes through the radial opening communicating with the space behind the wing piston, which it carries around and causes the rotation of the hub.

Claim.—1. The pivoted wings H H′, adapted to operate both as valves and pistons, substantially as herein described and represented.

2. The combination of the shell or casing A B, packing I, ports F G, rotary hub E, having chambers or apartments E^1 E^{1*} and openings E^2 E^3, with the valves or wings H H′, all constructed and arranged to operate in the manner and for the purpose set forth.

76,275.—S. D. TUTTLE, Eaton, Ohio.—*Subsoil Plow.*—March 31, 1868.—The share standard is adjustable in the clip which is attached to the side of the beam. The furrow is cleared before the plow by the lower forked end of a lever operated by a handle rod.

Claim.—1. The screw-clip C, furnished with the thumb-screw *c*, substantially as for the purpose set forth.

2. The screw-clip C, in combination with the subsoil attachment S, substantially in the manner and for the purposes specified.

3. The brace T, in combination with said subsoil attachment, as and for the purpose described.

4. The weeding attachment E, substantially as and for the purpose set forth.

5. The combination of the lever or rod *n* with the guide N, as and for the purpose specified.

6. The clip C, subsoil attachment S, brace T, handles B B, weeding attachment E, rod or lever *n*, and guide N, the whole being constructed and arranged substantially in the manner and for the purpose set forth.

76,276.—W. P. VALENTINE.—Buffalo, N. Y.—*Roofing Compound.*—March 31, 1868.—Loam, 60; and hydraulic cement, 40 parts; are saturated with coal tar and applied in a thin coat on a board foundation, and compacted with an iron roller. After a time a second coat is added and sprinkled with sand.

Claim.—A roof, composed of the materials combined and applied in the manner herein described.

76,277.—SAMUEL B. H. VANCE, New York, N. Y., assignor to MITCHELL, VANCE & CO., same place.—*Cock for Gas Burners.*—March 31, 1868.—The air-passage is made partially around the face of the plug, instead of diametrically through it. The object is to avoid the whistling in the burners.

Claim.—The gas-burner cock, having the round-edge port or passage *c*, constructed around about two-thirds of the circumference of the plug, substantially as shown and described, and for the purpose herein specified.

76,278.—A. C. VAUGHAN, Philadelphia, Pa.—*Augur.*—March 31, 1868.—The shank is tubular from

end to end, and has a screw upon its outer face. Both the end of the screw and end of the tube have cutters formed upon them. The chips pass partly up the tube, and are partially carried out by the screw. The tool is intended specially for boring out spikes or bolts.

Claim.—The metal tube A, with its external screw thread, *b*, extending to the lower end of the tube, when the latter, with the screw thread, is cut away, to form the cutting edges $i\, i^1\, i^2$, and when the outer edge of the screw thread is on a line with, or nearly on a line with, the outer cutting edge *i*, for the purpose described.

76,279.—William Weiler, Washington, N. J.—*Portable Rock-Drilling Machine.*—March 31, 1868.—The mechanism may be driven by hand or otherwise. The drill has its downward impulsion by a monkey which is automatically tripped. The drill has partial rotation between the strokes.

Claim.—1. The drill-rod L, operated by a sliding weight H, and raised and partially turned between each of the blows of the weight by the anti-friction rollers *f* and dogs *g* of the endless bands *d* and *d'*, through the medium of the levers and devices herein described, or their equivalents, all substantially as and for the purpose specified.

2. The drill-rod L, secured to the frame of the machine by plates *k* and *l* in such a manner as to be readily detached from the same, as described.

3. The sliding weight H, and its spring catch I, elevated by the plates *e* of the endless bands *d* and *d'*, and released by the pin *j'* of the adjustable plate K, in the manner and for the purpose specified.

76,280.—James D. Whelpley and Jacob J. Storer, Boston, Mass.—*Steam-Boiler Furnace.*—March 31, 1868.—The caloric current circulates through flues above and beneath the boiler, and passes through longitudinal tubes in the same. The lower and upper flues are both of them arched on the sides opposite to the boiler, to radiate heat directly upon it.

Claim.—1. The inclined jambs *m* and fire-brick arch I, arranged within the fire box, to secure an axial focus of radiation within the fire box, substantially as described.

2. The arrangement of inclined jambs in the fire-box, and concave radiating flue beneath the boiler, to utilize the heat of radiation more perfectly, substantially as described.

3. The arrangement of the surrounding masonry flues of the setting surrounding the boiler, with concave interior surfaces toward the boiler, so curved that the axis of their radiation may fall within the water space of the boiler as a linear focus, as and for the purpose described.

4. In the employment of pulverized fuel for heating purposes, the arrangement of a blast of carbon and air above the fire, introducing the air-floated coal among radiating surfaces, together with a blast of less power below the grate bars, to maintain the combustion of the lump coal, and prevent fusing the grate bars, as and for the purpose described.

76,281.—Levi H. Whitney, Washington, D. C.—*Washing Machine.*—March 31, 1868.—The working crucial frame has pendent arms and an oscillatory motion. The suds box receives steam through the apertures in partitions which cut off the steam chambers from the rest of the suds box.

Claim.—A washing machine, combining in its construction the following elements, viz: A boiler, A, and steam-pipe, D, a case, E, with perforated partitions, F and G, an oscillating frame, M, with arms, M', said frame being attached diagonally to the shaft L, and receiving motion from the arm I' and bevel-wheels I and K and the balls N, said several parts being arranged substantially as described.

76,282.—Thomas H. Wible, Quincy, Ill.—*Corn Planter.*—March 31, 1868.—The seed is dropped from the seed slide into the distributing pipe which diverges in four branches, each leading to a planting jaw; the jaws are so connected together as to open simultaneously and are intended to deposit each one of four seeds separately.

Claim.—A hand planter, constructed and arranged substantially in the manner described, so as to deposit four grains of corn or other seed in one hill, each in a separate hole, and at fixed distances from each other, by one positive motion, as herein specified.

76,283.—George F. Willey, Laconia, N. H.—*Plow Carriage.*—March 31, 1868.—The carriage is mounted on caster wheels, and the plow is adjustably connected to its side.

Claim.—The construction of the carriage A A A, with the plow P and attachments, combined and adjusted as shown in the drawings.

76,284.—Daniel Wills, Camden, N. J.—*Gill Net.*—March 31, 1868.—Metallic rings are attached as sinkers to a portion of the lower course of meshes, and the lead line is dispensed with.

Claim.—The application of a series of open frames or rings to the meshes of the bottom of the net, substantially as described, for the purpose specified.

76,285.—George K. Wood, Morristown, N. J.—*Refrigerating Car.*—March 31, 1868.—The car has a plurality of metallic chambers for the respective reception of "through" and "way" freight. An upper chamber contains ice.

Claim.—The pillars Hx, arranged or placed within the provision chambers, any or all of them communicating above and below the dead-air space, between said chambers and the sides of the car, substantially as and for the purpose set forth.

76,286.—John E. Wootten, Reading, Pa.—*Packing for Joints.*—March 31, 1868.—Ordinary woolen felt is immersed in a mixture composed of common brown oxide of iron, (called mineral paint,) with paint oils and driers, to the consistence of cream. The felt is hung up to drip 48 hours and is then fit for use.

Claim.—A packing, composed of felt or other suitable fibrous material, prepared in the manner and for the purpose specified.

76,287.—E. W. Woodruff and George C. Green, Washington, D. C.—*Paper File.*—March 31, 1868.—The clamping lever has two cross-bars, one of which is received in the side extension of the longitudinal, inverted T-formed groove in the box bottom, and the other cross-bar rests upon the sides of the groove so as to form a clamp for the file board.

Claim.—1. The clamp lever D, provided with the lugs F F, G G, or their equivalents, combined with the base board A, substantially as described, so that no portion of said clamping device shall project below the lower surface of said base board when the apparatus is in operative condition.

2. The clamp lever D, or its equivalent, and the file board E, combined and arranged so that the pressure derived from the elasticity of the paper shall always be applied to the upper end of said lever, substantially as set forth, and to the effect described.

3. Making the file board E, or its equivalent, separate from and independent of the clamping device, for the purpose set forth.

4. The plate C, or its equivalent, extending lengthwise through the central portion, but not to the edges of the base board A, substantially as described, in combination with the clamping device, so that the side-pieces B B may be applied without interfering with the operation of said clamping device.

76,288.—Isaac Pardee, Vineland, N. J., assignor to himself and Arial C. Cotton, same place.—*Scuffle Hoe and Garden Trimmer.*—March 31, 1868.—The arms to which the angular blade is attached are pivoted to a frame, and their rear ends are secured by a set-screw to any required inclination.

Claim.—The combination of the angular plate A, arms B B, and piece C, substantially as shown and described, and for the purpose specified, and that whether with the slot *e* or a series of holes as described, in its stead, and whether with or without the radial serrations mentioned.

76,289.—William L. Starr, Columbus, Ohio.—*Animal Trap.*—March 31, 1868.—The single coil of

the wire is secured to the back of the raised end-board of the trap by a strap of rubber, and constitutes a rolling fulcrum as the upper end of the wire, having the bait, is drawn forward to retract the detent at the other end from beneath the falling end of the platform.

Claim.—The substitution, in a box-trap, A, of a single wire coil, E, retained by a yielding connection, *a*, and having its two ends free and pointing inward, one to hold and release the revolving platform, and the other for the bait, in place of the ordinary pivoted lever, and all operating together substantially as herein described.

76,290.—James E. Woodruff, Buffalo, N. Y.—*Fare Box for Passenger Cars.*—March 31, 1868.—The cylinder has dished or squared places to receive the fare, and is turned 90° by a pawl-rod under control of the driver. The pawl acts on a four-tooth ratchet wheel, and a square block at the other end of the cylinder receives the pressure of a flat spring to insure proper rotation.

Claim.—A box to receive passenger fare, in combination with a revolving cylinder, or its equivalent, under control of the driver, to act as a cover to said box, so that the fares may be put in without any opening of the box.

76,291.—Alfred R. Stanley, Boston, Mass.—*Hoop Skirt.*—March 31, 1868.—In making the joint the ends are lapped and the clasp bent around them. The joint is then kinked to prevent the withdrawal of the ends, and is inserted into the tape pocket and stitched fast.

Claim.—1. The method of manufacturing hoop skirts herein described, that is to say, uniting the ends of the wires by means of the lock clasps herein described, and inclosing said clasps in the pockets of the tapes or equivalent covering, all while on the "former," substantially as set forth.

2. As a new manufacture, a hoop skirt with the ends of the wires united together by the lock clasps herein described, and said clasps inclosed in the pockets of the tapes, or the equivalent thereof, all substantially as herein described.

76,292.—Gurdon G. Wolfe, Troy, N. Y.—*Cooking-Stove Tank.*—March 31, 1868.—The reservoir is placed upon the back end of the stove and has a portion descending below the level of the stove top. The "upper bottom" forms part of the stove top, and the vertical plate depending from its back edge forms one side of a flue chamber through which the caloric current may be forced by dampers. The exit flue passes vertically through the upper bottom.

Claim.—1. The reservoir or water tank A, constructed with an upper bottom F′, and a lower bottom A′, and intermediate plate K, and exit flue E, each being arranged and combined in the manner and for the purposes substantially as herein described and set forth.

2. The combination of the reservoir or water tank A, constructed substantially as herein described, with a cooking stove, having a part or portion of the rear end of the top thereof removed, substantially as shown at Fig. 2 of the accompanying drawings, so as to receive and contain the upper part or bottom F′ of said reservoir, in the manner and for the purposes substantially as herein described and set forth.

3. The employment of the damper C′ in the upper part of the rear and vertical end plate of the cooking stove, in combination with the vertical flues in the rear end of the stove, and with that part or portion of said reservoir extending below the top plate of said cooking stove, as seen at Fig. 1 of accompanying drawings, and in the manner and for the purposes substantially as herein described and set forth.

4. The employment of the flue opening L, flue plate L′, and flue chamber M, in combination with the reservoir A, in the manner substantially as herein described and set forth.

5. The employment and arrangement of a reservoir or water tank with a cooking stove, so that a part thereof shall be above the top plate of the stove and over the vertical flue or flues in the rear end thereof, and a part below such top plate, in the manner substantially as shown at Fig. 1 of the accompanying drawings.

76,293.—William Mullee, Chesterville, assignor to Mosely Ezekiel, Philadelphia, Pa.—*Manufacture of Hard Rubber.*—March 31, 1868.—Improvement on his patent, Feb. 12, 1867. The rubber, after washing, is rolled into sheets 1-16 of an inch thick and immediately placed in the sulphur bath vessel in a horizontal position. The sulphur is kept at a temperature of 220° F. until foam has ceased to rise. At the expiration of the first hour the heat is raised to from 30 to 40 pounds pressure, and continued for a second hour, after which it may be allowed to rise to 80 pounds. The whole process takes from 5 to 10 hours. The sulphur used is known as "pure sulphur." Twenty or thirty minutes is sufficient for one immersion, after which the sheets are torn apart, rekneaded, and rolled into sheets.

Claim.—The above-described process of producing a prime article of hard rubber, by combining rubber and sulphur, as above described, and treating them substantially in the manner above set forth.

76,294.—Thomas A. Bisbee, Dayton, Ohio, assignor to himself and Edwin R. Stillwell, same place.—*Steam-engine Slide Valve.*—April 7, 1868.—Two or more packing rings are placed at opposite ends of the valve to balance the valve and prevent tilting. A plug breaks the joint of the ring.

Claim.—1. The arrangement of two balance chambers with packing rings, one being combined with each end of the valve, whereby to obviate the tendency to a rocking motion, caused by one large ring, or one series of rings.

2. The described arrangement of the joint plug I, packing ring G, and valve A, for the purposes described.

3. The combination, in a valve-box cover, of the steam passages and strengthening ribs, as described.

4. The combination of ring G, joint plug I, valve-box cover D, and steam passages E E E E, substantially as described.

76,295.—Thomas A. Bisbee, Dayton, Ohio, assignor to himself and Edwin R. Stillwell, same place.—*Piston Packing.*—April 7, 1868.—The ring occupies a circumferential groove in the piston head, and its ends lie in a diametric groove in the plug. The steam is allowed, by small holes in the head, to reach the inner sides of the ring and plug, and cause the expansion of the ring against the cylinder. The ring is made tapering from its mid-length to its ends to cause equal expansion at all parts.

Claim.—1. The cylindrical plug E, substantially as and for the purposes described.

2. The combination of the plug E and eccentric ring A, substantially as described.

76,296.—Lewis R. Bradbury, Charlestown, Mass.—*Spring Bed Bottom.*—April 7, 1868.—The ends of the springs which support the ends of the slats are attached to a cross-bar, and are fulcrumed upon a rubber bar or other springs which are secured to the upper side of the cross-bar.

Claim.—The combination of the spring C, made substantially as shown, with the spring H, placed under it, the two springs operating together, for the purpose substantially as set forth.

76,297.—John Brosius, Rauch's Gap, Pa.—*Safety Pocket Attachment.*—April 7, 1868.—The pocket book is attached by a chain to the spring claw which is secured to the pocket.

Claim.—The safety attachment, composed of the jaws A and B, pins D, spring E, levers F and G, and chain H, for the purpose and substantially as herein specified.

76,298.—A. C. Brownell, Brooklyn, N. Y.—*Bath Tub.*—April 7, 1868.—The wooden portion of he tub is made of narrow tongued and grooved oards, and the bottom has an even, lateral curve.

Claim.—As a new article of manufacture, the bath tub, constructed as described, consisting of the tongued and grooved bottom and end slats *c c′*, the curved sides *d*, outer frame *b*, and curved supporting brackets B B, all arranged as described, for the purpose specified.

76,299.—J. E. BURDGE, Cincinnati, Ohio, assignor to A. C. BROWN.—*Spinning Machine.*—April 7, 1868.—A fluted roller is placed in the inner and upper curve of the gin ribs so that the lower periphery of the roller will come about even with the upper trunnions of the slots through which the saws work. The roller has adjustable rotation in the same direction as the gin cylinder and is to prevent the cotton from clogging at the upper ends of the slots, and cause it to be kept regularly rolling on the breast of the cylinder.

Claim.—The combination and arrangement of the fluted roller P, cylinder B, and carding cylinders E^2 E^3 E^1, as and for the purpose set forth.

In combination with the above, the spindles G, as and for the purpose set forth.

76,300.—WILLIAM C. BUSSEY, San Francisco, Cal.—*Combination Lock for Doors.*—April 7, 1868.—Improvement on his patent, Sept. 5, 1865. The ends of the "bars," when in the locked position, stand in the course of the bolt. When the tumblers are all in the unlocking position, the cross-bar of the said bars is moved into the notches in the tumblers by action of the springs, and the bolt may then be retracted.

Claim.—The bars D D and the lugs *a a*, for retaining the bolt, together with the plate F, bar *d*, and spring G, in combination with the grooved annular tumblers, the whole constructed and operating substantially as and for the purpose described.

76,301.—E. O. CARRINGTON and EDWIN CARRINGTON, West Meriden, Conn.—*Machine for Grinding and Cutting Down Augurs.*—April 7, 1868.—Improvement on their patent, July 2, 1867. A grinding apparatus is combined with the previous patent which relates to forming the cutting lip.

Claim.—The arrangement of the swinging bar E, carrying one mandrel H, and the other mandrel *d*, the said mandrel *d* provided with a self-adjusting head *f*, and combined with the grinding cylinder C, the whole operating in the manner substantially as set forth.

76,302.—GARDINER CHILSON, Boston, Mass.—*Stove Grate.*—April 7, 1868.—The grate is supported on a fork at its center with sufficient freedom to allow it a tilting or horizontal reciprocation. The axis of the grate extends in a handle to the outside of the stove, passing through a sliding plate which serves to close the slot in the shell traversed by the handle.

Claim.—1. The furcated arm D, for supporting the grate, arranged so as to allow both the tilting and lateral vibration thereof, substantially as herein specified.

2. The grate-shaft head and handle, made substantially as represented and as hereinbefore described.

76,303.—RICHARD S. CLARK, Great Bend, Pa.—*Envelope.*—April 7, 1868.—A flap is formed on the back part, which folds over and is gummed to the front.

Claim.—The flap A, so placed upon the envelope as to fold over on to the face of the envelope, substantially as and for the purpose described.

76,304.—JUSTIN L. COLBURN, West Burke, Vt.—*Butter Worker.*—April 7, 1868.—The box contains the butter, which is worked by the wheel.

Claim.—The wheel C, constructed as described, operated by the crank D, in combination with the box B, when the same are constructed as described in the aforesaid combination.

76,305.—HENRY P. CROUSE, Hartland, Mich.—*Clothes Drier.*—April 7, 1868.—The frame turns upon the tilting staff, and may be removed therefrom and folded together.

Claim.—The combination of the posts A and B, the pins C and D, the wedge E, stop F, the collars G and K, the arms H and I, the lines J, and pin L, when constructed, arranged, and operating substantially as and for the purposes designed and herein described.

76,306.—CHARLES G. CURTIS, Plano, Ill.—*Seed Sower and Cultivator.*—April 7, 1868.—A spirally-grooved cylinder in the hopper, at the front of the machine, distributes the seed upon the ground. The cultivator is adjusted vertically by levers, which are pivoted on the axle, and extend to the rear of the machine for support of a two-part roller, working on a single journal, and having cutter teeth acting as seed coverers and pulverizers.

Claim.—1. The cylinder B, arranged with spiral grooves *a* for distributing seed, substantially as and for the purpose set forth.

2. The tooth *c*, having a curved edge *e*, convex back *g*, and concaved sides *e c*, substantially as described.

3. The combination of the levers C E with the two-part roller P, arranged substantially as set forth.

76,307.—GEORGE DEAL, Wilmot, Ohio.—*Horse Rake.*—April 7, 1868.—The rail teeth are attached to a bar which, in the working position, is directly above the axle, and which is connected by hinges, so as to allow the turning up of the rake. The upper and forward ends of the teeth are secured to a bar which stands before the axle and balances the rear ends of the teeth. When the rake is tilted the latter bar occupies a position nearly beneath the axle.

Claim.—1. The angle irons G G and the standards H H and bearing arms I I, to which the bar S is hinged, mounted on said angle irons, constructed and arranged and applied to the rake substantially as and for the purposes herein specified.

2. The combination and arrangement of the hinged bar S, rake teeth L L, and roller D, so that the said roller balances or nearly balances the rake teeth, substantially as specified.

76,308.—BENJAMIN W. DONALDSON, Dixfield, Me.—*Medicine.*—April 7, 1868.—Balm of Gilead buds are immersed in whisky, 1 pt.; water, 1 pt.; and after 12 hours, steeped, but not boiled, for 1 hour; add molasses, ½ pt.; steep 1 hour and strain.

Claim.—The above-described compound of medicine, prepared substantially in the manner set forth.

76,309.—GEORGE DOWLING, Fair Haven, Conn.—*Spritsail Boom Sling.*—April 7, 1868.—The sling is adjustably gimbal-jointed to the mast band, so as to be regulated to the shrinking or swelling of the sail, and to move freely without chafing the mast.

Claim.—The sling D, constructed so as to receive the boom C, and provided with ears *f*, and combined with the swivel *d* on the mast's strap A, and the whole constructed so as to be adjustable and operate substantially in the manner herein set forth.

76,310.—HORACE L. DUNKLEE, Boston, Mass.—*Culinary Vessel.*—April 7, 1868.—Improvement on the patent of J. Zimmerman, No. 47,675. The vessels are made separately, resting together by their shoulders, and are thus easily taken apart for cleansing.

Claim.—In a culinary apparatus, made in sections, as described, the combination, in each section, of the steaming vessel with its surrounding case, under the arrangement specified, so that the said vessel shall be hung or suspended within its case by means of flanges or bearings *a b*, formed upon both the vessel and case, in the manner set forth.

76,311.—JOHN DYER, Chicago, Ill.—*Self Canceling Railroad Ticket.*—April 7, 1868.—The cover is made to contain the proper number of checks, which are graduated in length and consecutively numbered. They are firmly fastened together, the shortest check being lowest in number, and placed at the bottom.

Claim.—A self-canceling ticket, composed of any number of checks, firmly fastened in a flexible cover, containing a part of the contract, and which checks are graduated in length, and consecutively numbered, or otherwise designated and arranged, and which, when detached from the cover, effectually cancel all obligation represented by them when fastened to the cover, for the purpose and substantially as herein set forth.

76,312.—GEORGE R. EDGER, East Boston, Mass.—*Neck-Tie Supporter.*—April 7, 1868; antedated March 21, 1868.—The triangular part is placed on the button, and then the whole pulled down, so that the supporter at the bend shall rest upon the upper

edge of the button, and the thread eye of the button enter into and be held by the elastic, convex opening.

Claim.—1. The neck-tie supporter, consisting of the parts *b c*, *d b'*, *c' d'*, to engage with, and the saddle or bend *a a'*, to rest upon the button, and the attaching part *y*, all formed and operating as herein described and represented, for the purposes set forth.

2. The combination, with the above, of the elastic band C, applied in the manner and for the purpose specified.

76,313.—NATHANIEL T. EDSON, New Orleans, La.—*Washing Machine.*—April 7, 1868; antedated March 28, 1868.—The transverse rounds of the apron are placed obliquely to prevent the jamming of the clothes between them and the oscillating, semi-cylindrical rubber basket. The corners of the apron have elastic loops by which they are secured to the suds box.

Claim.—1. The combination of the apron, Fig. 4, with the elastic straps *c*, the clamp *e*, and screw *d*, as specified.

2. The lock *g*, in combination with the apron, as specified.

3. The combination of the rubber or basket with the double crank *a a* and collar *h*, as and for the purpose specified.

76,314.—MARY E. A. W. EVARD, Leesburg, Va.—*Boiling Apparatus.*—April 7, 1868.—The meal is supported on a wire frame or upon spits suspended in a reflector before the fire, and having capacity for rotary or longitudinal adjustment.

Claim.—1. The combination of the pivoted frame G G^1 G^2 and hinged notched plate M, for supporting the revolving broiler or spit at any desired distance from the fire, substantially as described.

2. The combined arrangement, in connection with the foregoing, of the oven B, of the flap C, and doors D D', and E, substantially as and for the purposes set forth.

76,315.—MARY E. A. W. EVARD, Leesburg, Va.—*Cooking Stove.*—April 7, 1868.—Ribs are cast upon the oven plates to receive the edges of partitions, by which the oven may be divided into compartments. The lower ends of the grate bars merge into the bottom plate of the grate. The movable shelf rests on cleats cast upon the inner faces of the doors, and is intended to sustain a dish before the fire. The supplemental heater is a short, flaring-ended tube, which is placed upon a stove hole, and supports a cooking or evaporating vessel. Within the flues, above the oven, are vertical, foraminous cylinders having communication with the outer air through registers at their upper ends. They are intended to furnish air for conversion of gases.

Claim.—1. The plate A^1, employed in conjunction with the grate bars *a* to form the bottom of the fire box, substantially as and for the purpose set forth.

2. The movable shelf O', adapted to be supported upon the front doors O, substantially as and for the purpose set forth.

3. The removable supplemental heater P, provided with a damper P^2, and employed in the manner and for the purpose set forth.

4. The foraminated air distributers N, when provided with registers *n n'*, and constructed and arranged substantially as and for the purpose described.

5. The grooved ridges *e* and *f*, cast on the top and bottom plates of the oven, serving to impart strength and rigidity to said plates, (without obstructing the flues,) and also to guide and support removable partitions F F^1 for dividing the oven into a plurality of compartments, substantially as described, in combination with the opening L in the rear of the oven.

76,316.—MARY E. A. W. EVARD, Leesburg, Va.—*Toaster.*—April 7, 1868.—The rack admits of screwing on the standard in a horizontal or perpendicular position and at any desired height.

Claim.—1. The rack C, adapted to be turned upon the standard B, substantially as and for the purpose described.

2. The nut D, formed with threaded perforations *d d'*, at right angles, to adapt the rack to be supported either vertically or horizontally, substantially as set forth.

76,317.—JOHN A. EVARTS, West Meriden, Conn., assignor to BRADLEY & HUBBARD, same place.—*Suspension Spring for Lamps.*—April 7, 1868.—The chain to which the chandelier is attached passes over two friction rollers and around the cylinder. The latter contains a spiral spring that is wound up sufficiently to counterpoise the chandelier, and is held by a ratchet wheel and pawl.

Claim.—1. The combination of the coil spring F with the band G and lower friction roll D, substantially as specified.

2. The combination of the coil spring F, the band G, and the ratchet, whether the ratchet be applied directly to the cylinder A or to the friction roll, substantially as described.

3. The combination of the coil spring F, the band G, and the upper and lower friction rolls H and D, substantially as described.

4. The combination of the coil spring F, the band G, the two rolls H and D, with the ratchet and pawl, constructed and arranged substantially as set forth.

76,318.—ALFRED FISHER, Nashua, N. H.—*Pump.*—April 7, 1868.—The packing leather is clamped between the flanged cap and seat disk. The valves are held between the said disk and the independent bail. The different parts of the bucket are held together by the rod which screws into the flange cap.

Claim.—The described arrangement and combination of the rod A, independent bail B, the flange cap C, fastening rods M M', and neck piece D.

76,319.—JOSEPH W. FOWLE, Boston, Mass., assignor to WILLIAM CARLTON, RUFUS S. MERRILL, and CHARLES E. ABBOTT.—*Lamp Extinguisher.*—April 7, 1868.—The slides are moved upward by a lever to meet above the flame and form an extinguisher.

Claim.—A lamp extinguisher, consisting of inclined slides, which, when brought into contact, form a close chamber over the mouth of the wick tube, substantially in the manner described.

76,320.—C. W. GAUGE, Homer, N. Y.—*Fruit Gatherer.*—April 7, 1868.—The hoop has a number of straight sections which are jointed so as to fold together. The hoop is connected to the tree by diametric center pieces, and supported on adjustable legs. The sheet is stretched by pins, and has spouts for escape of the fruit. The device is applicable to collection of good fruit or that stung by the curculio.

Claim.—The polygonal hoop B, when constructed in such manner as to fold separately from the cloth table F and center pieces C, as shown in Fig. 3, as and for the purpose set forth.

76,321.—MICHAEL GERMANN, Cincinnati, Ohio.—*Gas Cooking Apparatus.*—April 7, 1868.—The metallic bracket has a pot stand, and is hung to a nail or screw head. A circular upwardly flaring case surrounds the burner, and at its top is an upwardly convex perforated plate, and a flat deflector disk above it.

Claim.—As an article of manufacture, the gas cooking apparatus, as described, consisting of an iron bracket, pot stand, and gas burner combined, substantially as and for the purposes set forth.

76,322.—JOSEPH W. GRAY, Clermont County, Ohio, assignor to SALADEE, FEE & CO.—*Steam-Engine Governor.*—April 7, 1868.—A lever having one end connected to the governor valve has a rack upon the other end engaging a spur wheel upon the arbor of the index finger. The rack end of the lever is connected to a piston-rod, whose cylinder is open to the steam space, and has also a spring tending to hold the piston down.

Claim.—The combination of a steam gauge and governor, so constructed and arranged that the pressure of the steam in the boiler shall govern the engine, substantially as shown and described.

76,323.—M. C. GRITZNER, Bruchsal, Grand Duchy of Baden.—*Sewing Machine for Working Button Holes.*—April 7, 1868.—For attachment to a

sewing machine for making button holes, zigzag and other embroidery, &c.

Claim.—1. The combination, with the needle of a sewing machine of ordinary or suitable construction, of a laterally reciprocating tongue plate, substantially as specified, and mechanism for imparting said movement to the tongue under the arrangement described, so that the said tongue will be placed close to and alternately to the right and left of the needle during each two successive stitches the needle makes, and so impart a zigzag motion to the cloth to be sewed, substantially as shown and specified.

2. The laterally reciprocating plate having two slots, one on each side of the tongue, through which the needle alternately stitches, the metal around said slots serving as a firm support to the cloth, and preventing the latter from being dragged down when penetrated by the needle.

3. The mechanism herein described for moving the material for button hole sewing, &c., combined with gearing and a cam, or its equivalent, substantially as specified, applied to a sewing machine in such manner that the said mechanism, when engaged with said gearing and cam, will move laterally in one direction while the needle makes one stitch, and in the opposite direction during the next succeeding stitch, as shown and set forth.

4. The combination of the laterally reciprocating tongue or plate with a feed piece adapted to engage with the ordinary feed dog of a sewing machine, and so arranged that the said feed piece, while moving laterally with the reciprocating tongue, shall have an independent forward and backward and up and down movement for the purpose of effecting the feed of the cloth, as set forth.

5. The combination and arrangement of the plates *a b* and the plate *c* with its appurtenances, the whole constituting a device or mechanism for button-hole sewing, &c., capable of being applied either temporarily or permanently to any suitable sewing machine in the manner herein shown and described.

76,324.—M. C. Haight, Geneva, N. Y.—*Skate.*—April 7, 1868.—The heel and toe plates are fastened upon screws which are formed from the ends of the runner.

Claim.—Combining the foot and heel plates B C directly with the runner A by means of the solid screws *a a'*, forming a part of the runner itself, and making the screws *b b* that attach the straps to the foot plate sharp pointed, to serve as the brads for holding the foot, the whole arranged as described, and operating in the manner and for the purpose specified.

76,325.—Stephen B. Holden, Sedalia, Mo., assignor to himself and William A. Newton, same place.—*Car Seat.*—April 7, 1868.—Improvement on his patent, August 25, 1863. The seat is connected to the stand by pivoted bars which extend from near the floor to the bottom of the seat. The seat is also connected to the stand by rubber springs which check its movement. Rubber block springs are secured to the frame and serve as stops to the seat.

Claim.—1. The combination of the rubber or equivalent springs F with the seat frame D, and with the longitudinal bar b^2 of the stand B, substantially as herein shown and described, and for the purpose set forth.

2. The rubber block springs H, in combination with the longitudinal bar b^2 of the stand B, substantially as herein shown and described, and for the purpose set forth.

76,326.—Albert Holmes, Detroit, Mich.—*Base Burning Stove.*—April 7, 1868.—The dampers cover passages which lead from the open air respectively into the fire chamber and the combustion chamber in the base. The calorie current passes through an annular space traversed by vertical air-heating pipes.

Claim.—The combination and arrangement of the dampers E, I, and K, and flues D, O, L, and P, to produce either a downward or a direct draught, substantially as described.

76,327.—S. S. Hughson, Newark, N. J.—*Sifter.*—April 7, 1868.—The cylindrical sifter has a horizontal sieve separating it into two chambers, to which access is gained by sliding doors.

Claim.—The construction of the cylindrical sifter with the sieve C in the center, the sliding lid G and handles I K on the top of the sifter, door M at the side, substantially as and for the purpose specified.

76,328.—James B. Johnson and William H. Birch, San Francisco, Cal.—*Friction Clutch.*—April 7, 1868.—The inclines of the shell force the rollers against the periphery of the tight pulley when it is rotated in one direction. The springs insure prompt action by forcing the rollers along the inclines.

Claim.—1. The axle A with its fast pulley B, and inclosing case C with its inclined planes *c' c'*, together with the rollers *a a a*, the whole constructed and operating substantially as and for the purpose described.

2. The spring *d* attached to projection *b*, or its equivalent, when used in the clutch for insuring a prompt action of the rollers *a a*, substantially as described.

76,329.—John Johnson, Saco, Me.—*Heating Apparatus.*—April 7, 1868.—The vessel contains only sufficient water to fill it with steam when evaporated and is traversed by vertical open-ended air pumps which may communicate with pipes leading to other apartments.

Claim.—The method of obtaining and transmitting heat, by the use of a small and definite quantity of water or other liquid contained in an air tight vessel, substantially as herein described.

76,330.—Thomas Kerr and John C. Kelly, Edinburg, Ind.—*Holding Cans while being Soldered.*—April 7, 1868.—The nuts upon the right and left hand screw shaft are attached to the ends of the springs whose middle portions are attached to the staves. The latter are forced against the inner side of the can by the approach of the nuts.

Claim.—The sleeve E, screw shaft D, springs I I, nuts F H, staves K, arm M, plate N, and lever L, all constructed and arranged substantially as and for the purpose herein set forth.

76,331.—Stephen R. Krom, New York, N. Y.—*Apparatus for Separating Ores and Minerals.*—April 7, 1868.—The disintegrated ore passes over a perforated plate through which intermittent jets of air or other fluid are thrown to stir up the mass and cause the larger particles to take the lower position. The coarser and finer particles are carried out through different chutes. Valves in the bellows allow the escape of air when at too great pressure. The bellows are worked with a cam motion so as to open slowly and exhaust quickly.

Claim.—1. In machines for separating granular materials of different densities by the aid of intermittent jets of air or other fluid, the passage F, to discharge the lower stratum, either from an inclined or level bed of a double or single machine, as herein described.

2. In such machine, the small apron G, at the lower discharge, as described.

3. In such machine, the shoe F', at the lower end of the lower discharge, as described.

4. In such machine, the escape valves *c c*, for the purpose described.

5. In such machine, the blowing means, or its equivalents, situated close to the material, in combination with the within-described manner of maintaining its proximity under various changes of stroke, for the purpose described.

6. The bellows C, having a series of flaps C^2, covering nearly the whole open-work or perforated surface, as shown in Figs. 1, 5, and 7.

7. In such machine, the cam wheel D, constructed and arranged relatively to the lever D^2 and its connections, as and for the purpose described.

8. In such machine, the closed box H, constructed and arranged relatively to the inclosed and connected parts, substantially as and for the purpose herein described.

76,332.—Isaac W. Little, Newbury, Mass.—*Ox Yoke.*—April 7, 1868.—The bow holes are length-

ened longitudinally and are adjusted by the sliders to suit the size of the animal or to apportion the draft unequally between two animals.

Claim.—The arrangement and combination of the sliders *b*, and their clamping screws or devices, with each of the bows B B, and with slots *a a*, formed in the yoke, as set forth.

76,333.—Richard B. Locke, New York, N. Y., assignor to Self Lighting Gas Burner Company, same place.—*Gas Burner.*—April 7, 1868.—The main burner projects a short distance above a cone that incloses the secondary burner, which receives a small quantity of gas when it is turned off from the main burner, and keeps a small flame burning to light the main burner at any time. The passage leading to the secondary burner is regulated by a screw according to the pressure of gas at that point.

Claim.—The screw *l*, in combination with a supplementary burner, when the same is constructed and arranged substantially as described.

76,334.—Thomas T. Markland, Jr., Philadelphia, Pa.—*Name Plate for Street Lamps.*—April 7, 1868.—The name plates have block letters which may be perforated and are placed beneath the shoulders of the lamp.

Claim.—The name plates B, in combination with street lamps, constructed and arranged substantially as described.

76,335.—Thomas T. Markland, Jr., Philadelphia, Pa.—*Street Lamp.*—April 7, 1868.—The lamp has name plates disconnected from the main frames so that they are uninfluenced by fracture of the latter. The name plates are perforated and backed with glass. The neck of the lamp beneath the crown has name plates whose letters show by reflected light.

Claim.—1. The combination of the name plates C with the frame of the lamp, separate from the main panes of glass or the body of the lamp, whether of square or other form, substantially in the manner above described and for the purpose set forth.

2. The combination of the name plates G with the neck F of the lamp, substantially as described and for the purpose specified.

3. The combination of a glass neck with a street lamp, the said neck being constructed either with or without name plates, substantially as and for the purposes above described.

4. The combination of the slot *l* of the tube N on the bottom plate E, with a corresponding lug on the lamp-post, substantially as described and for the purpose set forth.

5. A sectional lamp, constructed substantially as described and for the purposes specified.

76,336.—Mary E. J Marr, Jefferson, La.—*Child's Bed.*—April 7, 1868.—The bed receptacle is hinged to the frame at the foot and its head connected by a cord to the arched frame overhead by which it is held at any required inclination.

Claim.—The bedstead proper, herein described, consisting of the horizontal pieces A A′ A″ A‴, posts B, and arched frame C C′ D, in combination with the frame E, when the latter is constructed as herein described, and provided with a cloth bottom G, and cloth sides and ends F, and transverse cross band H, and is hinged to the bedstead proper, substantially as and for the purpose set forth.

76,337.—Ignace Martin, Newark, N. J.—*Brick Machine.*—April 7, 1868.—The clay is forced into the molds in the periphery of the main wheel and is first compressed and then ejected by the plungers which are actuated by cams. The bricks are pressed upward against a board which is depressed by the rocking, eccentric rollers and raised by hooks which take under pins projecting from the ends of the board. A spring catch enters one of a series of notches in the wheel and holds the same during the process of pressing to prevent any rotary movement. The plunger tops are cleaned and are lubricated by a brush after the bricks are discharged. The brush rotates in an oil receptacle.

Claim.—1. The board or plate G, in combination with the eccentric shafts H H, hooks *m*, and pins *n*, all made and operating substantially as herein shown and described.

2. The mold wheel A, when provided with notches *s s*, in combination with the spring catch *r* and cam *t*, all made and operating substantially as and for the purpose herein shown and described.

3. The trough N, as a receptacle for oil, and a brush M, arranged to revolve therein, and contiguous with the plungers, to lubricate them, as specified, when arranged beneath and operating in combination with the revolving mold wheel A, and secured to the base plate C, substantially as described and shown.

4. The combination, with the wheel A, of the plate G and eccentries H, of the plungers *j*, stems *k*, and cam *p*, all made and operating as set forth.

76,338.—James McGeary, Salem, Mass.—*Process for Making Gas.*—April 7, 1868.—The retorts are connected with each other so that the gas may be driven from one to another, or superheated steam may be blown through a partially exhausted retort and into a fresh one.

Claim.—1. The use of partially spent coal, in one retort, to quicken and intensify the heat in another retort or chamber, alternately, as set forth.

2. The use of partially spent coal for decomposing superheated steam, substantially as set forth.

3. The use of superheated steam, produced as described, as and for the purpose set forth.

76,339.—D. Mendenhall, Fairfield, Iowa.—*Harvester Rake.*—April 7, 1868.—The rake is attached to one of a series of levers which are operated as a lazy tongs to guide and support the rake while sweeping the grain from the platform.

Claim.—1. A reciprocating rake, and a hinged platform section, combined in such manner that after the rake moves across said platform, and delivers a gavel from the inner side thereof, it shall then return beneath said section to the outer end of the platform, substantially as described.

2. A platform, having a location behind the cutting apparatus during the receiving and delivery operation, and a fender or guard J, between the cutting apparatus and the rear of the platform, in combination with a reciprocating rake, which takes the grain which has been cut from the platform, and delivers it at one side of the platform out of the path of the team, such rake being guided by machinery, the whole substantially as herein set forth.

3. A rake or clearer, which is controlled in its movements by extension joints L, and a pitman rod N, and which is pivoted on top of the platform, in combination with a hinged grain guard J, which will protect the clearer from falling grain during its return stroke, substantially as described.

4. The combination of a reciprocating rake, a side delivery platform, a hinged guard J, and an outer guard *b*, substantially as described.

76,340.—John A. Minor, Middletown, Conn.—*Feeding Mechanism for Sewing Machines.*—April 7, 1868.—The cam lever has a certain free movement between the lugs through which it causes the longitudinal movement of the feed bar, so that before commencing the forward movement the dog is raised and before the back movement it is allowed to drop.

Claim.—The arrangement, on the independent adjustable plate K, of the lever S and the feed dog L, substantially as described and for the purpose specified.

76,341.—James W. Osgood, Columbus, Ohio, assignor to himself and S. V. R. Carpenter, same place.—*Brick Machine.*—April 7, 1868.—A horizontal pug mill is used in conjunction with a polygonal drum, having rectangular molds in its perimeter, which receive the clay at one point and discharge it at another, in the form of compressed bricks.

Claim.—1. A revolving feeding cam B^1, applied within a filling box B, and interposed between a pug mill and a rotary mold drum, substantially as and for the purpose described.

2. A reciprocating knife C, arranged in combination with the filler B^1 and the movable mold wheel, substantially as and for the purpose described.

3. A wiper or scraper B^2 in combination with a filler B^1, operating substantially as described.

4. The guard or division plate a^1, in combination with a horizontal cylindric pug mill and filling box, arranged substantially in the manner and for the purpose described.

5. Securing the central follower D^1 of each gang or series of mold cells d rigidly to bar D^2, and having the other followers of the same gang attached loosely to said bar, for the purpose of preventing the followers from working hard or binding in their mold cells, substantially as described.

6. A platen, F, hung by means of arms F^2 which are pivoted to the frame A, and jointed, as at f^8, to arms F^1 of the platen, so that the face of this platen shall fit squarely against the mold drum D, notwithstanding that the platen swings on a pivot or pivots, substantially as described.

7. Providing the platen F with cloth rollers f^1, ratchet wheel f^2, and pawls f^3, substantially as described.

8. Effecting the compression and condensation of the clay in the mold cells, by means of reciprocating hooked press rods H acting upon the extremities of the follower bars D^2, in combination with a platen F, said bars H and platen F being operated by means of cams upon a crank shaft G, substantially as described.

9. The arrangement of the expelling hooks i, and the specified mechanism for operating these hooks, to wit, the cam k, yoke K, and bell crank I^1 I^2, substantially as described.

10. The combination and arrangement of devices specified, whereby the mold drum D, the platen F, the press bars H, and the expelling hooks are operated from a single shaft G, substantially as described.

11. The combination and arrangement of the cam Hx and f^5, the crank shaft G, lever G^3, press rods H, mold drum D, and platen F, substantially as and for the purpose described.

12. The adjustable cross head g^1 and adjusting pin j, applied to the yoke of each one of the pressing rods H, substantially as described.

13. A yielding receiving platform E, constructed and arranged beneath the mold drum D, and supported in such a manner as to receive the bricks as they are expelled from said drum, and descend and yield under the weight of the bricks, substantially as described.

76,342.—John M. Perkins, Plainfield, N. J.—*Aromatic Lining for Carpets, Chests, Drawers, Wardrobes, &c.*—April 7, 1868.—Thin veneer of aromatic wood is backed with paper or cloth. In lieu of the aromatic wood, other wood may be saturated with extracts or infusions of aromatic gums.

Claim.—An aromatic lining, when constructed substantially as described, for carpets, wardrobes, chests and the like, for the purpose of protecting said carpets, and the contents of said wardrobes, chests, and the like, from the ravages of moths and other destructive insects.

76,343.—John C. Pfeil, Argenzville, Ill.—*Rotary Cutter for Plows.*—April 7, 1868.—The collar-bearing, journal arms of the cutter disk are pivoted on the vertical adjustable cutter arm so as to turn freely thereon in manner of a caster.

Claim.—1. The peculiar arrangement and combination of the spindle B on cutter arm A, and collar M with hole B therein, for the purpose of forming a caster joint for cutter E, substantially in the manner and for the purpose herein specified.

2. The slots L L in the cutter arm A, whether said arm be for a rotary or any other kind of cutter, where said slots are used to allow of vertical adjustments of said cutter, substantially in the manner and for the purpose herein specified.

3. The pin C, when said pin serves both to secure the collar M on the spindle A, and to limit the rotary or caster motion of the cutter E, in the manner and for the purpose herein specified.

76,344.—Collins Potter, Pawlet, Vt., and Eleazer Jones, Middle Granville, N. Y.—*Coffin.*—April 7, 1868.—The sections of slate or other slabs of which the coffin is composed are united by metallic corner pieces and bolts. The latter are inserted from the outside and have sockets that receive screws which traverse the plates from the inside.

Claim.—As a new and improved article of manufacture, a coffin, constructed substantially as herein described.

76,345.—Stephen Purdy, Whitestown, N. Y., assignor to himself and Ellis Ellis, same place.—*Cheese Hoop.*—April 7, 1868.—The hoop opens at the side and each side of the opening is a wedge-shaped flange. The clamp takes over the flanges and holds the hoop until the cheese is ready for removal.

Claim.—1. Constructing cheese hoops with a side opening, or openings, with a flange on each side, and a clamp or clamps to hold them together, in the manner substantially as described, and for the uses and purposes mentioned.

2. The said hoop, with openings, flanges, and clamps, in combination with the plate A′, constructed and operating as described, and for the uses and purposes mentioned.

3. The said hoop, with the openings, flanges, and clamps, in combination with the spring or catch D, and the cross openings B^4 and B^5, constructed and operating substantially as described, and for the uses and purposes mentioned.

76,346.—George P. Read, Boston, Mass.—*Chronometer Escapement.*—April 7, 1868.—The lifting spring to the detent lever is made of a piece of common hair spring. A narrow slot is made in the upper face of the free end of the detent lever. The slot has sufficient depth to nearly receive the width of the spring. A screw is placed immediately contiguous to the slot; so that the head of the screw shall bear upon the upper edge of the spring, and hold it in place while giving means for longitudinal adjustment.

Claim.—The mode, substantially as herein shown and described, of applying the feather or the hair spring of a chronometer or watch escapement, that is, by means of the saw kerf e and screw f, substantially in manner and for the purpose as before explained.

76,347.—William C. Reeves, Boston, and Louis L. Solomon, Charlestown, Mass.—*Button Hole for Paper Articles of Wearing Apparel.*—April 7, 1868.—A hole of sufficient size is punched out, and slits run therefrom to form flaps which will spring into place beneath the button.

Claim.—The button hole, as composed of a close straight slit a a, and a hole B, arranged together, substantially as represented in Fig. 1 of the above-mentioned drawings.

76,348.—Elisha Robbins, Worcester, Mass.—*Railway.*—April 7, 1868.—The continuous supports are retained by chains which run from rail to rail and have inturned lips or flanges embracing the supports.

Claim.—1. In combination with an iron rail, a metallic chair or supporter C, to receive it, and extend longitudinally and continuously under such rail, and from end to end of it, and upon a series of ties, or their equivalent, and lap on either or both flanges of the base of the rail, as specified.

2. Such a chair, as made or divided lengthwise in two parts, with a lip or flange to each, to grasp and extend over the base of a rail, as specified.

3. In combination with two parallel rails A A of a railway, the cross or duplex chair D, made with lips to grasp the bases of the opposite rails, or two longitudinal chairs or supporters C C, applied thereto in manner as specified.

4. The combination of the metallic brace E with the parallel rails A A, and the transverse or duplex chair D, applied to such rails, or to their longitudinal metallic supports or chairs C C, as explained.

76,349.—Elisha Robbins, Worcester, Mass.—*Scroll Saw Mill.*—April 7, 1868.—An arm extending across the line of the axis of the motive shaft is secured to the outer end of the wrist pin of the crank pitman. At the outer end of the arm is a wrist pin which carries a pitman rod connected to a sliding

weight which counterpoises the sash in all positions.

Claim.—The combination of the sliding counterbalance weight, its connecting rod and operative crank, with a saw and frame, and the connecting rod and crank thereof, the whole being constructed and arranged to operate substantially as specified.

76,350.—Timothy Rose, Cortlandville, N. Y.—*Churn.*—April 7, 1868.—The churn stands on volute curved rockers, and a seat beside the churn receives the operator. The rear ends of the rockers have spherical rubber springs which serve to render the motion irregular, and to assist the return movement. Air enters through a tube near the lid, and the tube has an inwardly opening flap valve.

Claim.—1. The solid divider, when of less height than the depth of the cream chamber, in combination with a rocking churn, for the purpose herein described.

2. The double wedge-shaped divider G, having an automatic rising and falling motion, derived from the combined action of the churn and cream, for the purpose of opening a passage beneath it from end to end of the chamber, as herein described.

3. The fixed beaters, made concave on their under sides, forming a series of air chambers, as herein described.

4. The rockers, having their front ends made of curves, whose radii are less than the curves of their rear ends, and providing the latter with springs, for the purpose herein described.

5. The arrangement of the seat D, platform E, and vertical hand lever F, in combination with a rocking churn, as herein described.

6. The air tube J, having a hood, K, at its outer end, and a valve, *i*, within its inner end, when applied to a rocking churn, as herein described.

76,351.—Edward Royon, Piqua, Ohio.—*Screw Cutting Machine.*—April 7, 1868.—The die blocks are made in disk form, are capable of rotation together, and of movement to and from each other, by turning one part of the chuck upon the other; the eccentric inclines on the annulus of the chuck acting on the jaws holding the die blocks. The peripheries of the die blocks have a series of dies of various sizes.

Claim.—1. As herein arranged and for the purpose explained, the hollow die-chuck E, having the permanent head F, clip G, with opposite eccentric arcs *g g'*, sliding jaws H, notched revolving ring I, eccentric *i' i''*, and plate J.

2. The combination of the hollow shaft B, die-chuck E, jaws H, adjustable dies K, and bolts L.

3. The notched and adjustable plate M, and tightening screw N, in combination with the tumbler P, ring I, and spring Q.

4. In combination with the screw-threading machine herein described, the right and left screws *t t'*, jaws *t'' t'''*, socket W, and nut X, all arranged as set forth.

76,352.—Peter Schwitzer, Robeson Township, Pa.—*Horse Hay Fork.*—April 7, 1868.—The stock is slotted to receive the lever to which the claw is jointed. This lever is operated by a compound lever to which the tripping cord is attached.

Claim.—The arrangement of the slotted frame D, double jointed levers E E, and connecting rod F, as herein described, and for the purposes set forth.

76,353.—Samuel B. Sherer, Aurora, Ill.—*Ankle Brace.*—April 7, 1868.—The supporter is laced in front, and has straps at the back part and beneath the instep.

Claim.—The supporter A, in combination with the straps B and D, and lacing C, or their equivalent, for the purpose and substantially as herein specified.

76,354.—Martha B. Solomon, Charlestown, assignor to Louis L. Solomon, Charlestown, and William C. Reeves, Boston, Mass.—*Children's Corset.*—April 7, 1868.—The corset is extended below the waist, and has buttons for support of underclothing. The whalebone pockets diminish in size within 2 inches of the top, and the diminished part is filled with wicking, which forms a continuation of the whalebone.

Claim.—As a new article of manufacture, a child's corset and underclothes supporter, with two series of bone and wicking receptacles or pockets, combined with the body, as set forth, such body being provided, as described, with rows of buttons for supporting skirts and drawers, arranged and operating in the manner as shown and described.

76,355.—Levi B. Southworth, Deep River, Conn.—*Carpet Stretcher.*—April 7, 1868.—The serrated bar at one end of the jointed staff engages the carpet, and the point at the other end extends through to the floor. A ratchet bar is pivoted to one leg, and passing through a staple upon the other engages one side thereof to keep the legs spread.

Claim.—The joint B, one or more points C, and brace E, in combination with the head D, as and for the purpose specified.

76,356.—Joseph A. Stansbury, Marion, Iowa.—*Hames Lock.*—April 7, 1868.—One of the hook plates has a series of rectangular apertures for reception of a lug upon the other hook plate. The lug is longitudinally slotted for reception of the slotted lever which is passed endways through the aperture, and then, after being turned down on the plate, is slipped endways to prevent return.

Claim.—1. The slotted lever C, when used as and for the purpose specified and set forth.

2. In combination with the manner of binding the lever C in its proper position, by the tendency of the two curved plates A and E to straighten when under lengthwise strain, as within substantially described.

76,357.—Smith Thompson, Montgomery County, Md., assignor to S. S. Fahnestock, Washington, D. C.—*Attaching Shafts to Vehicles.*—April 7, 1868.—The coupling pins are attached to toggle levers, by whose extension they are forced through the clip ears and thill irons.

Claim.—The jointed bar C, constructed and operated in the manner substantially as shown and described, and for the purpose set forth.

76,358.—Cromwell Fleetwood Varley, New York, N. Y.—*Electric Telegraph.*—April 7, 1868.—The insulator has an outer coat of porcelain and an inner coat of gutta-percha. Its outer side beneath the holding groove is glazed, to prevent adherence of water; but above the groove is unglazed, so as to enable its test, by dilute sulphuric acid, without trusting to the glazing, which is liable to become fractured by the elements. Claw lugs above and below the groove serve to secure the wire therein.

Claim.—1. Making insulators for telegraph wires of two or more insulating caps, exclusive of the cement which unites them, each cap being a complete insulator in itself, so that if one of the caps be defective the other or others shall arrest the electric current, as set forth.

2. The use of a non-conducting pin inside an insulating cap, such pin being constructed of iron or steel covered with hard rubber, or being formed of stoneware or porcelain, substantially as described.

3. Glazing the lower part of porcelain or stoneware or earthenware caps, and leaving the upper part unglazed, substantially as and for the purposes set forth.

4. Making the lower edge of the insulator cap externally sharp, but internally rounded, so that drops of rain, when blown outward, shall fall off, and when blown inward shall not break off, but run, by capillary attraction, up the rounded surface out of the wind, substantially as set forth.

5. Making porcelain or stoneware or earthenware caps with two or more projecting ears, in combination with and arranged above and below the groove for the wire, so that when the insulator is inclined to the wire the latter can be inserted, but when at right angles to it the latter cannot be gotten out, as set forth.

76,359.—John Vaughn, Miami County, and Eli Chamness, Grant County, Ind.—*Ditching Machine.*—April 7, 1868.—The frame rests upon the excavating wheel and upon two striding feet. As the machine is drawn forward the earth is raised by the curved spades at the periphery of the excavator wheel, and is dropped on the inclined "dash boards."

Any dirt remaining is scraped off by the cleaner wheel.

Claim.—The combination and arrangement of the wheel B, jack or cleaner C, framing A, dash board *g*, feet *d*, and handles *e*, substantially in the manner and for the purposes as herein set forth.

76,360.—WILLIAM C. VOSBURGH, Brooklyn, N. Y.—*Drop-light for Chandeliers.*—April 7, 1868.—The drop-light receives gas through a flexible tube, which is contained in a case attached to the fixed part, and which also contains a falling block carrying a sheave, beneath which the flexible tube is passed.

Claim.—1. The case B, having the longitudinal slot and notches I I, to catch and retain the pin N, so that the drop-light may be retained at any desired height.

2. The case B, made as described, in combination with the flexible tube C, pulley P, and weighted disk D, substantially as and for the purposes herein set forth and described.

76,361.—THOMAS WALKER and THOMAS FERDINAND WALKER, Birmingham, England.—*Apparatus for Taking Soundings.*—April 7, 1868; patented in England December 20, 1866.—The spiral wheel is caused to rotate by the downward passage of the lead, and its rotation is indicated on a register.

Claim.—1. The combination and arrangement of the disk plate *e*, provided with numbers to correspond with the movements of one of the indicating wheels, and connected by spring pressure, so as to move with such wheel, when geared to give motion to another indicating wheel, so that any movement given to said plate may simultaneously effect the corresponding movement of such other indicating wheel, substantially as set forth.

2. The application of the spring click *l* and stop *k* to the disk plate *e*, to indicate the point of starting, substantially as shown and described.

3. The application of the notches *j j*, or equivalent, in combination with the stop *k*, to the disk plate *e*, in order that the distance of its partial rotation may be ascertained by feeling the same after use, substantially as set forth.

4. The application of a rope *s*, or equivalent connection, between the sounding machine and the weight used to aid the descent of such machine, for preventing the action of the indicating devices from being impeded by the "wake" of such weight, as set forth.

76,362.—L. A. WARNER, Freeport, Ill.—*Corn Popper and Coffee Roaster.*—April 7, 1868.—The gauze cylinder has a lengthened crank shaft by which it is turned, and a sleeve handle and screen plate for accommodation of the supporting hand. The fixed ends of the cylinder have holes for viewing, and for ingress and egress of the corn or coffee, and the cylinder has a surrounding case for use when roasting the latter.

Claim.—1. The outer movable cylinder or jacket, (constructed so as to be removed at pleasure,) when used to inclose a wire-cloth cylinder, with a space between, in the manner substantially as described and for the purposes set forth.

2. The cylinders A and X, combined so as to be convertible into an open popper or a tight roaster, in the manner described, and combined with the holes *d* and *i* and plate *g*, the holes *e*, caps *f*, axle B, and handle C, in the manner substantially as described, and for the purposes set forth.

76,363.—WILLIAM J. WATSON, Benton Center, N. Y.—*Wood-Turning Lathe.*—April 7, 1868.—The shank of the center bar is square, and it is held between the two pairs of jaws which are clamped upon it by a system of toggle levers, which also serve to secure the stock upon the shears.

Claim.—A tail block having a pair of movable centre-holding jaws *e*, when the securing devices for the tail block and the operating devices for the said jaws act in conjunction, substantially as and for the purpose set forth.

76,364.—DAVID P. WEBSTER, New York, N. Y.—*Furnace for Smelting Lead Ore.*—April 7, 1868.—The tray of boiler iron supports an outer wall of brick, inside which is tamped a mixture of fire-clay, 1, and wet sand, 2 parts. The furnace bottom is formed of this, and vertical brick walls are built up, between which the sides of the furnace are built of the same material. A brick arch is then built, and an arch of the same material formed thereon. The surfaces are covered with a few inches of dry sand. The whole is then raised to and maintained at a light heat for 4 days, and then at a red heat for 2 days. The bricks are then removed from the inside and the furnace raised to a white heat. Any cracks are filled with dry silica.

Claim.—1. The method herein described of forming the interior or lining of furnaces, that is to say, by building the bed, walls, and arch of the plastic material herein described, or the substantial equivalent thereof, in the manner shown and specified, and subjecting the same, when formed into shape, to heat, as herein set forth.

2. The use and employment of the ingredients herein described, for repairing cracks or other injuries, or parts worn by the action of fluxes, substantially as herein set forth.

3. The combination, with the furnace, of an iron casing or pan under the arrangement herein shown and described, so as to support the plastic structure of the furnace, and also allow free passage of air under and around the same, as and for the purposes set forth.

76,365.—GEORGE WESTINGHOUSE, Jr., Schenectady, N. Y.—*Railway Frog.*—April 7, 1868.—The end of the frog is dovetailed to receive the necks of the rails, and a chair is placed under the dovetailed end. The chair has one or two recesses to support the rails, and suitable holes to receive the bolts.

Claim.—The arrangement of a chair *e*, under one or both ends of the frog A, substantially as and for the purpose described.

76,366.—WILLIAM WESTLAKE, Brooklyn, N. Y.—*Lantern.*—April 7, 1868.—The guard and base are made of a single wire frame, which has a spirally ribbed case attached to its waist, into which screws a circumferential, spiral rib upon the lamp.

Claim.—1. Constructing the base or support of a lantern entirely of wire, or open, so as not to materially obstruct the passage of the light downward, substantially as specified.

2. Connecting the open or wire base F L and the guard to the band C, substantially as specified.

3. The ledge H H′, bead or wire G, in combination with the band C and lamp I, substantially as and for the purposes specified.

4. The eyes or loops J, for securing the guard and base to the band C, substantially as specified.

5. Making the vertical guard wires E and the base wires F of the same piece of wire, substantially as specified.

76,367.—WILLIAM WESTLAKE, Brooklyn, N. Y.—*Manufacture of Spouts for Tea-Pots.*—April 7, 1868.—The sheet-metal blank is cut in form to bend into a spout.

Claim.—The method herein described of forming curved or bent spouts of a single piece of sheet metal, substantially as specified.

76,368.—EDWIN R. WHITNEY, Plattsburg, N.Y., assignor to himself and JOSEPH FRAZER, same place.—*Car Coupling.*—April 7, 1868.—The entering link strikes against an arm of the crucial tumbler and is engaged by the next arm. The tumbler is prevented from rolling backward by the spring pawl, but the pawl may be depressed to allow uncoupling by a compound lever which is retained, when raised, by a pawl.

Claim.—1. The construction of the revolving four-armed cross C, pivoted dog D, bent spring E, lever F, and bar *b*, all arranged and operating as described, for the purpose specified.

2. The above, in combination with the pawl *e*, fitting into a recess in a lug *d*, projecting from the lever F, as set forth.

76,369.—WILLIAM S. WOOD, Hatborough, Pa.—*Harness.*—April 7, 1868.—The collar is hinged at top and open at bottom where it is held by a spring

eatch. The hames are attached to the collar. The spring catch has an arm to which a cord is attached which passes to the rider and by which the eatch may be released, thereby releasing the harness.

Claim.—A harness composed of open collar, with permanent hames H H′, rope or strap *a b*, spring hook *k*, all combined and constructed and operating in the manner and for the purpose above set forth and described.

76,370.—Robert Woolworth, New Haven, Conn.—*Clock.*—April 7, 1868.—The count wheel has spokes upon it which mesh with a lantern wheel upon the strike-wheel shaft. The spokes of the count wheel take up one-third the length of the pitch, and the interdental spaces two-thirds. The proportion of teeth upon the lantern wheel and count wheel are such that the count wheel will take a certain number of rotations in 12 hours, the spaces being notched out to receive the point of the count hook.

Claim.—1. The count-wheel D, divided substantially in the manner described, so that in the revolution of the said wheel, the count hook will fall into the proper slot to arrest the movement of the wheel at the proper time, and so that the given number of revolutions more than one of the said wheel will complete the strokes required for each twelve hours, the said wheel at the completion of such number of revolutions arriving at the point of starting, as herein set forth.

2. The combination of the count wheel D and pinion I, each bearing to the other the relative proportion, and so as to operate substantially as specified.

3. The arrangement of the strike wheel F with the count hook, and combined with the count wheel D, so as to operate substantially as set forth.

76,371.—Benjamin P. Wright, San Francisco, Cal.—*Potato Digger.*—April 7, 1868.—The potatoes are carried from the scoop, and over the elevator to the separating screw. The elevator is flanked by endless aprons.

Claim.—A potato digger, having the spade D E, the inclined carrying or elevating belt G, and the belts J J, together with the cleaning sieve K, the whole constructed and operating substantially as and for the purposes herein described.

76,372.—David L. Allen, Williamsport, Pa.—*Expanding Mandrel.*—April 7, 1868.—The shell of the mandrel is made in sections which are expanded by forcing the cones into the central aperture. The cones are actuated by axial screws.

Claim.—The combination and arrangement of the chuck, annular plates C, set-screws and springs D, connecting screw R, with the arbors A and B, and cones A A and B B, substantially in the manner and for the purposes as herein set forth.

76,373.—J. Lathrop Allen, New York, N. Y., assignor to himself and Marshall Lefferts, same place.—*Paper Cutting Machine.*—April 7, 1868.—The shear has reciprocating longitudinal motion, moving forward with the paper when closed upon it, and returning when opened.

Claim.—Providing the reciprocating shear, having fixed inclines for closing the shear, with adjustable links and cranks for reciprocating said shear, substantially as set forth.

76,374.—Charles H. Alsop, Middletown, Conn., assignor to Joseph W. Alsop, New York, N. Y.—*Breech-Loading Fire-Arm.*—April 7, 1868.—The breech block slides backward from the breech, being freed from the latter by retraction of the spring catch. This catch is withdrawn by a lever operated by a thumb knob. The breech-block is thrown back by a spiral spring when the catch is released.

Claim.—1. The spiral spring *e*, in combination with the groove *a* in the plate B, the rib *b*, upon the under side of the barrels, the perforated lip D, and the vertical pin E, having a beveled end, all arranged as described, whereby as the pin E is raised by the spring lever F, the spring *c* throws the barrels forward, for the insertion of the cartridge, as herein shown and described.

2. The catch or fastening, composed of the vertical pin or bolt E, fitted in the breech, and pivoted to the spring lever F, in combination with the perforated lip D, at the under side of the rear of the barrel or barrels, and the recess *e* in the breech, to receive the lip, all arranged substantially as and for the purpose specified.

76,375.—Edward Atkinson, Wrightstown, Pa.—*Roof.*—April 7, 1868.—Upon the lathing is laid a coat of cement, and upon that a coat of felt, which is covered by another coat of cement.

Claim.—A roof, consisting of slats covered with layers of cement, between which is interposed a sheet of felt, substantially as described.

76,376.—Samuel Avery and Lewis Delill, Phœnix, N. Y.—*Coffin.*—April 7, 1868.—The rails of the sides are sawn to shape, and panels introduced between them. The coffin is tongued together and may be taken apart and packed in small compass for transportation.

Claim.—As a new article of manufacture, a wooden coffin, having its parallel sides formed without bending the timber, substantially as and for the purpose set forth.

76,377.—Charles A. Babcock, Frankfort, N. Y., assignor to himself and D. M. Golden, Frankfort, and B. G. Eaton, Mexico, N. Y.—*Whiffletree Hook.*—April 7, 1868.—The ring of the hook turns on the end of the ferrule, being secured thereto by a staple, and its point takes over the circumferential rib of the same. A lug upon the cylinder stands outside the ring and prevents the flying out of the hook to release the trace, when in working position. By turning the hook 90° the point is brought to a slot in the rib, and the lug to a slot in the hook, which movement allows the latter to be swung outward.

Claim.—1. The cylinder A, provided with projections *a* and *b* and groove or slot *c*, substantially as and for the purpose set forth.

2. In combination with the above, the hook B, substantially as and for the purpose specified.

76,378.—Jacob B. Bailey, New York, N. Y., assignor to the Bailey Manufacturing Company, same place.—*Construction of Ice-Pitchers.*—April 7, 1868.—The two bottoms of the pitcher have central, cylindrical depressions by which they have firm bearing on the table, and give bearing to a block whose foot fills the depression and whose spreading top receives the blow of a block of ice when thrown into the pitcher.

Claim.—1. The foot or socket *e* of the inner bottom plate *c*, extending downwards into the projection *g* of the bottom *d*, substantially as set forth.

2. The protecting plate *f*, in combination with the double bottom of the ice-pitcher or water-cooler, said protecting plate being introduced within the pitcher, and secured substantially as set forth.

76,379.—Henry O. Baker, New York, N. Y.—*Mucilage Bottle.*—April 7, 1868.—A scraping wire is placed across the mouth.

Claim.—The wire, or its equivalent, in combination with the groove at the base or in the neck of the bottle, substantially as and for the purposes as herein set forth.

76,380.—James Baldwin, Manchester, N. H.—*Nut for Joint-Bolt.*—April 7, 1868.—The inner side of a nut is made concave in a transverse direction, so as to draw in the fibers of the wood to prevent unscrewing and splitting. The device is intended specially for use in mortises where the nut must be kept from rotation while the bolt is screwed in.

Claim.—A joint-bolt nut, having a concave face, essentially in manner and for the purpose as herein shown and described.

76,381.—William Ball, Chickopee, Mass.—*Steam Generator.*—April 7, 1868.—The crown of the fire-box consists of a series of horizontal water pipes which communicate with the water spaces and support a floor of fire brick.

Claim.—1. In a stationary horizontal flue boiler, a fire box, made open from bottom to top, and without a crown sheet.

2. The water tubes *c c*, extending across the upper

part of the fire box, and entering the water spaces at the sides or ends of the fire box, as described, in combination with a covering of fire brick, or other like material, the whole arranged and operating substantially as described, and constituting a substitute for the crown sheet used over the fire box of stationary steam boilers.

76,382.—ELIZUR H. BARNES, Marathon, N. Y.—*Apparatus for Treating Fractures and Dislocations.*—April 7, 1868.—The curved forms are made to rest upon various parts of the body as bearings for the adjustable splint bar. The bar is formed of sections which slide together, and are adjusted at one place by a spur wheel that engages a rack upon a section of the bar, and is turned by a winch.

Claim.—1. The curved forms or rests K and C, when used, respectively, upon the leg or arm, in combination with the parts I, F, and G.

2. The rod D, when bent as represented at its upper end, in combination with the said parts I, F, and G, for the purposes set forth.

3. The rod B and rest A, in combination with the parts D, I, F, and L, for the uses and purposes set forth.

76,383.—E. H. BARNEY, Springfield, Mass.—*Skate.*—April 7, 1868.—The lower edge of the fastening on each side is sharp, so as to act as a runner when the skate is sufficiently inclined.

Claim.—A skate fastening, having the sharp or safety-edge *d* formed upon the outer and lower portion of the clamp, when constructed and operating substantially as herein described, and for the purposes specified.

76,384.—DAVID B. BARTHOLOMEW, Lancaster, Pa.—*Saw Mill.*—April 7, 1868.—The feed rollers are so arranged in the frame that the stuff may be split of even or uneven thickness, or beveled. The split material is so guided as to remain vertical, and is restrained from binding the saw.

Claim.—1. The combination of the movable frame I′ H′, carrying the feed rollers I I and H H, with the slotted post *h h*, rack V, pinion W, weighted pulley Q, hand-screw U, and latch *x x*, when constructed, arranged, and operated in the manner and for the purposes described.

2. The hinged slotted bar E, upon which are saw-guard D, pins *p p*, and wedge roller P, all constructed and operating substantially as described.

3. The deflecting device, when constructed with the rollers *n n* and *o o*, and operating substantially as set forth.

76,385.—JOSEPH W. BARTLETT, New York, N. Y.—*Sewing Machine.*—April 7, 1868.—The driving wheel has an inside gear which engages a pinion upon the main driving shaft. This shaft has an eccentric whose rod turns the shaft, operating the looper and feed mechanism.

Claim.—1. In combination with the rods C and F, the internally toothed gear wheel B, pinion R, eccentric D, rod E, and hook G, constructed, arranged, and operating substantially as and for the purposes set forth.

2. In combination with the rods C and F, the eccentric D, rod E, cam H, hook G, spring L, feed-dog J, and screw K, constructed and operating substantially as and for the purposes set forth.

76,386.—CHARLES BELCHER, Newark, N. J.—*Paint Mill.*—April 7, 1868.—The larger grinder has a flanged edge to hold the paint, and has rotation by a belt from the countershaft. The upper grinder is eccentric with the lower grinder, and its lower plane surface rests on the upper side of the latter, and has, also, rotation from the countershaft.

Claim.—The two revolving grinders, A and B, the one about half the size of the other, when combined with the scraper C, arranged and operated relatively to each other, as above described, and for the purpose set forth.

76,387.—THOMAS BELL, Bellport, N. Y.—*Fishing Attachment for Vessels.*—April 7, 1868.—A flaring net frame is hinged to the square bow of the boat, and may be let into the water, or drawn upward to discharge the contents upon the deck.

Claim.—A device for catching fish, constructed and applied to a vessel substantially in the manner as herein set forth.

76,388.—KARL BENDER and CHARLES FREDERIC TELLER, Banhofe Offenbach, A. M., Grand Duchy of Hessen, assignors to MARTIN LOCHNER, Newark, N. J.—*Thermostats.*—April 7, 1868.—The coiled plate is connected to the register, so that, as the metal is expanded by heat, the register is partially closed. The expanding plate acts through an angular bar, which is adjusted by the screw-threaded axis of the pointer.

Claim.—1. The coiled plate F, in combination with a register, B, and the arm or lever D, or its equivalent, all arranged substantially in the manner as and for the purpose set forth.

2. The screw rod I and bent arm L, for adjusting the arm or lever D, to regulate the temperature of the room, substantially as shown and described.

3. The index crank J on screw rod I, in connection with the graduated dial-plate K, bent arm L, and the arm or lever D, all arranged substantially as and for the purpose set forth.

76,389.—THEODORE BERTELING, New York, N. Y.—*Flute.*—April 7, 1868.—The play of the keys is adjusted by temper screws.

Claim.—The adjustable set-screws C, in connection with the keys B of a flute, operating in the manner and for the purpose substantially as described.

76,390.—EEWARD BEVAN, Birkenhead, for himself and MARGARET FLEMING, Shipston-on-Stour, England, administratrix of the estate of Abel Fleming, deceased, assignors to EDWARD BEVAN.—*Device for Keeping Food Warm.*—April 7, 1868.—The outer vessel has an air jacket as a non-conductor of heat, and has a space for hot water, which surrounds a cylindrical recess covered by a chambered lid, and into which the food vessel is placed.

Claim.—The within described means or apparatus for warming, and keeping warm, articles of food, consisting substantially of the removable vessel *b*, heating agent, space, and vessel *a d e*, air space and vessel *i g*, or its equivalent, and a non-conducting cover, combined in the manner set forth.

76,391.—JOHN B. BLANCHARD, Marlboro, Mass.—*Edge Finishing Tool.*—April 7, 1868.—The spring gauge presses against the bottom of the sole with sufficient force to finish the edge thereof, and also holds the cutter to proper position for trimming the upper edge of the sole.

Claim.—Combining with the flanged body of an edge-finishing tool a spring-worked gauge, substantially as and for the purpose described.

76,392.—THÉRENCE BOUTTÉ, New Iberia, La.—*Apparatus for Evaporating Cane Juice.*—April 7, 1868.—The kettles are set in a cylindrical metallic furnace, which may be made from a worn-out steam boiler. The return calorie current passes through flues enveloping the upper part of the kettles.

Claim.—The furnace A and flue E, when these parts are severally constructed, united, and operate as herein described, in combination with the kettles D, when the whole constitutes a portable cane juice evaporating apparatus, as and for the purpose set forth.

76,393.—ELIJAH Y. BOYCE, Middlebury, Vt.—*Washing Machine.*—April 7, 1868.—The suds box is pendulous, and is swung by a hand staff. The dasher is vertical and fixed.

Claim.—An improved washing machine, consisting of the frame B, stationary dasher C D, box A, bar *a*, rod *b*, eye F, and lever or rod G, all constructed, arranged, and operating as described and specified.

76,394.—W. E. BROCK, New York, N. Y.—*Dummy for Displaying Clothing.*—April 7, 1868.—The papier-maché shell is attached to a wooden neck, supported upon the top of the shaft.

Claim.—The dummy composed of the paper or

papier-maché shell A, head piece *a*, supporting shaft B, base C, and braces *b*, the whole arranged substantially as and for the purpose specified, as a new article of manufacture.

76,395.—Ira S. Brown and Charles N. Brown, Providence, R. I., assignors to themselves and J. Mason Gross, same place.—*Saw.*—April 7, 1868; antedated January 3, 1868.—The tooth is inserted into a recess in the saw plate, and its shank is swaged to one side to form a planer.

Claim.—The combination of a cutting and a planing tooth in one and the same piece of metal, constructed and operating substantially as above specified.

76,396.—John Burke, Brooklyn, N. Y.—*Musical Return Ball.*—April 7, 1868.—The passage of the return ball through the air causes the reed thereon to sound.

Claim.—As a new article of manufacture, a return ball, A B, having a perforation, *a'*, in which a musical reed, C, is placed, as described.

76,397.—H. G. Burr, Minneapolis, Minn.—*Hot Air Furnace.*—April 7, 1868.—The caloric current passes into the combustion chamber above the fire space, which extends horizontally. From this chamber the said current passes through annular diving flues, surrounding air-heating pipes, leading upward from the air chamber in the base, to an air chamber at the top. This latter chamber is traversed by a perforated water pipe. From the lower flue chamber the caloric current passes up annular flues surrounding air pipes, and discharges into two chambers communicating with the exit flue.

Claim.—1. The arrangement and combination of the chambers G, H, J, and K, in a hot air furnace, substantially as shown and described.

2. The annular flues *a* and *a'*, in combination with the chambers H and K, as and for the purposes set forth.

76,398.—William S. Carr, New York, N. Y.—*Water Closet.*—April 7, 1868.—The overflow cup is fixed, and its bottom has a valve which is opened to discharge the contents by raising the handle. The valve seat consists of an annulus of India-rubber, which is sprung upon the out-turned flange at the bottom of the overflow cup.

Claim.—1. The stationary overflow vessel *e*, introduced within the upper end of the hopper *d*, and receiving the lower end of the basin *f*, in combination with the valve *k* on the spindle *l*, and the flexible packing *h* applied to the lower end of the overflow vessel *e*, in the manner and for the purposes set forth.

2. The valve *k*, attached to a plate, and connected by the arms 2 and 3 to the spindle *l*, in combination with the flexible ring, forming a packing and seat for said valve, substantially as set forth..

3. The spindle *l* for the valve, having a close bearing at one end, and formed with an arm, *m*, at the other end, and connected to and combined with the valve in the manner specified, so that the spindle can be inserted endwise, and connected with the valve, without disconnecting any of the parts of the hopper.

4. The reversible screw-bridge *t*, formed as specified, in combination with the cup or socket *q*, whereby the said cup or socket can be firmly secured to the varying thicknesses of wood-work of the seat, as set forth.

5. An elastic packing or seat for the valve *k*, composed of a cylinder of vulcanized rubber, stretched upon the bottom flange of the overflow vessel *e*, and forming a loose or free inner edge to receive the pressure of the superincumbent water in the overflow vessel, and forms, with the valve, a water-tight joint, as specified.

76,399.—Joseph M. Chaplin, Morrisville, Vt., assignor to himself, E. E. Allen, and F. M. Loveland.—*Potato Washer and Pan Combined.*—April 7, 1868.—The crank end of the journal is fast to the head. The arbor of the other end is forked to engage the side of the pan, and is passed into a socket in the middle bar of the cylinder bottom.

Claim.—The cylindrical potato washer A with its bars C C and movable hooked journal H in the one end, and lid B and crank E at the other end, when constructed and combined with the tin pan G, as herein described and for the purpose set forth.

76,400.—Joseph Collins and John Knox, Conshohocken, Pa.—*Stove.*—April 7, 1868.—The air passes through holes in the sides and back of the fire place and finds exit into a chamber beneath the raised oven and behind the fire place. From this chamber the heated air may pass through pipes to another apartment.

Claim.—The stove constructed as described, and consisting of the air chamber C, fire back D, having spaces *b*, tubular sides F, grate composed of single bars E, bar I, oven B, and flues *f* G *h*, all arranged as described.

76,401.—Samuel F. Conant, Skowhegan, Me.—*Hair Crimper.*—April 7, 1868.—The plates are pivoted together at one end, and the upper and lower plates are arranged to catch together at the other end. The band of hair is passed backward and forward between these plates and allowed to remain until crimped.

Claim.—The series of spring plates A A pivoted together, substantially as described.

76,402.—Williston Conner, Rensselaerville, N. Y.—*Sap Spile.*—April 7, 1868.—The flange fits the mouth of the hole and the horns engage the top and bottom of the hole. The bucket bail rests upon the notched bar at the top of the spile.

Claim.—1. An improved sap spile, cast hollow, and with a circular flange B cast upon its inner end, said flange having its edge beveled, and having two prongs C cast upon its inner side, substantially as herein shown and described, and for the purposes set forth.

2. The combination of the inclined and notched arm or flange D with the body or stem A of the spile, substantially as herein shown and described, and for the purpose set forth.

76,403.—Hugh H. Craigie, New York, N. Y.—*Water Closet.*—April 7, 1868; antedated April 1, 1868.—The pan is made in a segment of a hollow sphere, and is hung by both sides so as to move in the line of its curvature.

Claim.—1. A pan formed as a section of a globe or nearly so, and mounted substantially as specified, so as to move nearly in the line of its own curvature in combination with a water closet basin.

2. A hollow arm extending out on one side of the hopper in combination with the pan fitted to be moved, as specified, by mechanism introduced within said arm, substantially as set forth.

3. The combination of a pan, made and moving as specified, with a water closet basin and metallic hopper extending up around said basin, as and for the purposes set forth.

4. The annular water way *s*, in combination with the deflector *u*, with an opening through it, in the manner and for the purposes set forth.

76,404.—Elisha Crane, Elkhart, Ill.—*Scarifying the Soil Preparatory to Plowing.*—April 7, 1868.—The wheel has a frame whose standards form guides for a vertically adjustable frame which carries a number of transverse shafts, each of which has a series of cutting disks.

Claim.—1. The truck frame B B where the same is provided with a series of parallel rods or axles B' B', when the same are provided with a series of cutting blades or disks *b b*, and the whole is constructed and arranged so as to operate substantially as described and for the purposes specified.

2. The truck B when the same is in combination with the uprights *a a* and wheel *a' a'*, and the whole is so constructed as to operate substantially as described and for the purposes specified.

3. The truck B, rods or axles B', cutting blades or disks *b* when the same is in combination with the windlass rollers *c c*, and its operating mechanism, and the whole is so constructed and arranged as to operate substantially as described and for the purpose specified.

4. Arranging above the truck B when the same

is provided with parallel rods or axles B′ B′, and cutting blades or disks *b b* of the platform F and driver's seat *g* when the whole is so constructed and arranged as to operate substantially as described and for the purposes specified.

76,405.—William Chrighton and Henry Roesler, Fort Wayne, Ind.—*Brick Machine.*—April 7, 1868.—The molds reciprocate beneath the pug mill. The plunger roller runs over the elevation of the track to press the brick; as the mold emerges it strikes the adjustable "slide" and operates the rock shaft, whose lifting arm raises the plunger and ejects the brick from the mold.

Claim.—1. The rocking shafts F F in combination with bar G, as and for the purpose described.

2. The lifters O O, operating as and for the purpose set forth.

3. The combination of rocking shafts F F with lifters O O, bar G, and spring *q*, substantially as set forth.

4. The plungers P P provided with rollers *x x*, rail W, slides *p p*, rocking shafts F F, and lifters O O, all combined and arranged as and for the purpose set forth.

76,406.—George Crompton, Worcester, Mass.—*Harness Operating Mechanism for Looms.*—April 7, 1868.—The vertical jacks are pivoted to the side of the loom, and are operated by the tappet wheels, the said wheels having cam grooves traversed by anti-friction rollers upon side arms of the jacks.

Claim.—The combination and arrangement in a loom for weaving fancy or other goods of a series of cams when made as shown in Fig. 5 of the drawings, with a series of jacks, G, having a series of notches, 6, substantially as and for the purposes set forth.

76,407.—David Cumming, Jr., New York, N.Y., assignor to himself and J. C. Cameron.—*Baling Press.*—April 7, 1868.—The follower has two ratchet bars which receive motion from pawls on a longitudinally sliding block, eccentrically pivoted to a spur wheel receiving rotation by a spur wheel on the motive shaft. Catch pawls hold the movement gained.

Claim.—The combination of the eccentric wheel F in its movable bearings G G with driving wheel I, stud N, follower C, racks E E, and pawls H H and L L, all arranged and operating substantially as set forth.

76,408.—Timothy A. Curtis, Brookfield, Mass.—*Sole Cutting Machine.*—April 7, 1868.—The knives are clamped to the head by T-headed bolts adjusted by racks and a spur wheel.

Claim.—1. Securing the knife to the head by means of the bolts, in connection with the racks and pinion, or other means of adjusting them, substantially the same when constructed in the manner and for the purposes and operating substantially the same as above set forth and described.

2. The adjustable gauges attached to the head C, substantially as described.

76,409.—Samuel Darling, Bangor, Me.—*Inkstand.*—April 7, 1868.—The flexible reservoir rests upon the follower whose pins traverse spiral slots in the case, so that by turning the follower the reservoir is pressed between the said follower and the top, and the ink caused to rise in the dip hole.

Claim.—1. An inkstand having an elastic ink reservoir C, a dipping cup K, and a presser F, constructed and operating substantially as described.

2. An inkstand having, in combination, an elastic or flexible ink reservoir, a pen dipping cup, and an intermediate ink chamber, arranged and operating substantially as described.

3. An inkstand having, in combination, an elastic ink reservoir, a follower, an intermediate ink chamber, and a pen dipping cup, substantially as described.

76,410.—Samuel Darling, Bangor, Me.—*Vises.*—April 7, 1868.—The holder is applied to the lever to prevent its slipping in the socket.

Claim.—A vise handle holder constructed and to be applied to the handle, substantially as and for the purpose described.

76,411.—Elijah W. Dennis, Peoria, Ill.—*Cultivator.*—April 7, 1868; antedated March 25, 1868.—The sides of the frame are connected by a series of arches which give support to the tongue and seat. The tongue is pivoted to the front arch and its rear end slides transversely upon the second arch. The rear end of the tongue has a spring detent which enters a notch in the guide bar. The spring is released from the notch and the rear end of the tongue moved transversely by the treadles, or by the hand levers to whose lower lever ends the plows are secured.

Claim.—1. The arrangement of the levers I I and cord *z* with spring *h* on the pole M, substantially as and for the purpose specified.

2. The arrangement of the levers, handles H H with the cord *x* and the pole M, substantially as and for the purpose specified.

3. The arrangement of the plates *s* and *t*, as constructed, with the shovel *y* and bolt *w*, for securing the shovel to the beam, substantially as and for the purpose set forth.

76,412.—G. W. Deweese, Lima, Ohio.—*Cultivator.*—April 7, 1868.—The ends of the handles have each a cross-bar having a series of adjusting bolt holes by which, in combination with a pivot bolt, the handles are vertically adjusted.

Claim.—The adjustable arms C and handles *a* combined with the draught beams of a cultivator, substantially as and for the purpose set forth.

76,413.—Rudolph D'Heureuse, San Francisco, Cal.—*Extracting Gold from its Ores.*—April 7, 1868.—The ore is reduced to impalpable powder and discharged into the bottom of a bath of melted zinc. The gold unites with the zinc, the refuse being skimmed from the top.

Claim.—The process herein described for extracting gold by passing gold-bearing substances, reduced to a fine powder, without previous alloy, through melted zinc, by introducing said substances below the surface of the melted zinc, as set forth.

76,414.—Josiah S. Dickinson, Essex, Conn.—*Comb.*—April 7, 1868.—The back of the comb rests in a groove of the holder, and is retained by a longitudinal pin which is half buried in both the side of the groove and the comb back.

Claim.—As a new article of manufacture, a comb holder A, constructed substantially as described.

76,415.—Lewis Dieterich, Sandwich, Ill.—*Brick Machine.*—April, 7, 1868.—The removable hopper is filled with the prepared clay, the cover is then slid back and the hopper placed over the molds. The bottom is then drawn out and the clay falls into the molds. The cover is then pushed on, and the follower raised to give the required pressure. The pressure may then be relaxed to allow removal of the cover, after which the bricks may be raised by the follower to the top of the machine from whence they are removed by a pair of tongs. Four, more or less, may be made at each operation.

Claim.—1. The followers, composed of the parts D, E, and F, in combination with the beams H, guides Z and S, and lever P, substantially as specified.

2. The arrangement of the bar D, beam H, pendants I, and rock shaft J, with the single slotted or grooved bars S, so that the operating parts can all be readily removed, substantially as herein described.

3. The combination and arrangement of the lever O, rock shaft J, provided with the eccentries *k*, the removable standards M, and pendants I, guide bars S, and followers D E F with frame A B, all constructed and operating substantially as specified.

76,416.—Count Arthur Dillon, Paris, France.—*Apparatus for Raising Sunken Vessels.*—April 7, 1868.—Each pontoon has a longitudinal cylinder which is open-ended, and contains pistons which are forced apart by introduction of air between them to increase the flotation of the pontoon. The pontoon has trap-bottomed ballast compartments.

Claim.—1. The ballast compartments B, with the hinged traps D, for discharging the ballast from a submerged pontoon, substantially as and for the purpose shown and described.

2. The apparatus, as shown and described, consisting of a cylinder, with pistons and generating chamber, for employing the buoyant force for raising the pontoon after it has been carried down in a latent state, all substantially as shown and described.

76,417.—George Edmund Donisthorpe, Leeds, England.—*Coal Mining Machine.*—April 7, 1868; patented in England October 28, 1863.—The wedges are point first, and are drawn forward by springs so as to engage tightly between the rail and carriage frame on any backward motion of the latter. The wedges are eased by forward movement of the carriage. The clearers follow the picks in their forward movement and serve to remove the detritus when they are simultaneously retracted.

Claim.—1. The application of wedges to secure or hold the carriage to the rails, substantially as herein described.

2. The application of clearers or clearing instruments to the picks or cutting tools, substantially as herein described.

76,418.—George Edmund Donisthorpe, Leeds, England.—*Coal Mining Machine.*—April 7, 1868; patented in England March 8, 1866.—The iron sleepers of the track are extended sideways, and secured by adjustable posts and wedges to the floor and ceiling of the shaft or mine.

Claim.—The holding in position the rails (upon which machines used in getting coal and other minerals run) by posts or pillars wedged or held between the floor and roof of the mine, substantially as herein described.

76,419.—George Edmund Donisthorpe, Leeds, England.—*Coal Mining Machine.*—April 7, 1868; patented in England March 8, 1866.—The cutting mechanism is supported on a frame which is guided by the ceiling through means of rollers which track along the ceiling and are pressed there against by air or metallic springs. The whole apparatus is mounted on a truck which runs upon a rail track laid on the floor of the mine.

Claim.—1. The so mounting the cutting apparatus of machinery employed in getting coal or other mineral, that the cutting apparatus may, whilst at work, rise or fall independently of the truck or carriage of the machine, substantially as herein described.

2. The carrying the cutting apparatus on the top of the plunger of an air cylinder, carried by the truck of the machine, so that the cutting apparatus may cut a groove close up to the roof of the mine, substantially as herein described.

76,420.—Julius Dorn, New York, N. Y.—*Eye-Glass Attachment.*—April 7, 1868.—The ends of the nose spring are connected to the bows by spring hinges. The bows have bearing pieces of a slower curvature and greater lateral extension than the edge of the bow; the object is to give a better bearing on the nose.

Claim.—The combination of the springs B *d*, and rigid nose piece *m*, with the eye-glasses, as herein described, for the purpose specified.

76,421.—Joseph Douglass, McConnellstown, Pa.—*Device for Moving Cars.*—April 7, 1868.—The fulcrum base slides along the rail and has sufficient hold thereon to prevent slipping.

Claim.—1. The combination of the lever G, cap C, and sliding chock H, when arranged so as to operate together, substantially in the manner and for the purposes specified.

2. The combination of the cap C, spring D, and blade E, for the purpose of supporting and holding the other parts of the instrument in position, substantially as specified.

76,422.—George Dumbolton, Baltimore, Md., assignor to himself and C. H. Slicer, same place.—*Double Acting Hinge.*—April 7, 1868.—The end of one spring is attached to the door frame and the other end is attached to the swinging leaf, by means of a pivot. The other spring is upon the reverse side of the door and has one end which operates the opposite pivot of the same hinge, but the other end is attached directly to the door.

Claim.—The applying of two torsion springs to the swinging leaves or straps of a double-action hinge, substantially as and for the purpose described.

76,423.—William H. Dutton, Philadelphia, Pa.—*Cabinet Bedstead.*—April 7, 1868.—The curved bars are attached to the head ends of the side rails, and give bearing to flexible straps attached to the posts, to form a sort of rolling hinge to the head of the bedstead, when it is changed from a perpendicular to a horizontal position. Ropes attached to the case, and to the turning head of the foot legs, operate automatically to fold the legs up to the foot board as the bed is turned up.

Claim.—1. The straps D and curved bars C, in combination with the parts A B of the bedstead, arranged and operating substantially as and for the purpose set forth.

2. The adjusting or moving of the legs E E automatically, by the raising or lowering of the bedstead, through the media of the coil springs and cords, arranged substantially as shown and described.

76,424.—David Edwards, New York, N. Y.—*Car Replacer.*—April 7, 1868.—Each end of the street car has a wheel standing transversely, and whose journal frame may be depressed by a screw so as to sustain the end of the car while it is drawn around to the track.

Claim.—1. The combination, with the car, at or near either or both of its ends, of a transverse intermediate ground-rest or bearing, capable of being raised or lowered, substantially as and for the purpose specified.

2. The combination, with a street or other railroad car, of the screw E, screw box G, and wheel or roller H, the latter having its axis arranged transversely, or thereabouts, to that of the running wheels, also, intermediately of the same, and capable of being raised or lowered, essentially as herein set forth.

76,425.—B. C. English and Francis Fraps, Springfield, Mass.—*Spring-Bed Bottom.*—April 7, 1868.—The upper and more pliable slat rests upon an under one, through the medium of springs. The slats are stayed together by screws passing through blocks at the ends. The blocks are strung upon round rods, and held to their adjustment by set screws.

Claim.—1. The double slat or frame A, consisting of top and bottom slats C and D, with springs E between them, and connected at their ends by means of the blocks G, screws *a*, and washers *b*, substantially as described.

2. The arrangement of the frames A upon cross rods B and B, so as to be adjustable by set screws *f* in the manner shown.

76,426.—Luther Erving, Brooklyn, N. Y.—*Lamp Burner.*—April 7, 1868.—The top of the wick tube is flush with a horizontal perforated plate which forms the top to a foraminous cup constituting the base of the burner. Above the horizontal plate is a flat-sided deflector which is inclosed by the truncato-conical, foraminous case.

Claim.—The arrangement of the foraminous case C, cap D, and perforated plate *b*, with relation to the wick tube and base, all combined substantially as shown and described.

76,427.—Lewis Finch, Vienna, Va.—*Potato Digger.*—April 7, 1868.—The vines and surface earth are removed from above the potatoes, and the latter, with the earth surrounding them, taken up by the following double mold-board plow, are passed over the screen and then beneath the rake.

Claim.—1. The double mold-board F, adjustable on the beam B, and provided with horizontal and vertical cutting edges, as shown and described, and for the purposes specified.

2. The combined arrangement of the double mold board F F′, convex share C, and screen D, all con

structed and operating as and for the purposes specified.

3. In combination with the above, the pivoted rake H, for finally separating the potatoes from the earth as described.

76,428.—James Fleming, Philadelphia, Pa., assignor to Gardner and Fleming, same place.—*Adjustable Seat for Carriages.*—April 7, 1868.—The front seat is arranged to occupy a suitable position for the driver or to swing over against the dash-board when but one seat is required.

Claim.—The seat G, hung to arms E E hinged to the body of a vehicle, in combination with guides or plates having stops *e e'*, *e e'*, and secured to the body of the vehicle and to the seat, so that the seat is retained in its horizontal position both when adjusted to accommodate the driver and when adjacent to the dash-board, as described.

76,429.—M. M. Follett, Westboro, Mass.—*Converting Motion.*—April 7, 1868.—The spur wheel on the rotary shaft engages a double-faced rack which revolves around it and is attached to a pitman whose ends are guided so as to keep the rack in contact with the spur wheel.

Claim.—The combination and arrangement of the devices, substantially as and for the purpose herein described.

76,430.—M. M. Follett, Westboro, Mass.—*Mop Wringer.*—April 7, 1868.—The frame is disjointed in one place and the scrub bucket placed within it. The mop is placed between the fixed and movable roller and the latter brought against it by the treadle through medium of the cords. When the treadle is freed the roller is carried back by the elastic springs.

Claim.—The squeezing roller frame, hinged to the oscillating post, and connected at its opposite end to the platform by the adjustable connection described, all substantially as and for the purpose set forth.

76,431.—William Frederick, Pottsville, Pa.—*Boot and Shoe Stretcher.*—April 7, 1868.—The last is divided into an upper and under section which are connected by a lever. The fore end of the upper section is pivoted to the fore end of the lever, and the middle end of the lever is fulcrumed at the mid-length of the lower section. The screws operate to raise the rear end of the upper section immediately, and its fore end through medium of the lever. The upper surface of the last has changeable knobs to stretch the leather in particular places.

Claim.—The combination of the lever C and screw E with the parts A and B of the last, substantially as herein shown and described, and for the purpose set forth.

76,432.—Carlos French, Seymour, Conn.—*Bending Mandrel.*—April 7, 1868.—The mandrel has an inner grooved or recessed shaft having an exterior sleeve or clasp which is free to turn upon the shaft to fasten or unfasten the end of the metal to be bent or wound thereon.

Claim.—A mandrel, composed of an interior shaft, with a shoulder or recess therein, and an eccentric slotted clasp or sleeve on its perimeter, that can move over or past said shoulder, to catch and hold or release the end of the metal bent or wound therein, substantially as described and represented.

76,433.—John C. Gaither, Somerset, Pa.—*Machine for Printing Addresses on Newspapers, &c.*—April 7, 1868.—The types are set up upon the periphery of the wheel and pass beneath the inking rollers. As each direction form comes to the top, and beneath the aperture in the table, the pressure descends and bends down the package so as to bring it in contact with the type.

Claim.—The combinations of the following elements, viz., the treadle I, the lever L, and press rod M, having an elastic faced point M', the feed finger O, the wheel C, with an adjustable side plate C', sector plates G, type D, wedges E, and partitions F, and the plate N, with opening N', said parts being arranged in relation to one another substantially as and for the purpose set forth.

76,434.—Lewis Gibbs, Canton, Ohio.—*Bracket Shelf and Drawer.*—April 7, 1868.—The shelf is made as stated, ready for attachment to the wall of an office or other room.

Claim.—A bracketed shelf, with ornamented or plain railing or guard around its margins or edges, and with a drawer, substantially in the manner and for the purpose herein described and represented.

76,435.—Harlow Gilbert, New York, N. Y.—*Register.*—April 7, 1868.—The thumb is placed in a spring socket and the instrument placed upon the goods to be measured. The goods are then drawn beneath the milled roller which connects with the register.

Claim.—1. The combination of the side plate A, dial plate B, thumb piece C, milled or roughened roller D, having one or more teeth formed upon it, gear wheels F G H I, or their equivalents, horizontal gear wheel J, and index finger K, with each other, substantially as herein shown and described, and for the purpose set forth.

2. In combination with the above, the tooth L, on wheel J, and the horizontal toothed wheel M, arranged and operating substantially as described, and for the purpose specified.

76,436.—Alvaro B. Graham, Waukegan, Ill.—*Harvester.*—April 7, 1868.—The shoe of the finger beam is surrounded by a flanged tire or track ring which runs upon the ground revolving upon anti-friction rollers journaled to the shoe. One of the said rollers is journaled upon an arm to give means for removal of the track ring. The connecting pin between the pitman and the cutter bar may be split, tubular, or solid, and is held in by a spring.

Claim.—1. The combination of the finger beam of a harvester with a revolving shoe, through the intervention of friction wheels, substantially as before set forth.

2. The combination of the finger beam, revolving shoe, and sliding arm of the bearing that holds the revolving shoe in place, substantially as before set forth.

3. The combination of the members of a hinge joint with a split tubular joint pin, substantially as before set forth.

4. The combination of the joint pin of a hinge joint with a spring holder and teat, substantially as before set forth.

5. The combination of the bolt head or nut with the spring latch and ratchet teeth, substantially as before set forth.

76,437.—William H. Graham, La Crosse, Wis.—*Cooking Range.*—April 7. 1868.—The course of the caloric current is over the ovens, outside them, and along their bottoms, to rise in the spaces between the ovens and fire space. The current can be cut off by dampers from either or both ovens.

Claim.—1. The adjustable fire-box top F, constructed with a concavity on the under side of plate *h*, for the purpose of allowing the products of combustion to pass from the chambers around the ovens to the pipe, substantially as described.

2. The circular lid P, provided with receptacles for cooking utensils, arranged in combination with fire box F of a cooking range, substantially as set forth.

76,438.—Alvah Graves, Marcellus Falls, N. Y.—*Potato Digger.*—April 7, 1868.—The edges of the shovel plow are turned upward, forming chutes to convey the earth and potatoes to the screen at the rear part of the plow. The screen is shaken by a spur wheel beneath the plow which turns by the action of the earth upon it and whose teeth impinge against a projection of the screw.

Claim.—1. The serrated wheel D, when so constructed with relation to the riddle C, that the lower portions of its teeth engage with the ground, to propel the wheel, while the upper portions engage in tossing the riddle, substantially in the manner and for the purpose set forth.

2. The shovel plow A *a* B F, hinged riddle C *e*, and serrated wheel D, all constructed, combined, and operating in the manner shown and for the purpose described.

76,439.—John Groves and Enoch B. Turner, Providence, R. I.—*Whirligig Toy.*—April 7, 1868.—The shaft has reciprocating rotation by means of the elastic cord which is wound around it and passes through the handle. Any object desired may be placed upon the end of the shaft.

Claim.—The combination of a shaft with a piece of elastic, passing longitudinally through the handle of the toy, and operated substantially as described.

76,440.—Francisque T. M. A. Guyon, St. Brieux, France.—*Printers' Furniture.*—April 7, 1868.—The extensible piece is in two sections which may be laid together to various lengths and which are clamped firmly between the side of the bed and chase by a set screw.

Claim.—1. The part K K′, and the part J *j*, arranged to operate relatively to each other and to the bed of a printing press, as and for the purpose herein specified.

2. The tenons or spurs *k k*, and screw V, in combination with the readily-adjustable frame K K′, J *j*, or its equivalent, the several parts being all arranged for joint operation, as and for the purpose herein specified.

76,441.—E. R. Hall, Utica, assignor to himself, D. M. Golden, Frankfort, and B. G. Eaton, Mexico, N. Y.—*Clothes Drier.*—April 7, 1868.—The arms are hinged to a block which slides in a vertical tubular stock, the arms issuing from the top thereof and falling into a horizontal position on the raising of the block. The block is raised by belts which pass over pulleys, and are wound on a barrel rotated by a hand crank.

Claim.—1. The springs *s s s s*, for throwing out the arms *h h*, substantially in the manner specified.

2. The combination of the elevator C, springs *s s s s*, and arms *h h*, substantially as and for the purpose set forth.

3. Arms *h h*, springs *s s*, elevator C, spools *e e*, and tape or cords *f*, all combined and arranged substantially in the manner and for the purpose described.

76,442.—B. A. Haycock, Richland, Iowa.—*Lining of Furnaces.*—April 7, 1868.—When the boiler is supported in position by the face plate, stand pipe, and outer walls, and the grate is set, the fire space is cased with wood, and clay tamped between the case and the walls. The wooden casing is burned out when the clay is sufficiently dried. It is intended as a substitute for fire brick where it is hard to be obtained.

Claim.—A furnace or fire-place lining for steam boilers, formed of clay, substantially in the manner herein shown and described.

76,443.—Joseph Heckel and Michael Eichinger, Decatur, Ill.—*Composition for Covering Wooden Bridges, Buildings, &c.*—April 7, 1868.—Improvement on the patent of Joseph Heckel, December 3, 1867.—Composed of pulverized China clay, burnt, 20; air-slaked, oyster-shell lime, reburnt, 30; litharge, 10, and plaster of Paris, 40 parts. The whole is firmly pulverized and ground with linseed oil.

Claim.—The composition above described, when compounded and used as and for the purposes specified.

76,444.—Joseph J. Heindl, New York, N. Y.—*Basket Grate for Furnaces.*—April 7, 1868.—Improvement on patent No. 42,816. The inclined sides of the grate, instead of being perforated, are partially or wholly closed, and made of a non-conducting substance. The carbonic oxide produced passes off into the arch, where it is mingled with air to cause flame at that point.

Claim.—The basket grate C, having its sides *a a* constructed of inclined plates, partially or wholly closed, substantially as described.

76,445.—Canceled.

76,446.—R. W. Heywood, Baltimore, Md.—*Portable Head Rest for Car Seats.*—April 7, 1868.—The jaws of the clamp embrace the top of the back, and it is held in place by a strap which is passed around the back. The pad is adjustable on the bar, which is hinged to the clamp.

Claim.—The combination of the regulating screw D with the hinged adjustable standard B, which supports the head rest, and the clamp A and straps G G, by which the apparatus is attached to the back of a car seat, when the parts are constructed and combined so as to operate together, substantially as and for the purpose specified.

76,447.—W. F. Higgins and Jerome Perry, Watsonville, Cal.—*Gang Plow.*—April 7, 1868.—The fore ends of the plow beams are connected to arms which are transversely adjustable on the square axle, and the axle is connected by an arm and link to a lever by which it is rocked to adjust the height of the fore ends of the plow beams. A cross bar, connecting the beams near to their rear ends, is connected by an upwardly inclined beam and by pivoted bars to a connecting bar between the fore ends of the beams, and a fixed pivot in the frame.

Claim.—1. The combination of the inclined beams I and K, braces or supporting bars J and L, adjustable pivoted bar M, and pivoted bars H, with each other, with the plow frame F, sulky or wagon frame A, and axle B, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the lever P, connecting bar O, and arm N, with each other, with the axle B and framework of the sulky or wagon, substantially as herein shown and described, and for the purpose set forth.

76,448.—Justine Hinds, Salem, and Giles Henry Lodge, Swampscott, Mass.—*Steam Engine Piston.*—April 7, 1868.—Improvement on the patent of W. C. Hicks, February 21, 1865. Instead of the connecting rod being pivoted to a cross pin traversing the piston diametrically, which connection checks the expansion of the piston by the longitudinal wedge; the said connecting rod is pivoted to the piston head, resting against a brass block occupying a recess therein, and pivoted to a ring bolt passing axially through the head.

Claim.—1. In combination with an expansible cylindrical piston, as described, the detachable head B′, with elongated bolt holes, as described, or their equivalents, and connecting rod jointed to said piston head, substantially as set forth.

2. In combination with the piston head and connecting rod, the tubular nut C, lining plate *e*, and eye bolt *d*, screwing into the nut C, and all arranged substantially as described.

76,449.—Warner Hinds, Worcester, Mass.—*Horseshoe.*—April 7, 1868.—The arms have spurs on their inner sides which are forced into the outer side of the hoof.

Claim.—The horseshoe, complete in one piece, formed by the combination of the sole A, with or without calks, the arms B B and clinches *i i*, when constructed and operating in the manner and for the purposes above set forth and described.

76,450.—Robert Hoadley and Henry A. Shipman, Ansonia, Conn.—*Lamp Burner.*—April 7, 1868.—The horizontal, perforated plate is supported on arms extending upward from the base, and has upward and downward arms at its periphery which give support to the chimney and to the side of the cone.

Claim.—The perforated plate D, in combination with the deflector H and the base B, when the said plate is arranged in the manner described, and constructed in one and the same piece with the vertical springs E and the chimney supporters F, substantially as set forth.

76,451.—Ernst Hoffstaetter, New York, N. Y.—*Machine for Picking Hair.*—April 7, 1868.—The feed box has an aperture through which the matted hair is allowed to pass the first time it is run through the machine, and which is covered the second time to allow the hair to pass over it, and between the feeder and picker. The dirt drops through holes in the toothed concave.

Claim.—The arrangement of the toothed cylinder

C, corrugated feeder E, and removable picker D, with the hinged feed box B, when the latter is provided with the springs *d h*, whereby the hair is fed, either between the feeder E and picker D to the cylinder C, or upon one side of the feeder E, to the cylinder, without coming in contact with the picker D, all constructed and operating as herein described, for the purpose specified.

76,452.—Augustus R. Hobbs and Nathaniel F. Wright, Elizabethport, N. J.—*Fanning Chair.*—April 7, 1868.—The seat is connected to a rock shaft whose motion is influenced by a spring. The seat may be connected to the base so as to form a fixed chair. A fan shaft receives reciproeal rotation by a spur wheel which engages a rack on the frame.

Claim.—1. A rocking chair, operating the fans G, substantially as shown and described, and for the purposes set forth.

2. The back B and seat C, in combination with the arms D, and rock shaft *a*, and spring S, and frame A, substantially as shown and described, and for the purposes set forth.

3. The arms D, in combination with the notches *e*, and pins *e'*, and seat C, substantially as shown and described, and for the purposes set forth.

4. The curved rack D' and frame A, in combination with the pinion F, and shaft E, and fans G, and the seat C, substantially as shown and described, and for the purposes set forth.

76,453.—James Holland, Brooklyn, N. Y.—*Skate.*—April 7, 1868.—The heel is held between two fixed side dogs, and a movable dog. The latter engages the front of the heel and is moved longitudinally by means of a pin which traverses an eccentric slot in a lever whose fulcrum is movable longitudinally to suit the size of the heel. The free end of the lever is connected by a strap to any suitable attachment on the foot.

Claim.—1. The lever *e* and movable dog *h*, in combination with the movable fulcrum *f*, substantially as described.

2. The movable dog *h* and movable fulcrum plate *f*, in combination with the slot *c*, substantially as shown.

3. The ridge *i* on the lever *e*, arranged substantially as shown, to draw the fulcrum plate down on the foot plate, substantially as described.

4. The combination, substantially as described, of the lever *e*, the movable dog *h*, and trap *o*.

5. The arms *p*, arranged on screw or fulcrum pin *m*, for the purpose of raising the plate *f* free from contact with the foot plate, substantially as described.

76,454.—John H. Holland, Hancock, Mich.—*Pen.*—April 7, 1868.—The additional holder is adjustable on an arm projecting sideways from the other.

Claim.—1. The barrel B, formed with holding lips *b'* on the outside of its back, when provided with a projecting guide plate C, adapted to receive the holder D, which is adjusted by means of the screw E passing through a lug, *d'*, attached to the holder D, said screw being swiveled in the fixed projection *c'*, all constructed and operating as described for the purpose specified.

2. In combination with the holders B D, having lips *b'*, the pens F G, when their lower ends are turned up, as described for the purpose set forth.

76,455.—Elihu Hosford, Chicago, Ill.—*Coal Stove.*—April 7, 1868.—The grate bottom has a conical top which is radially ribbed and admits of oscillation by a lever beneath. The calorie current may be allowed to pass directly upward, or may have downward exit from the edge of the grate, to mingle with the vital air in the combustion chamber in the base. The latter chamber communicates by side pipes with the upper chamber, from which the exit pipe emanates.

Claim.—The grate B or its equivalent, for the purpose and substantially as herein described.

2. The combination of the cylinder A, grate B, ash box E, air-space H, columns F F, and hot air chamber G, for the purpose and substantially as herein set forth.

76,456.—Ira Houghtling, Houghton, Mich.—*Horse Collar.*—April 7, 1868.—The collar is made of India rubber or wood and in the latter case is lined with leather. The perforations run through the body and are to keep the inner surface cool.

Claim.—Constructing a horse collar, perforated and lined with leather, as described.

76,457.—Thomas P. Howe, Brooklyn, N. Y.—*Copying Press.*—April 7, 1868.—A piece of metallic pipe is coated with rubber tubing which is cemented thereto. Attached to the rubber coat is a thin rubber apron. When used the sheet of copying and of manuscript paper are laid upon the apron and the whole rolled together and allowed to remain for a few minutes.

Claim.—As an article of manufacture, the improved copying press, herein-before described, made by combining the rigid cylinder A, the elastic tubing B, and the blanket or cloth C, substantially as herein-before set forth.

76,458.—Orrin P. Howe, Augusta, Me.—*Photographic Transfer.*—April 7, 1868.—A starting place between the iron and enamel is made at one corner and alcohol or chloroform dropped into the seam to loosen the layers. The enamel and collodion coat are removed for mounting upon cards.

Claim.—Removing from the iron plate its japanned or enamel surface containing the picture, using for that purpose strong alcohol or chloroform, or any other article equivalent thereto, and mounting the same upon cards in the manner and for the purpose set forth.

76,459.—L. D. Hubbard, Worcester, Mass.—*Bench or Table.*—April 7, 1868.—The legs at each end are connected by a cross piece and are hinged to the transverse batten beneath the table top, in such a manner that they cannot be forced out much beyond the perpendicular by the spreader bar which fits in notches of the cross pieces.

Claim.—A wash bench or table, in which the cross pieces B, hinged legs C, removable extending arm E, and hook and eye, or equivalent means for holding the said legs in a folded position, are combined and arranged relatively to each other in the manner and for the purposes herein shown and specified.

76,460.—Thomas S. Hudson, East Cambridge, Mass.—*Die for Forming Letters and Figures on the Edges of Type Blocks.*—April 7, 1868.—The type block is spread outward against the segmental dies by the descent of the cylindrical compressor, and is raised from its bed by the lifting bottom which is elevated by a lever.

Claim.—The combination of the sectional dies *b b b b* and block A, spindle *c*, screw nut D, and compresser or piston E, and lever L, the whole constructed and arranged substantially as and for the purpose set forth.

76,461.—Seymour Hughes, San Francisco, Cal.—*Ore Crusher and Grinder.*—April 7, 1868.—Above a circular base are a series of four or more inclined planes, each having a die at its lower end. Heavy stamps, each having a stem and stamp-head, (as in the straight batteries), are connected with a central, driving shaft, and are thus moved up these inclines, from the top of which they fall upon the dies. The stamp stems move in a frame having anti-friction rollers. Screens are placed around the circumference of the apparatus. The inclined planes are adjustable by wedges and screws, and are removable for replacement when worn out.

Claim.—1. An ore crusher, having the spiral inclined planes B B, together with the stamps N and dies E, the whole constructed and operating substantially as and for the purpose herein described.

2. In a circular crusher and grinder, the inclined planes, consisting of the removable grinding plates *b* and the adjusting plates *a a a*, substantially as and for the purpose described.

76,462.—S. W. Huntington, Augusta, Me.—*Lamp Shade.*—April 7, 1868.—A sheet of thin veneer

and a sheet of mica are secured together by a metallic rim.

Claim.—As a new article of manufacture, a lamp shade composed of a sheet of wood or veneer, with a backing of mica, the two sheets being held together as herein described, with or without an interposed layer of paper between them.

76,463.—John Johnson, Saco, Me.—*Obtaining Heat.*—April 7, 1868.—The vessel or pipe contains a sufficient quantity of liquid to fill it with vapor, which acts as a medium for communication of heat.

Claim.—The application and use of a small but proper quantity of any liquid or solid, when inclosed within an air tight case or form, for the purpose of receiving heat sufficient to convert it to steam or vapor, and in this state to act as a conveyer and transmitter of heat to other bodies for needed change, and by which transference the agent shall reform to liquid, to be again and again converted to vapor, carrying with it latent heat for transmission.

76,464.—Lyman H. Johnson, Branford, Conn., assignor to himself and Chauncey Johnson, same place.—*Corn Husker.*—April 7, 1868.—The handle has two horns which embrace the fingers, and has a point which pierces the husk.

Claim.—The herein-described corn husker, consisting of the hook A upon the handle B, provided with the rests C and D, substantially as herein described, as a new article of manufacture.

76,465.—William Jordan, Galena, Ill.—*Stilt Skate.*—April 7, 1868.—The skate runners are attached to stilt bars, one of which is forked on each side of the leg and gartered thereto.

Claim.—1. A skate, having the runner and foot piece united by a jointed connection, substantially as and for the purpose specified.

2. The combination of the runner *a*, supports *b* and *d*, and foot piece *c*, substantially as and for the purpose described.

3. The combination of the runner *a*, supports *b* and *d*, foot piece *c*, and vertical extensions *b′ b′* of supports *b*, and strap *f*, as described.

76,466.—Robert F. Judson, Kalamazoo, Mich.—*Draught Equalizer for Doubletrees.*—April 7, 1868.—The singletrees are attached to the outer ends of the bent levers, and the other ends of the latter are hooked to the stay chains whose ends are attached to the hooks of the draught bar attached to the tongue.

Claim.—The combination of the stay chains, or wood or leather braces, the curved levers, crossing each other, and united by a bolt forming a joint, the iron clevis, with hooks on each side, and near each end of the same, the staple in the clevis, the king bolt, the staple attaching rear end of clevis to the wagon pole, the small whiffletree, with the wagon pole, for the purposes set forth and described.

76,467.—Joshua T. Kendall, Concord, N. H.—*Machine for Boring Wagon Hubs.*—April 7, 1868.—The hub is clamped in the centering clutch upon a vertical shaft and rotated beneath the cutter which is rapidly rotated at the end of an arm having oscillatory movement on a vertically moving carriage. The lateral position of the cutter is determined by a pattern removably secured to the frame and against which the gauge arms are forced by a spring.

Claim.—1. The guide *h′*, in combination with the gauge arms *e* and *e′*, the set screws *f* and *f′*, the metallic frame work *c′*, and the spring *g*, substantially as described.

2. The revolving table *k*, with the arms or levers *p p p*, and chucks *r*, and ratchet wheel *n*, and clamp *s″*, combined and operated as described.

76,468.—W. Jay Ketcham, Washington, D. C., assignor to himself and George S. Prindle, Aurora, Ill.—*Retainer for Neck Ties.*—April 7, 1868.—The points of the catches are separated by straightening the plate, and, when the plate is allowed to spring into a bent form, the catches close in behind the button.

Claim.—The within-described retainer for neck ties, consisting of the spring base or plate A and catches B B, the latter provided with slots D, and its ends meeting or overlapping each other, the whole arranged substantially as shown and described.

76,469.—Samuel M. King, Lancaster, Pa.—*Sawing Machine.*—April 7, 1868.—The saw is pivoted to the cross head of the piston rod, and is operated by the direct action of the latter. The slide valve rod is adjustably connected to an arm oscillated by the cross head.

Claim.—The construction of the rock shaft J, with its adjustable screws M, and regulating lever N, as herein described, and for the purposes set forth.

76,470.—Charles M. Kinsel, Columbus, Ga.—*Bracelet.*—April 7, 1868.—The bracelet is formed of a number of rings jointed together, and which may be folded side by side for use as a finger ring.

Claim.—A bracelet, so constructed as to be adjusted for wear as a finger ring, substantially as described.

76,471.—John L. Knowlton, Philadelphia, Pa.—*Saw Mill.*—April 7, 1868.—The saw guides and operating mechanism have rotary adjustment around the point where the saw passes through the table so as to saw to a bevel.

Claim.—1. The guides F, slides G, connecting links *i′ i′*, pivoted levers I I, and connecting rod J, in combination with the saw H, all arranged and operating as described, for the purpose specified.

2. The construction and arrangement of the segments C D, the former having the opening a^x for the purpose, substantially as described.

3. The rack *l*, and pinion K, in combination with the sleeve N, yoke M, and feed-rollers J^x, as herein described, for the purpose specified.

76,472.—W. M. Kohl, Cincinnati, Ohio.—*Stereoscope.*—April 7, 1868.—The lenses have inward adjustment by jointed levers which give a parallel movement by the operation of a single, temper screw. The tubes have movement to and from each other by a right and left hand screw. The pictures are held by spring clamps which are strung upon cords and brought up to view by turning a shaft in the usual manner.

Claim.—1. The combination of the bent rod *j*, screw *m*, and pivoted levers O O′, with the plate L and lens-tubes J, all constructed, arranged, and operating substantially as described for the purpose set forth.

2. In combination with the above, the right and left hand screw P, having head *o*, and passing through lugs *n* attached to sockets K K, as described for the purpose specified.

3. The spring clamps G attached to the bars *g* of the picture holder, and constructed in the manner substantially as and for the purpose specified.

76,473.—A. Komp, New York, N. Y.—*Machine for Attaching Spangles to Hoops of Skirts.*—April 7, 1868.—Improvement on his patent May 7, 1867. The spangles are placed in a hopper, and are carried out over the floor, from which they are tumbled into the trough if in an improper position, and from the trough drop into a receiver, from which they may be emptied again into the hopper. Those in a proper position pass through the channel and are carried by the automatic nipper arm, or spangle carrier to the anvil, where they are clinched by the automatic hammer.

Claim.—1. Providing the edge of the rib *b* of the spangle guide with one or more projections *c*, substantially as and for the purpose set forth.

2. The arrangement of indentations or ridges *d* in the floor *a* of the spangle guide, substantially as and for the purpose described.

3. The slotted rod *x* and pin *v*, in combination with the slide *q*, which carries the spring jaw *h* of the spangle carrier, substantially as and for the purpose described.

4. The latch *y*, in combination with the movable jaw *h* of the spangle carrier, substantially as and for the purpose set forth.

5. The curved slot *m*, stud *l*, pin *o*, and standard *p*, in combination with the arm *k*, and with the spangle carrier, substantially as and for the purpose described.

6. The stops c' d', to retain the spangle carrier at the extreme ends of its stroke, substantially as set forth.

7. The secondary arm k^* and spring e', in combination with the main arm k of the lever L, and with the hammer H and spangle-carrier D, substantially as and for the purposes described.

76,474.—JOHN D. LANE, New York, N. Y., assignor to HORACE EVERETT, Philadelphia, Pa.—*Manufacture of Tin Boxes.*—April 7, 1868.—The lower portion of the box is swaged from a disk in a similar way to the lid, and its flange is then rolled to give it the beading and smoothness.

Claim.—The lower portion of a blacking box, having a flange turned up from and forming a part of the bottom, and that flange rolled and indented, all as described for the purpose specified.

76,475.—CHARLES LEE, Sandy Post Office, Ohio.—*Fence.*—April 7, 1868.—The ports have each two vertical uprights connected by cross pieces. The ends of the panels are inserted between the uprights and secured to the cross pieces by wedge blocks.

Claim.—The uprights b b, horizontal bars a a', braces J J, and pins f, when arranged and combined with the panels, as set forth.

76,476.—ISAAC LINDSLEY, Pawtucket, R. I.—*Hair Cloth.*—April 7, 1868.—The two pieces of cloth are stitched through to make a seam, and the same flattened between heated pressure plates while in a soft, saturated condition.

Claim.—1. The method herein described of uniting woven fabrics having a face of hair with an imperceptible joint, by stitching the fabric through and through where it is to be united, and while the hair face is in a semi-plastic condition produced by saturation, flattening out and pressing, with protracted pressure, this sewn joint between metal or like surfaces while subjected to a suitable degree of heat to mold and set the hair face at the joint permanently, so as to produce an unyielding joint and an unbroken hair face at the joint, substantially as specified.

2. As a new manufacture, a continuous web of hair cloth, composed of two or more narrow webs, such as are usually woven from short hair weft, united after the sewing, moistening, and pressing process herein described, and in which a portion of the warp threads are removed before pressing, and the bights in the weft hairs of the united joint are bent and molded at right angles to the face of the fabric, and into or against each other, to conceal the joint, substantially as specified.

76,477.—THOMAS D. LITTLE, Salisbury, N. H.—*Attachment for Heads of Rakes.*—April 7, 1868.—The inclination of the teeth to the handle is adjusted by the brace bars and set screws, in connection with the sockets which receive the lower ends of the handle.

Claim.—The adjustable attachment for heads of drag rakes composed of the socket a, brace d, bolt and nut b, and thumb screws c, combined, constructed and applied as above described.

76,478.—G. W. LOCKHART, Charlestown, Ind.—*Hay Press.*—April 7, 1868.—The lower follower receives motion from two levers which rest by their moving fulcrum rollers on a horizontal beam. The motive cord is passed around pulleys in the lower ends of the levers.

Claim.—The levers H H pivoted to the follower G, when provided with the fulcrum rollers a a, at about the center of their lengths, adapted to travel upon the horizontal platform c, while their lower ends bearing the pulleys c are below said platform, all operating as described, for the purpose specified.

76,479.—J. AUGUSTUS LYNCH, Boston, Mass.—*Paper Dampener.*—April 7, 1868.—Improvement on his patent, April 27, 1858.—It differs in having no roller to remove the surplus moisture. The previous patent has no cover, nor circumferential grooves in the perforated cylinder. The funnel ordinarily rides on the cover but is connected to the frame by a link which allows it to be thrown around to connect with the filling hole when the roller is turned on end and the screw tap is removed.

Claim.—1. The combination of the filling tunnel with the cylinder and its cover by means of the link or arm d, hinged to them, and so as to operate therewith, substantially as described.

2. The arrangement of the stand with the cover and the cylinder, in manner as described and represented.

3. The combination of the filling tunnel with the cylinder and its cover.

76,480.—MILTON ALDEN, Auburn, N. Y.—*Horse Rake.*—April 7, 1868.—The small end of the key is curved to prevent its falling out.

Claim.—The keys B, in combination with the tooth C and the holder A, as set forth for the purposes described, whether used transversely, longitudinally, or otherwise, for said purpose.

76,481.—FRANCIS E. MABERRY, Haverhill, Mass.—*Wash Board.*—April 7, 1868.—The soft soap is contained in a receptacle beneath the upper end of the board, and communicating with the upper surface through a series of slots, which are closed simultaneously by a semi-cylindrical valve.

Claim.—The soap reservoir, as above described, with the valve H and spring f, in combination with a corrugated wash board with openings c, when arranged substantially in the manner and for the purpose specified.

76,482.—JOHN J. MARCY, West Meriden, Conn.—*Lamp Burner.*—April 7, 1868.—The backward movement of the cone upon its hinge is limited by a wire which is hinged to the cone, and traverses the bottom plate of the burner. A head on the lower end of the wire comes in contact with the said plate when the cone is thrown back.

Claim.—The combination and arrangement of the straight rod f with the cone C and cap A, when the said straight rod f is hinged directly or indirectly to the cone, substantially as and for the purpose specified.

76,483.—J. J. MARCY, West Meriden, Conn., assignor to E. MILLER & CO., same place.—*Oil Can.*—April 7, 1868.—The thimble turns on the end of the spout and forms a cock therewith, the spout having an aperture in the side which comes in connection with the nozzle of the thimble, only when it projects outward.

Claim.—The thimble C, with its nozzle D arranged upon the spout B, so as to turn thereon, and operate in the manner described, in combination with the vent valve h in the cover or can, all constructed so as to operate in the manner described.

76,484.—MARY E. J. MARR, Jefferson, La.—*Churn Dasher.*—April 7, 1868.—The step bar of the rotating dasher is secured to the churn bottom by wooden screws or by pins.

Claim.—The combination of a revolving dasher, as herein described, consisting of the spindle A and arms C, provided with apertures or perforations a, in combination with the removable socket block B, when provided with wooden screws b, or their equivalents, when each and all the connected parts are of wood, and are constructed, arranged, and operate substantially as and for the purposes herein set forth.

76,485.—WILLIAM MARTIN, Tarr Farm, Pa.—*Well Tube.*—April 7, 1868.—The rivets extending inward from the upper ends of the ears enter the longitudinal slots in the pipe. The end of the pipe rests in the socket of the point, and the ears cover the slots when driving; but when driven, the pipe is raised, which uncovers the upper ends of the slots and raises the end of the pipe from the socket, allowing the water to flow through the slots and the lower end of the pipe

Claim.—The point A, having the sockets S, the ears E E, and the broad shoulders a a, in combination with the tube B, having the longitudinal slots i i, and with the rivets r r, operating in the slots i i, substantially as and for the purpose described.

76,486.—P. H. MASSEY, South Bend, Ind.—*Grain Scouring Apparatus.*—April 7, 1868.—The grain in passing through the vertical chute beneath the hopper is subjected to the action of the scouring disks, and according to its gravity, may either pass directly to the stones or to the spout from which the air is exhausted to carry off the impurities.

Claim.—1. The combination of the hopper H, shaft *h*, provided with the scouring disks *n*, spout E, chamber C, with the inclined partition *b*, and fan B, when said parts are constructed and arranged for joint operation, substantially as described.

2. The use, in the apparatus constructed substantially as described, of the detachable inclined bottom *i*, and the removable tubes *v* and *v'*, for the purpose as herein described.

76,487.—E. G. MATTHEWS, Boothbay, Me.—*Dory-Boat Knee.*—April 7, 1868.—The side plates are let into the pieces of timber and bolted thereto. The flanges lap around the edges. The guard flanges act as braces and serve to protect the joint but allow circulation of air to keep the wood dry.

Claim.—A dory-boat knee in which the wooden parts A A, are combined with the metal supporting plates B B, provided with the flanges and guard *c d e*, under the arrangement and for operation as herein shown and specified.

76,488.—THOMAS B. MCCAUGHAN, Moscow, Tenn.—*Lead and Slate-Pencil Case.*—April 7, 1868.—The spring bar is attached to the sliding ring and lies in a slot beneath the conical ferrule. The bar is forced between the ferrule and the lead or pencil, to clamp the latter in position.

Claim.—The combination of the case A, ferrule C, and rod E, attached to the sliding band D, all arranged substantially as and for the purpose specified.

76,489.—THOMAS B. MCCAUGHAN, Moscow, Tenn.—*Fish Trap.*—April 7, 1868.—The line is passed upward over a sheave on the end of the bent pole and through the loop at the end of the weighted lever. From the loop it passes to the bent rod which is engaged on the pin, from which it is tripped by the jerking of the bait. The descent of the weight throws up the outer end of the lever and jerks the hook upward, to secure the fish.

Claim.—The loaded or weighted lever D at the upper end of the upright A, in connection with the horizontal pole B, line E, and the bent rod *g* and pin *f*, or their equivalents, all arranged substantially as and for the purpose herein set forth.

76,490.—MARK THOMAS MCCORMICK, Meadville, Pa.—*Tool for Opening Cans.*—April 7, 1868.—The shaft is turned by a cross bar, and its point has a screw thread which engages the disk, which is cut from the can head by the knife upon the radially adjustable arm. The disk may thus be raised upon withdrawing the point.

Claim.—The shaft B, in combination with the arm G, the knife H, and the set screws D D, when the same are constructed in the aforesaid combination, for the purposes set forth.

76,491.—WILLIAM MCFARLAND, New York, N. Y., assignor to himself and JOHN H. CAMPBELL.—*Tenon for Blind Slats.*—April 7, 1868.—The metallic tenon is for attachment to a slat from which the tenon has been broken, and allows repair of the blind without taking the frame asunder.

Claim.—The tenon C, constructed with a beveled shoulder E and fastening plate D, substantially as and for the purposes set forth.

76,492.—JOHN W. MEAKER, Chicago, Ill.—*Apparatus for Assorting Coin.*—April 7, 1868.—The coins are put singly into a hopper and are fed edgeways to the inclined way, in which they roll upon their edges and lean toward the open side of the way, so as to drop out on arriving at an aperture large enough therefor. The distance between the holding lips of the guides constantly increases, so that the coins will drop out at different places, each into its appropriate tube. The tubes are marked by a scale, to indicate the number of coins by the depth of the pile. The coins may be delivered at bottom by a pawl, which thrusts out one or the required number at each movement; or may be delivered at the top, a follower beneath the pile having an arm extending through a slot in the side of the tube and being connected to a rubber spring, to keep the top coin flush with the upper end of the tube.

Claim.—1. The assorter B, with an open front, and provided on its interior rear side with the guides *g* and *h*, forming an inclined way, constructed and arranged for use, substantially as shown and described.

2. Operating the follower *b* by means of a spring C, applied externally, substantially as described, and for the purposes set forth.

3. The slide E, provided with the end piece *k* and pawl *m*, constructed and arranged to operate substantially as described, and for the purposes set forth.

4. Providing the slides E with springs, so that one or more of the slides may be operated automatically at the same time, substantially as described, and for the purpose set forth.

76,493.—J. W. MEAKER, Chicago, Ill.—*Apparatus for Assorting Coin.*—April 7, 1868.—The coins run down an inclined way, which has apertures just sufficiently wide and at a proper distance from the lower edge of the way for each coin to drop into its appropriate tube, where the number is indicated by a scale.

Claim.—1. The drawer B, with tube I, having flanges *e*, in combination with the arm B, spring *d*, and follower *a*, constructed and arranged to operate substantially as described, and for the purpose set forth.

2. The stationary post E, in combination with the sliding tube C, with flanges *e*, slot *o*, and register, constructed and arranged to operate substantially as described, and for the purpose set forth.

3. The form F, in combination with the sliding cover *g*, constructed substantially as described, and for the purpose set forth.

4. In a coin assorter, an inclined way G, having the sides of the openings *j* forming the angle *l* inclined so as to deliver the coin below the upper line of the next opening, substantially as described.

5. In a coin assorter, an inclined way G, having the openings *j* so arranged that the gravity of the coin will tilt them, and provided with a slit or lip *q*, bent upward, for the coin to run under, and secure their tilting and delivery, substantially as described.

76,494.—JOHN W. MELCHER, Oshkosh, Wis.—*Car Coupling.*—April 7, 1868.—The coupling pin is sustained by a cylindrical roller, which is driven back by the entering link and rolls up an incline, down which it returns when the cars are uncoupled. The link passes in between two spring guides.

Claim.—The disk *c*, in combination with the groove *g*, guides *d d*, and springs S S, in connection with the pin *e*, draw head *a*, and link *f*, when arranged and constructed substantially as described.

76,495.—WILLIAM H. MERRICK, Philadelphia, Pa.—*Apparatus for Filtering Sugar.*—April 7, 1868.—The filtering bag is attached to a flaring nipple whose top closes an aperture in the horizontal partition sufficiently large to allow the passage of the bag which is withdrawn through it.

Claim.—The nipple B, constructed substantially as described, for adaptation to an opening (in the partition A) large enough to admit of the passage through it of the bag attached to the nipple, all substantially as and for the purpose herein set forth.

76,496.—V. N. MITCHELL, Concord, N. C.—*Carriage Pole.*—April 7, 1868.—The pole is made of two pieces which are connected together at the point and carried back side by side to the doubletree, and from thence they are turned apart and downward to their connection with the axle.

Claim.—The improved carriage pole, formed of two pieces of timber *a a*, firmly secured together at the front end, and spread and curved downward at the hind ends, to prevent said pole from coming in contact with the elliptic springs C, when the vehicle is turned, as herein shown and described.

76,497.—E. J. Moore, Westfield, N. Y.—*Churning Apparatus.*—April 7, 1868.—The hand lever is connected to the dasher rod by means of bars arranged in such manner as to give a rectilinear motion to the dasher rod.

Claim.—1. The combination of the bars G and H, adjustable lever D, and adjustable dasher handle B, with each other, substantially in the manner herein shown and described, and for the purpose set forth.

2. The combination of the adjustable balance weight I with the lever D, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the weighted lever J, or its equivalent, with the bars H or forward part of the lever D, substantially as herein shown and described, and for the purpose set forth.

76,498.—J. C. Moore, Madison, Ind.—*Sleigh Runners and mode of attaching them to Axles of Vehicles.*—April 7, 1868.—The runner standards have eyes to embrace the axles. Step plates are also clipped to the axles.

Claim.—1. The forked standards D D, with the eyes *a a*, in the upper ends, when used for the purposes and in the manner as specified.

2. The step C, when used in combination with the runner A, for the purposes and in the manner set forth.

76,499.—George M. Mowbray, Titusville, Pa.—*Manufacture of Nytro Glycerine.*—April 7, 1868.—A current of cold, dry air is passed through the vessel used in the manufacture of nitro-glycerine to carry off hypo-nitrous acid therefrom, to cool the mixture by conduction, and to agitate the mixture mechanically. The contact of the dry, cold air admits the use of glass surfaces to the vessels, as the heat evolved may be carried off otherwise than through the side of the vessel.

Claim.—The process of manufacturing nitro-glycerine by the use of compressed air, artificially dried and cooled, nitric acid, sulphuric acid, and glycerine, substantially as described.

76,500.—William Mullins, Pittsburg, Pa.—*Locking Nuts.*—April 7, 1868.—The face of the fish plate has a rectangular longitudinal groove, and the ends of a wire lying in the groove beneath the nut are turned up into slots in the sides of the same.

Claim.—The improved device for locking nuts, consisting of a metallic pin placed under the nut, in a groove in the surface, against which the nut is screwed, and turned up so as to embrace the nut, substantially as hereinbefore described.

76,501.—Patrick Murray, East Morrisania, N. Y.—*Horse Shoe.*—April 7, 1868.—Two parallel ribs run around the lower surface of the shoe. The inner rib is the more prominent.

Claim.—A steel horse shoe with two continuous, or nearly so, calks 1 and 2, the former more prominent or projecting, and with more bearing surface than the latter, so as take the main support and wear, whilst the latter continues sharp and efficient as an auxiliary calk to prevent slipping, substantially in the manner described.

76,502.—A. F. Nagle, Providence, R. I.—*Passenger Register.*—April 7, 1868.—The spring step is connected by the stated, mechanical devices with an endless, numbered belt, which exhibits through an aperture the number of times the step has been depressed.

Claim.—The step A, in combination with the pawl G G, ratchet wheel G, the shaft F, the cog-wheel H, the rollers I I I, and the band K K, or their separate equivalents, arranged substantially as described, and for the purpose specified.

76,503.—Peter H. Niles, Boston, Mass.—*Hose Coupling.*—April 7, 1868.—The end of the hose has apertures cut therein to receive the screw-threaded segments of the nut inclosing the end of the hose. The end of the coupling shank is tapering like the inside of the nut and screws thereinto.

Claim.—1. A segment nut, in combination with the perforated hose, substantially as described.

2. A segment nut, and the perforated hose in position, in combination with the shank of the coupling, in the manner and for the purpose substantially as described.

76,504.—Clinton Nolan, Niles, Mich.—*Brick Machine.*—April 7, 1868.—The upper end of the pug-mill shaft is journaled in a box which is pivoted to a lever connected to a weighted lever. This arrangement allows the pressure to be graduated according to the consistency of the clay, and allows the yielding of the shaft when a stone comes beneath the packing arms.

Claim.—The combination of the parallel hinged arms E, pivoted nut D, straps H, weighted lever I, and standards J, with the shaft B, arranged substantially as described for the purpose specified.

76,505.—F. B. Norton and F. Hancock, Worcester, Mass.—*Combined Clay Grinding and Separating Mill.*—April 7, 1868.—The lower end of the mixing cylinder is perforated, and surrounded by a jointed collar containing sieves.

Claim.—1. The combination, with a perforated potters' clay-grinding cylinder, of a separating sieve and sieve holder, substantially as and for the purposes set forth.

2. The combination with the perforated clay-grinding cylinder B, separating sieve *b*, and sieve holder C, of the rotary grinding arms E, provided with one or more lips *e*, substantially as and for the purposes set forth.

76,506.—Joseph F. Nugent, Cannonsburg, Mich.—*Hay Elevating Apparatus.*—April 7, 1868.—The knot, or other stop, on the hoisting cord comes in contact with, and frees the detent catch of the carriage when the load is sufficiently elevated, and allows the lateral movement of the carriage to convey the load to the point of discharge over the mow. The hoisting rope is passed around three pulleys journaled in the carriage and having ratchet wheels and pawls, the latter of which are simultaneously raised by the striking of a lever against a pin when the carriage arrives at the hoisting point and raises the pawls, allowing the cord to run down.

Claim.—1. The stop *e* of the draught rope C, in combination with the carriage B, and the track A, operating substantially as and for the purpose specified.

2. The arrangement of the three pulleys with their accompanying pawls and ratchets upon the carriage B, and in relation with the draught rope, substantially as and for the purpose specified.

3. The combination of the lever arm *n*, crank arms *n'*, *n**, connecting rod F, and stud *s*, with the pawls and ratchets of the pulleys *a b c* of the carriage B, substantially as and for the purpose specified.

76,507.—Robert O'Brien, Towlesville, N. Y.—*Harness.*—April 7, 1868.—The several parts of the harness are so arranged that, by the pulling of a single strap, the harness can be opened, and thus set free from the animal.

Claim.—The combination of the bridle C, plates D and G, hames straps O, bars Q, and saddle R, with the looped pintles E K T and straps I Z, all arranged and operating as herein described, for the purpose specified.

76,508.—Christian Oefinger and Sebastian Grupp, San Francisco, Cal., assignors to themselves and Henry Stempleman, same place.—*Kiln for Drying Malt.*—April 7, 1868.—The furnace is covered by an arch of brick-work or metal, forming an air chamber around the furnace from which the air is conveyed to the foraminous bottom of the kiln.

Claim.—The openings D D, for the passage of cold air to the chambers C, in which the cold and hot air are combined, and the pipes E E E, provided with caps or valves E', for conveying it to different parts of the perforated plate, the whole constructed and arranged substantially as and for the purpose specified.

76,509.—James O'Friel, Blair County, Pa.—*Vitrified Compound.*—April 7, 1868; antedated March 28, 1868.—Composed of silex, 12 oz.; muriate of soda, 10 oz.; sulphate of iron, 8 oz.; sulphate of

copper, 1½ oz; alum. 3 oz.; and sufficient water. It is mixed to a plastic state, molded, dried, and baked.

Claim.—The composition herein described, prepared in the manner set forth.

76,510.—PAUL A. OLIVER, New York, N. Y.—*Machinery for the Manufacture of Gunpowder.*—April 7, 1868.—The dampened ingredients are placed in the hopper, and are passed between the rollers. One roller in each pair moves at a higher speed than the other, which serves to mix the ingredients. The flakes are torn to pieces by the toothed rollers at the bottom of the series.

Claim.—A machine for crushing, grinding, and incorporating together the ingredients for the manufacture of gunpowder, composed of a series of rollers, placed in pairs, one pair above another, and a lower pair, one or more, of toothed rollers, all arranged to operate substantially as shown and described.

76,511.—JAMES O'ROURKE, Columbiana, Ohio. *Horse Hay Fork.*—April 7, 1868.—The cross prong has two jointed parts and is so arranged that the position of the point part governs that of the other. The lever operating the sliding rod consists of two bars, one of which is engaged by the detent when the hay is engaged.

Claim.—Handle *g*, lever *h*, and bar C, combined and operated as and for the purpose specified.

76,512.—E. N. PARKER, Essex, Center Brook P. O., Conn.—*Tatting Shuttle.*—April 7, 1868.—The thread is wound upon a spool in the tatting shuttle. The spool is turned by a winch key introduced at the side.

Claim.—As a new article of manufacture, a tatting shuttle, having its sides inclosing the revolving tube *c* and spool *d*, and its perforated ends riveted together, and to the blocks having the tension holes *g h*, all constructed as herein shown and described.

76,513.—WILLIAM PARKER, Washington, Ohio.—*Straw Carrier.*—April 7, 1868.—The bars have series of backwardly-projecting horns, and have longitudinal, reciprocal movement by a compound crank shaft.

Claim.—1. A series of open or riddle-like bars, substantially as and for the purpose set forth.

2. A series of bars, operated with one crank shaft only, substantially as and for the purpose set forth.

3. A series of bars curved, substantially as and for the purpose set forth.

4. A series of bars, provided with horns, substantially as and for the purpose set forth.

76,514.—JAMES WILLARD PATTERSON and JOSEPH STACY HILL, Cincinnati, Ohio.—*Coffee Pot.*—April 7, 1868.—The vessel contains compartments for water, coffee, and milk, neither of the two latter extending to the bottom. The water flows through a coil of pipe beneath the bottom, and may be made to discharge into either compartment through a pipe which ascends vertically, and has a horizontal pipe at its top which may be turned around thereon for that purpose.

Claim.—The combination of the vessels A and B and coil E when so arranged that the pipe may be made to discharge into either vessel at will, substantially as and for the purpose set forth.

76,515.—GARRET R. PATTON, Juda, Wis.—*Fence Post.*—April 7, 1868.—The base has a cross plate from whose arms extend the inclined legs supporting the socket.

Claim.—A metallic base or support for posts consisting of the socket B, spreading legs C, and cross-bars D, arranged and constructed substantially as herein described.

76,516.—CHESTER M. PEASE, Monson, Mass.—*Roof Staging.*—April 7, 1868.—The barbed rod is thrust up beneath a course of shingles, and the barbs hold in the course both above and below. The claw plate holds to the top of the roof and serves, with the barbed rod, to hold the plank to which the bracket is hinged and braced.

Claim.—The plank A provided with the claw C, holdfast D, and rack B, in combination with the bar E connected to A by a joint *f*, and having a support F attached to it by a joint *g*, the lower end of F being provided with a forked plate G, to catch into the rack, and all arranged substantially in the manner as and for the purpose set forth.

76,517.—WILLIAM N. PELTON, New London, Conn.—*Connecting Link.*—April 7, 1868.—The link has a pivoted section on one side. Its ends interlock with the body of the link and are secured by cross pins.

Claim.—A connecting link consisting of the body A and of the bar B pivoted to the same, all made and operating substantially as described for the purpose specified.

76,518.—CHARLES B. PERKINS, Kenduskeag, assignor to himself and BARNABAS BURSELEY, Sangerville, Me.—*Horse Rake.*—April 7, 1868.—The teeth are on a set of fingers which are independently pivoted, and are held down by their own gravity and by a bar which rests upon them, and may be raised or held down by a lever. The teeth are raised by a roller which lies under the fingers, and is connected with an operative lever by knees which run on the anti-friction roller.

Claim.—Lever G, knees L, friction rollers K, and lifting roller H, constructed, combined, and arranged substantially as described.

76,519.—A. S. PETRIE, Hudson City, N. J.—*Wrench.*—The sliding key and shank are obliquely grooved, and the side motion of the key is applied to tighten the moving jaw against the nut or to ease it therefrom. The key is kept in engagement with the shank by a spiral spring, but may be forced therefrom when moving the jaw.

Claim.—The obliquely grooved or ribbed sliding key C in combination with the movable jaw B and obliquely grooved or ribbed shank A, substantially as and for the purpose specified.

76,520.—NATHANIEL PULLMAN, New Oregon, Iowa.—*Car Replacer.*—April 7, 1868.—The replacing rails are pivoted to shoes, the upper one of which is clamped to the main rail.

Claim.—1. The shoe B, constructed in two parts, with parallel and diverging slide, and having clamps b^3 and bolt *b*, substantially as described.

2. The shoe C, constructed with parallel and diverging sides, the outer of which is higher than the inner, as and for the purpose described.

3. The combination of shoes B C, rails D D′ E when constructed as described, adapted to the rails A A, and operated substantially as set forth.

76,521.—W. I. REID, Brooklyn, N. Y.—*Electro-Magnetic Log.*—April 7, 1868.—The instrument is drawn through the water and its spindle is caused to rotate by the spiral wings upon it. The spindle is combined with a mechanism for breaking galvanic circuit upon a certain number of rotations of the spindle. The armature operates a registering mechanism.

Claim.—The log provided with a break for closing and breaking the electric circuit, substantially as described, in combination with the registering instrument connected therewith by an electric conductor, the said registering instrument being provided with an escapement operated by an electro magnet, and with the means described, or equivalent means for registering, all substantially as specified and for the purpose set forth.

76,522.—STEPHEN REX, Orefield, Pa.—*Harvester.*—April 7, 1868.—The toothed pawl is kept by the spring in engagement with a spur wheel upon the main shaft, but is raised therefrom by the foot of the driver upon the treadle, so that when the driver's foot is removed from the treadle the mechanism comes to a stand.

Claim.—The locking pawl *e*, lifting lever *a*, and spring *f*, substantially as shown and described, when combined with any toothed wheel of the gearing, operating the cutters or knives of a reaping or mowing machine, all as and for the purpose set forth.

76,523.—William W. Reynolds, Brandon, Vt., assignor to Howe Scale Company, same place.—*Platform Scale.*—April 7, 1868.—The caster wheels are secured to the levers of a frame, and may be brought in contact with the floor to enable the moving of the scale from place to place.

Claim.—The combination of the two yoke levers and their wheels and caster, or the equivalent of the latter, with the platform scale, the whole being arranged and to operate substantially as described.

76,524.—Paris Richardson, Jr., Warren County, Ill.—*Wagon Wheel.*—April 7, 1868.—The felloe is made of a single ring of metal. The hub is made of two pieces, one of which has the mortises for the spokes which are forced through the open side of the mortises and retained by an annular plate secured by screws to the other part of the hub.

Claim.—A wagon wheel having a felloe B cast of one piece of metal, and a hub composed of the metal part F, and cap D, with grooves *h*, and wedge spindle G, all connected and arranged, substantially as and for the purposes set forth.

76,525.—Matthias Rikert, Oneida, Ill.—*Rotary Steam Engine.*—April 7, 1868.—The pistons are governed in their radial movements by trams or cam grooves. The central part of the hub is open, the steam being confined to an annular space between the hub and the case.

Claim.—The arrangement of the stop or partition block O, pistons E E E, trams G G, and cams H H, and standards I I, substantially in the manner and for the purpose as herein shown and described.

76,526.—John Robertson, Quincy, Ill.—*Valve Rod Connection.*—April 7, 1868.—The eccentric rod screws into a sleeve nut rotatable in the socket attached to the band of the eccentric. The nut is prevented from end play by a circumferential groove which receives the point of the set screw.

Claim.—The sleeve nut B, arranged substantially as shown, whereby a valve rod or connecting rod may be adjusted without turning the same, substantially as described.

76,527.—Azariah Robinson, New York, N.Y.—*Fire Escape.*—April 7, 1868.—The chair is slung from an eye at the end of the rope, and the rope being passed through the pulley block a hook upon the eye embraces the hauling side of the cord, and sliding down it, keeps the chair in its descent from contact with the buillding.

Claim.—The arrangement of the chair C with relation to the rope B and crane A, whereby the chair by its hook *d* is adapted to be kept free from contact with the flames escaping through the lower windows of a burning building, as herein described for the purpose specified.

76,528.—William B. Robinson, Detroit, Mich.—*Balanced Slide Valve.*—April 7, 1868.—The upper side of the valve has recesses in which the soft metal backing bars are contained. These bars are raised by springs so as to come in contact with the cap plate of the steam chest, and the steam is also allowed access beneath them to press them against the plate and prevent leakage of steam around their edges.

Claim.—The balanced slide valve, constructed as described, having the perforated side recesses B adapted to receive the single packing strip C, having differential surfaces forming recesses, the inner recess communicating with the interior of the valve through the openings *e*, and the ends of said valve having perforated recesses D, containing the double packing strips, the inner one F, of which is formed in one piece, and the outer one E, of two pieces, held apart by the spiral spring, the recesses in the ring F also communicating with the interior of the valve through the openings *e*, all constructed, arranged, and operating as herein described for the purpose specified.

76,529.—J. M. Rush, Marengo, Iowa.—*Grain Conveyer.*—April 7, 1868.—The inclination of the "flights" is adjustable to regulate the rate of feed.

Claim.—The sliding frame, combined with the disk *d* and the flights *a a* on the shaft B, arranged and operating substantially as and for the purpose herein described.

76,530.—J. B. Sargent, New Haven, Conn.—*Sap Spout.*—April 7, 1868.—The spout has, between the holding screw and the collar, a perforated neck which gives free communication with the outer layer of the alburnum. A hook gives means of suspension for the bucket.

Claim.—1. A sap spout constructed with the hollow screw shank B, having formed in the shank, between the screw and the base of the spout, the chamber C C, in the manner and for the purpose set forth.

2. A sap spout provided with the packing *a* around the shank, in the manner and for the purpose substantially as herein set forth.

76,531.—Anson Searls, New York, N. Y.—*Shaft Coupling.*—April 7, 1868.—A hook on the end of the thill iron takes over the pin of the clip; and the space through which the pin passes is made up with a peculiarly shaped washer, having a recess to contain an annular rubber block, held in place by a nut.

Claim.—1. A shaft hook, made eccentric in form, with a bolt hole through it, and the recess B in the front side, as shown.

2. An eccentric cap, C, with the recess D, for the purposes set forth,

3. The cap C, spring E, cap H, nut F, and bolt *i*, in combination, and in combination with the hook A and pin K, substantially as described, and all for the purposes set forth.

76,532.—M. A. Shepard, Bridgeport, Ill.—*Fruit Drier.*—April 7, 1868.—The furnace is made of sheet iron, and is contained in a wooden case which has sliding trays to contain the drying fruit.

Claim.—The furnace B, when constructed as described, and hot air chamber D′, arranged as described, in combination with the safe A, the whole being so constructed that the two latter can be readily detached from the furnace when desired and used for other purposes, as set forth.

76,533.—Joseph H. Simmons, Philadelphia, Pa.—*Spool Stand.*—April 7, 1868.—The case is supported by the pins at the upper ends of the semi-circular spring and has an ellipsoidal form. It is made of a number of gores sewn together, but leaving one open seam, which gapes as the apexes are pressed inward.

Claim.—1. The combination of the body D, spool spindles F, arms C, and support A B, substantially as described, for the purpose specified.

2. The spring C, supporting the closed body A, when constructed and operating substantially as described, for the purpose specified.

76,534.—William Simpson, Rosherville, and William Howitt, Notting Hill, England.—*Steam Heater.*—April 7, 1868.—The frame of the roof is constructed of sections of piping connected by crucial and other couplings. The arrangement admits the passage of warm water through the pipes.

Claim.—Constructing arched or curved frames for the roofs of horticultural and other buildings, wholly or in part of metallic tubes D, united by curved sockets E E′, and so connected and arranged as to permit and facilitate a circulation of hot water through the same, all substantially in the manner and for the purpose herein set forth.

76,535.—William M. Sloan, Buffalo, N. Y., assignor to Car Carpenter.—*Apparatus for Generating Gas.*—April 7, 1868.—The steam or air is passed beneath a dome of felt, whose edges are secured to the bottom of the vessel containing the carburetting liquid. After passing through the felt and the liquid, it passes into a chamber above the fire space and through the cylindrical vessels surrounding the said space. The carburetted air or steam is heated to fix it as a gas.

Claim.—The combination of the carburetting apparatus A B D, when constructed and operating as described, with the fire chamber I, cylindrical retorts L L^1 L^2, &c., and pipe E, when the parts last men-

tioned are arranged in the manner set forth, the whole operating together substantially as and for the purpose specified.

76,536.—E. A. SMEAD, Tioga, Pa.—*Wrench.*—April 7, 1868.—The ratchet teeth of the sleeve of the sliding jaw are kept in engagement with the ratchet teeth of the shank by the spring cam, which is pivoted to the sleeve, and may be drawn back by the thumb piece.

Claim.—The cam *e*, for holding the sliding jaw C, as herein specified.

76,537.—CHARLES F. SMITH, Springfield, Mass.,—*Implement for Cutting, Perforating, and Lighting Cigars.*—April 7, 1868.—The base is hollow, and may contain kerosene. A standard between the match safe and burner has a perforated plate, through which the tip of the cigar is thrust to be sheared off. The shearing blade carries a perforating point.

Claim.—As a new article of manufacture, the stand B, with match box C, burner A, and cutting device D I *d*, the whole constructed and arranged substantially as and for the purposes set forth.

76,538.—ROBERT SMITH and WILLIAM T. SMITH, Carondelet, Mo.—*Amalgamator.*—April 7, 1868.—The amalgam troughs have their bottoms inclined toward the back ends, which are set at an acute angle to the bottom. The amalgam collects in the acute angle at the back end of the trough.

Claim.—1. The amalgamating troughs B B′, when their bottoms are serrated, and acute angles *b′*, formed at the back end of each serration, as described and set forth.

2. The combination of two or more sets of amalgamating troughs B B′, with the delivery flume C and distributing aprons D E, substantially in the manner and for the purpose herein shown and described.

3. The swivel guide blocks *c* and *d*, when applied to the flume C and apron D, as described and set forth.

4. The arrangement of the shafts I, with their handles *i* and levers or arms *i′*, when employed as herein described and shown.

76,539.—THOMAS C. SMITH, New York, N. Y.—*Lemon Squeezer.*—April 7, 1868.—The India-rubber ring beneath the edge of the cup allows a limited accommodation to the size of the lemon.

Claim.—1. Providing the interior of the cup B with a shoulder *a*, to receive a ring *f*, of India-rubber or other suitable elastic material, on which the flange *e* of the concave G rests or bears, in connection with the lips *g g*, at the upper part of the cup B, and the notch *h*, in the flange *e* of the concave, all arranged substantially as shown and described, for the purpose of securing and packing the concave in the cup.

2. The combination of the cast-metal handles A A′, plate E, and cup B with the porcelain compress F and concave G, the two cast-metal parts being connected by a hinge or joint, and the porcelain parts attached to the cast-metal parts, substantially as shown, for the purpose set forth.

76,540.—WRIGHT SMITH, St. Louis, Mo.—*Brick for Building Purposes.*—April 7, 1868.—The cavities in the sides of the bricks are intended specially to receive clinches of outside plaster or cement.

Claim.—The brick A, when provided with the dovetailed mortar cavities *a*, extending across a portion only of the depth of the brick, the same being in shape flaring at the bottom and narrower at the top, substantially as and for the purpose described.

76,541.—JACOB L. SORBER, Chillicothe, Ohio.—*Lubricating Axles.*—April 7, 1868.—The spindle is tubular, and from its bore extend oil passages through which the oil passes upward to the box. The oil is contained in a raised cup, which has a stop-cock. The cup is placed upon a block which is attached upon the axle to strengthen its weakest point. The outer end of the bore is stopped by the screw tap.

Claim.—1. The combination of the tubular spindle B C, elevated oil reservoir D, taps E, ducts F F′, and annular oil chambers J J′, as and for the purposes specified.

2. Providing the inner end of a wheel hub with the outwardly-flaring sand and mud guard I, for the purpose described.

3. Attaching the bar or block M to the axle in the rear of the collar *a*, for the object explained and set forth.

76,542.—THOMAS S. SPEAKMAN, Camden, N. J.—*Draw Bridge.*—April 7, 1868.—The two draws give means for keeping the bridge continually open for passage of vehicles.

Claim.—A bridge, constructed with the widened parts D D′, with the channel C between them, and having two connecting draws G G′, that span the channel, one at the upper and the other at the lower side of the bridge, substantially as and for the purpose specified.

76,543.—VIVIAN K. SPEAR, Lynn, Mass.—*Machine for Polishing the Heel of Boots and Shoes.*—April 7, 1868.—Improvement on his patent, December 10, 1867.—The boot, when containing a last, is clamped between the adjustable point and the toothed plate, so as to allow of its movements in presentation to the polishing tools. When there is no last the button is substituted for the point on the clamping screw.

Claim.—1. In combination with the boot-holding bracket, mounted on a sliding base plate, the lever G, with ratchet, pawl, and connecting rod I, substantially as and for the purpose described.

2. In combination with the sliding bracket, lever G, connecting rod I, and ratchet and pawl, the forked lever L, spring *l*, and connecting rod *j*, substantially as and for the purpose set forth.

3. In combination with the boot-holding bracket and polisher, as described, the clutch R, with the central point *r* and flange *r′*, substantially as and for the purpose specified.

4. In combination with the bracket and polisher, the attachable and detachable button *q*, as and for the purpose described.

76,544.—WILLIAM H. ST. JOHN and PETER CARTWRIGHT, New York, N. Y.—*Composition for Purifying Illuminating Gas.*—April 7, 1868.—Gray cast-iron turnings or filings are mixed with pulverized hematite or hydrated iron ore in proportion to make 80 per cent. of pure metal. It is then saturated with ammoniacal liquor and thrown into a heap to heat, and stirred to dry; 5 per cent. of pulverized charcoal is then added. Before the mixture is placed in the purifiers it is moistened with water. It is placed therein 2 or 3 feet deep on a layer of perforated boards.

Claim.—The process of purifying illuminating gas, made from bituminous coals, by transmitting it through a composition of pulverized iron ore, strengthened to about 80 per cent. of pure metal, moistened with ammoniacal liquor, and mixed with about 5 per cent. of pulverized charcoal, and prepared as more fully set forth above.

76,545.—JEROME STOCKING and EDWARD P. SHAFFER, Rochester, N. Y.—*Steam-Engine Slide Valve.*—April 7, 1868.—The valve has opposite, vertical faces, which slide between the faces of raised steam chests upon each side, so as to be balanced. The sides of the valve are set out by temper screws.

Claim.—The combination of the fixed nut *g*, screw head *h*, with the double-seated valves E and F, whereby the seats of the valves are allowed to work freely, irrespective of expansion and contraction of the steam chest, substantially upon the principle as herein set forth.

76,546.—JAMES STRAWN, Plymouth, Mich.—*Carriage Bolt.*—April 7, 1868.—The bolt is combined with an axle clip, and is for insertion in a carriage rocker, for the purpose of connecting the carriage with the axle.

Claim.—The combination of the clip *c* with the bolt *d*, the latter being loose in the former, as and for the purpose described.

76,547.—A. L. TAYLOR, Springfield, Vt.—*Clothes Pin.*—April 7, 1868.—The fork is rigid and carries a spring hook, which has pressure against the clothes.

Claim.—The combination of the hook or fastening

B with an ordinary clothes pin A, when the fastening is constructed and applied to the outer side of the pin, substantially as herein shown and described.

76,548.—ENOCH TAYLOR, Memphis, Tenn.—*Baling Press.*—April 7, 1868.—The lower platform is linked to wrist pins of the pivoted sectors, whose arcs are screw geared to a vertical shaft.

Claim.—The arrangement of the upper platform B, lower platform N, working upon the posts O, connecting bars M, toothed segments L, worm K, and the gearing D E G H, and crank wheel J, all operating as described, for the purpose specified.

76,549.—GEORGE G. TAYLOR, Charlestown, Mass.—*Match Stand.*—April 7, 1868.—The drawer is metal-lined and covered, and forms a reservoir for matches, which are placed end up. Beneath the cover are two trays for the unused matches and remnants respectively.

Claim.—As an article of manufacture, a safe for matches, containing the drawer H H and the movable pan I I, with the two chambers formed therein, and either made of or lined with metal, together with an igniting surface N N on one side thereof, the whole constructed in the manner and for the purposes substantially as above set forth.

76,550.—TRUMAN H. TEARS, Le Roy, Pa.—*Horse Hay Fork.*—April 7, 1868.—The guide pin occupies such a position in the link when the jaws of the fork are closed that its outward pressure has no effect toward raising the link and allowing the discharge of hay. The link is raised by a cord.

Claim.—1. The arms A B, when constructed in the manner and for the purpose substantially as herein set forth.

2. The combination of the arms A and B, link D, pulley F, and pin H, for the purpose and substantially as herein described.

76,551.—GEORGE TEFFT, Salem, N. Y.—*Music Rack.*—April 7, 1868.—The concentric cylinders are each one attached to a frame which turns with it and folds over the leaf of music. Each cylinder has a cog-wheel which is turned by the rack at the end of the spring lever, when the lever is released from the spring detent by depression of the appropriate thumb knob.

Claim.—1. An improved music rack or machine for turning music, constructed in the manner and for the purposes substantially as herein described and set forth.

2. The notched levers C, C′, and C″, and the cog-wheels H, H′, and H″, and the cylinders D, D′, and D″, in combination with and operating the leaves or folds O of a music rack or frame, substantially as hereinbefore fully described and set forth.

3. The upright or bar B, and the cylinders D, D′, and D″, and levers C, C′, and C″, in combination with a music rack or frame, substantially as herein fully described and set forth.

4. The combination of the levers C, C′, and C″, operated by the springs E, E′, and E″, and F, F′, and F″, with the cog-wheels H, H′, and H″, cylinders D, D′, and D″, and upright or bar B, each being constructed and operated in the manner and for the purposes substantially as herein fully described and set forth.

76,552.—FREDERIC WILLIAM THAYER, Boston, Mass.—*Hydrocarbon Burner.*—April 7, 1868.—The hydrocarbon is placed in retorts, and a series of jet pipes project from the retorts toward the surface to be heated. Air is furnished in any desired quantity within the mixing chamber. The air is heated in a chamber by the outside heat of the furnace before entering the mixing chamber.

Claim.—1. The combination of one or more elongated projecting jet pipes with the evaporator or retort, when they are so proportioned to each other that, by means of the evaporation alone, the vapor will be discharged from said pipes with force, so as to produce an elongated jet of flame, similar to that of the blow pipe, substantially as described.

2. The jet pipe, supplied with gas or vapor, as described, in combination with the adjustable mixing pipe or chimney, by which a current of air is drawn into the same, and mixed with the jets of vapor, substantially as described.

3. Combining with the retort or evaporating vessel the air chamber, for heating the air supplied to the jets and protecting the vessel, substantially as described.

4. So combining the chimney with the heating chamber and jet pipe that it is supported by the upper wall of the chamber in proper relation to the jet pipe, so as to receive from the chamber the proper amount of air to supply the jet, substantially as described.

5. Adjusting the chimney and jet pipe by means of the nuts *a*, in combination with the air chamber, substantially as described.

6. The employment of two or more retorts, one over the other, and the heating of the uppermost retort by jets supplied by the retort beneath it, substantially as described.

76,553.—WILLIAM L. THOMAS, Middlebury, Ohio.—*Bedstead.*—April 7, 1868.—The jointed portion at the head of the bed bottom has a downwardly projecting frame which is connected by straps to a roller that is rotated to raise the said portion.

Claim.—The bedstead, constructed as described, and consisting of the side rails B, strips D, end rails C, posts A, slats F, having pins G, springs E, hinged section P, H; also provided with spring slats F, E, G, arms I, straps J, shaft K, ratchet and pawl M, N, and crank L, when said side rails B are provided on the inner face with guides for the ends of the spring slats F, all arranged and operating as set forth.

76,554.—JOHN THORNILEY, Fallston, Pa.—*Attachment to Cooking Stoves.*—April 7, 1868.—The extension is placed on the rear end of the stove, and has a pot hole immediately over the flue hole of the latter. It may discharge directly into the chimney or communicate therewith by a stove pipe.

Claim.—As an article of manufacture, a cast or sheet iron drum box, so made as to form an extension of the top of a cook stove, and provided with shelves at the sides, a boiler hole on the top, and adjustable wing gates in the flue chamber, and connecting a cook-stove flue with a chimney, substantially in the manner and for the purpose described.

76,555.—WILLIAM P. THURBER, Chicago, Ill.—*Medical Compound.*—April 7, 1868.—For treatment of coughs, &c. Prepared sugar syrup, 1 quart; tincture of lobelia, 6 oz.; paregoric, 2 oz.; extract of hoarhound, 2 drachms; and tartar emetic, 30 grs.

Claim.—The improved medicine prepared of the material and substantially as herein set forth.

76,556.—THOMAS TOSTEVIN, Council Bluffs, Iowa.—*Cutter Head for Wood Planing Machines.*—April 7, 1868.—The flange upon the rear edge of the cutter enters one of the longitudinal grooves in the cap plate, which holds it firmly to adjustment. The device allows of advancement to compensate for wear.

Claim.—The cutters B, having an outwardly projecting flange upon their rear edges, and caps C, provided with a series of parallel longitudinal grooves in their under sides, constructed to operate substantially as described.

76,557.—JOSEPH TRENT, Millerton, N. Y.—*Volute Spring.*—April 7, 1868.—The spring is formed by rolling up a plate of metal having four arms, two at each end, the said arms being separated by V-ended slots which are formed by punching out the metal, and not by splitting and spreading, as in the Freeland & Ward patent, March 7, 1865.

Claim.—1. As a new article of manufacture, the quadruple volute spring, constructed in the manner herein set forth.

2. The improved method herein described of manufacturing double or quadruple volute springs.

76,558.—L. E. TRUESDALE, Chicago, Ill.—*Bridge.*—April 7, 1868.—The ends of the rods are corrugated and passed into the caps, where they are clamped upon each other, and between corrugated surfaces within the caps at the upper and lower ends of the posts.

Claim.—1. The construction and arrangement of

the corrugated clamp plates H, in combination with the tie rods S″, in the manner and for the purpose herein described.

2. The construction and arrangement of the caps A and A″ and posts B of a bridge so that the suspension rods may be clamped together by means of the corrugations upon the ends of the same, and held firmly in position by means of clamp E and wedge or key *i*, substantially in the manner and for the purpose herein described.

76,559.—Alexander C. Twining, New Haven, Conn.—*Railway Signal and Alarm.*—April 7, 1868.—When the switch is in the unlocked or open position the bars act upon the handle of mechanism upon a passing locomotive by which the brakes may be applied and an alarm sounded.

Claim.—1. In a railroad draw or other opening, the locking apparatus, constructed and operating substantially as described, when connected with the described devices for actuating the brake, bell, or whistle upon the engine of a moving train, all substantially as set forth.

2. In combination with the above, also the handle *h*, connected and arranged as described, to strike on the successive inclines, substantially as and for the purpose set forth.

76,560.—John B. Valliquette, Chicago, Ill.—*Bridge.*—April 7, 1868.—The gate is attached to a truck made to run transversely below the road bed.

Claim.—The gates G G, arranged to run in slots H H, in combination with the trucks J J, projections *e e*, and rubber blocks X X, substantially as and for the purpose set forth.

76,561.—James H. Van Nortwick, Sturgis, Mich.—*Wind Mill.*—April 7, 1868.—The "wings" or gates are upon shafts having segmentally geared wheels which engage a common wheel turned by a lever to regulate the amount of air passing through.

Claim.—The combination and arrangement of wind wheel *m*, wings *n n*, pinions *s s*, wheel H, lever E, spring *a*, and plate *p*, or its equivalent, substantially for the purpose described.

76,562.—Samuel Vanstone, Providence, R. I., assignor to himself and John Stewart, same place.—*Chain Link.*—April 7, 1868.—Improvement on the patent of Vanstone and Stewart, October 29, 1867. The sections are united together with dovetail scarfs and secured by the sectional bar whose ends are overlapped and brought together by the blow of a hammer.

Claim.—Constructing the two divisions of a connecting link, in the manner substantially as described, for the purpose specified.

76,563.—Michael Verhoeven, Rochester, N. Y.—*Lime Kiln.*—April 7, 1868.—The ash pits have water trays. The bars are loose and may be drawn outward to loosen clinkers. The furnace flares inward and has deflectors to equalize the heat around the inside of the kiln. Passages on each side of the furnaces communicate between the cupola and the open air, and are for removal of ashes. Side flues from the furnace enter these passages.

Claim.—The construction and arrangement of the furnaces with the removable grate bars *d*, angular diffusing sides *g g g′*, lateral passages C *i*, and double arches *k k′*, with intervening air space *l*, the whole operating in the manner and for the purpose herein set forth.

76,564.—Jacob Voegtle, Indianapolis, Ind.—*Stove Drum.*—April 7, 1868.—The drum has an inner, cylindrical flue, an annular flue, and outer, concentric series of cylindrical flues. A disk damper regulates the direct current through the central flue, and annular register dampers regulate the upward passage through the annular flue space and communications between the various flues.

Claim.—A heat regulator, having cylinders F, E, and D, damper *a*, rings B and H, and plates C, G, and K, constructed, arranged, and combined substantially as and for the purposes herein specified.

76,565.—Felix Walker, Memphis, Tenn.—*Coal Stove.*—April 7, 1868.—The ashes drop through the open bottom into a receptacle beneath the floor level, and are reached by raising a hinged bed plate.

Claim.—The egg shaped stove A, having an open bottom, the bed plate B, and chamber C, in combination with the semi-elliptical reflecting niche F, all arranged as described, for the purpose specified.

76,566.—William H. Walker, Fond du Lac, Wis.—*Shingle Machine.*—April 7, 1868.—The reciprocating carriage has two openings for the bolts of wood which are brought alternately under the action of the saw. A horizontally-revolving eccentric cam acts against anti-friction rollers upon the carriage to cause its reciprocation. The bolts are raised from contact with the saw by an automatic forked lever.

Claim.—1. The combination of the wheel G, provided with the cam *m*, and the sliding carriage, provided with the friction rollers *i*, or equivalents, all constructed and arranged to operate substantially as described.

2. Operating the dogs *p* by means of the inclined bar *b′*, sliding box N, and lever *u*, operated by cam P, substantially as set forth.

3. The forked lever T, pivoted upon the main frame A, and arranged to be operated by the carriage L, for the purpose of raising the blocks from contact with the saw, substantially as described.

4. Locating and carrying the tip-tables O, with their cam shafts, on the saw carriage L, substantially as shown and described.

5. The metal dogs *f′*, secured to the wooden head blocks *l′*, when arranged in the metal frames D, as set forth.

76,567.—Charles H. Warner, New Haven, Conn.—*Clock Alarm.*—April 7, 1868.—The alarm movement is applied to an eight-day clock, and is arranged to sound the alarm each day, but only requires winding when the other works are wound.

Claim.—1. The cam F and lever G, with the dial B, when the said cam is arranged to operate the lever G once only during two revolutions of the dial B.

2. The combination of the lever G and the hammer X with the lever *g*, when arranged so that the hammer X operates the lever *g*, in the manner and for the purpose described.

3. The combination of the cam U, and the cam or pins upon the shaft *a*, with the lever *g* and its arm *h*, arranged so as to operate in the manner described.

76,568.—Joseph S. Waterman, Roxbury, Mass.—*Corpse Preserving Case.*—April 7, 1868.—Improvement on his patent, April 23, 1867. The adjustable ice box has hooks at each end which engage notches in the bars. The bars stand vertically in action, but are hinged at their lower ends to allow of folding down when unused.

Claim.—Making the ice box B adjustable within the case A, so that it can be raised or lowered to increase or diminish the size of the corpse chamber, for the purposes described.

Also, covering the conductors *k o*, with wood or its equivalent, for the purpose herein set forth.

76,569.—G. A. Watson, Proctorsville, Vt.—*Chair Seat.*—April 7, 1868.—The ends of the rattan enter the grooves made in the top rail of the chair, and are clamped by strips fitted therein.

Claim.—The securing of bottoms in chairs by having grooves *a* made in the upper surface of each rail *b* of the seat frame, and having strips B to fit in said grooves to clamp and firmly hold the edges of the bottom in the grooves, the strips being drawn into the grooves, and firmly secured in position by screws *d* or other means, substantially as set forth.

76,570.—Julius Werner, New York, N. Y.—*Sofa Bedstead.*—April 7, 1868.—The frame of the sofa is laterally extensible and the seat and back are jointed together. The hind side of the back and the under side of the seat are finished as a mattrass and are turned upward on the extended frame to form a bed.

Claim.—1. The combination of the back D, upholstered upon both sides, and hinged at the base, with the seat C, upholstered upon both sides and hinged at the front edge, and adapted to be folded

out to give place to the back D, when folded down, substantially as described and specified.

2. In combination with the frames C and D, arranged as above, the extension head and foot rests E E, all made and operating substantially as herein shown and described.

3. The frame A, double-cushioned seat C, and folding back D, and the extension head and foot rests E, in combination with the covering cushions F, as herein described, for the purpose specified.

76,571.—CYRENUS WHEELER, Jr., Auburn, N. Y.—*Harvester.*—April 7, 1868.—The rake receives motion from an endless chain passing over a chain wheel on the axle. The chain after passing around two idler pulleys engages around an annulus which may at will be connected by a pawl to a hub around which it turns. The hub has a crank which actuates the rake by means of a connecting rod.

Claim.—1. The combination of the endless and continuously-moving chain, as the machine advances, the rim G, and its interior wheel J, with ratchet, pawl, and spring bolt attachment, for the purpose of setting in motion and driving a rake, at the will of the operator, which rake is automatically thrown out of action at the completion of every sweeping operation, substantially as described.

2. In combination with a rising and falling and sweeping rake, the two pivots or centers of motion *i m*, the latter being oblique to and in a different plane from the former, so that, as the rake drops upon the platform, it will cut or shear in under the reel, and fall more nearly to the cutting-point, and thus reach all the straw, however short it may be, substantially as described.

3. In combination with a rising and falling and sweeping rake, the armed lever *q*, cam *s*, and notches at or near the parts *n p*, for the purpose of connecting and disconnecting the two parts, substantially as and for the purpose described.

4. In combination with the endless chain for driving the reel, the swinging and adjustable arm 6, with its pulleys, one in each end thereof, for taking up the slack of or letting out the chain, as the reel is lowered or raised on its post, substantially as described.

76,572.—DAVID WIGHT, New London, Conn.—*Top Game Board.*—April 7, 1868.—The score made by the top is indicated by the counters which slide on wires in the box.

Claim.—A board or box, constructed with compartments, and provided with counters arranged to slide upon wires or rods, substantially as and for the purpose described.

76,573.—J. H. WILDER, Farmington, Ohio.—*Horse Hay-Fork.*—April 7, 1868.—The hooked teeth are secured in a bar which is hinged to the bail. The post extending upward from the bar is engaged by the spring-catch turning in a slot in the bail, and having a releasing cord attached to its end.

Claim.—The bail D, having slotted end *a*, in which the horizontal catch *c* is pivoted centrally, said catch notched at its forward end, and held engaged with the upper end of the post B, by the rearward-projecting spring attached to the rear end of the catch *c*, and released by the rope *e*, secured to the same end of the catch, and hanging downward through the head A, all constructed and arranged to operate as herein shown and described.

76,574.—SOLOMON H. WOOD, East Berlin, Conn.—*Die for Making Pliers.*—April 7, 1868.—Each part of the pliers is swaged out and the slot punched. The jaw of one part is then driven through the slot of the other, and the instrument finished.

Claim.—The dies represented in Figs. 5 and 7, constructed and used in the manner and for the purpose substantially as set forth.

76,575.—ABRAM WALLACE WRIGHT, Bunker Hill, Ill.—*Spring Bed Bottom.*—April 7, 1868.—The double helical springs are looped on the ends of the slats and have side hooks supported on screws in the slats.

Claim.—1. The spring C, made substantially as described. viz: of the two helix coils. the junction loop, and the arms projecting from such coils, the whole being arranged as specified.

2. The pin *k*, in the slat, in combination with the spring C, made and applied to the slat, as specified.

3. The combination of the two supporting screws *e e* and loops *f f*, with each spring C made and applied to the slat, as specified.

76,576.—RICHARD A. YORK, Reading, Mich.—*Crimping Machine.*—April 7, 1868.—The dampened leather is confined beneath the straps, and the foot being placed upon the treadle the leather is crimped by the spring jaws operated by the hand lever. The corners are placed in the jaws of the draw block, and the edges clamped by the hinged extension plates.

Claim.—1. The combination of the form F, spring-hinged extension blocks G G, having grooves K, hinged extension plates H, adjustable gripes I, adjustable draw block L, having flanges N N and jaw V, substantially as and for the purpose specified.

2. The rubbers A, constructed as described, in combination with the spring D, substantially as and for the purpose specified.

3. The rubbers A, in combination with the slotted arm 5, roller 2, and form T, as herein described, for the purpose specified.

4. The combination of the rubbers A, form F, slotted and grooved V-shaped stock F, straps R, rollers, and treadle, substantially as described, for the purpose specified.

5. The device for crimping leather, constructed and combined to operate substantially in the manner and for the purpose described.

76,577.—BERNHARD H. ZINN, New York, N.Y.—*Extension Chair.*—April 7, 1868.—The seat and back have an extensible apron whose upper end is wound upon a roller at the top of the back. The X-frame is adjustable; an extension forming the chair into a couch is folded beneath the seat, and has an adjustable support at the foot.

Claim.—1. The links *a* and *b*, and catch *d*, substantially as shown and described, in combination with the parts A and B of an X-chair, all as and for the purpose set forth.

2. The extension legs L L K, ratchet legs J J, and spring lever *h h*, substantially as and for the purpose shown and described, in combination with the hinged foot-rest G H and parts A B of an X-chair, all as set forth.

76,578.—SIMON CONRAD, Petaluma, Cal.—*Cultivator and Harrow.*—April 7, 1868.—The wheel frame has attachments for a harrow, a cultivator, and gang-plow. The wheel spindles admit of vertical or lateral adjustment either to increase or diminish the tread, so as to give the necessary space for the implement or to allow one wheel to run in the furrow without affecting the horizontality of the axle.

Claim.—1. The connecting devices, by which I attach, at pleasure, the cultivator or the harrow alternately to the truck or carriage, all as shown and described.

2. In combination with the above, the construction of the spindles on which the wheels of the truck are placed, so that they may be so placed on the axle as to increase or decrease the distance between the wheels, as may be desired, all as and for the purposes shown and described.

76,579.—ALBERT F. ALLEN, Providence, R.I.—*Hose-Coupling Wrench.*—April 14, 1868.—At the end of the handle, between the horns, is a socket to receive the stud upon the coupling.

Claim.—The signal hose wrench, constructed substantially as herein described, with a socket D, the spanning horns B, and handle H, for the purposes set forth.

76,580.—JOHN F. ALLEN, Tremont, N. Y.—*Steam Generator.*—April 14, 1868.—A series of inclined, transversely communicating pipes are cast together and are arranged so as to slope gradually toward and extend through the rear wall of the furnace. From the lower sides of this casting extend series of pipes which gradually lengthen from the bridge wall backward. Near each end of the boiler is a steam drum. and the drums are connected by a

pipe. The mud drum and feed-water pipe are to the rear of the rear wall.

Claim.—1. The arrangement of a number of chambers A, of an oval or circular section, with circular forward end, and strengthened by braces or division plates *b*, inclined upward, for the purpose described, in combination with hanging tubes or pipes D, the whole being constructed in the manner and for the purpose substantially as set forth.

2. The combination of the above described chambers A, with hanging pipes D, water chamber K, steam chamber J, and connecting pipe M, when constructed and arranged substantially as described and specified.

76,581.—JOHN F. ALLEN, Tremont, N. Y.—*Decarbonizing Iron.*—April 14, 1868.—The molten iron is placed in a cylinder whose refractory lining contains numerous inclined cavities which raise the iron as the cylinder rotates, and pouring it out in fine stream expose it to the current of air or other vapor passing through.

Claim.—1. Purifying iron from its carbon and other impurities, by causing the molten iron, contained in a revolving cylinder, to pass in the shape of a shower of spray through atmospheric air or other oxygen-bearing gas or vapor passing or being forced through the revolving cylinder containing the iron, substantially in the manner as set forth and described.

2. The construction of the revolving cylinder A, with suitable lining C, provided with holes or cavities *n* on the inner circumference, in the manner and for the purpose substantially as set forth and specified.

76,582.—FRANKLIN BALL, Wilton Junction, Iowa.—*Window Sash Stop.*—April 14, 1868.—A semi-circular, eccentrically-journaled, serrated block is placed in the frame, and its faces brought against the side of the sash to sustain it, or to hold it shut. The shaft by which the catch block is operated has a projection which enters a rack upon the frame to hold it in the required position.

Claim.—The combination of notches H H with the face plate and thumb piece K of a shaft D and catch A of a window fastener, all substantially in the manner and for the purpose herein set forth.

76,583.—GEORGE E. BANNER, Newark, N. J.—*Floor Clamp.*—April 14, 1868; antedated April 7, 1868.—The bed piece has adjustable bearing upon one side of the beam, and has automatic bearing upon the other side by means of a jaw which is upon a lever operated by the pressure stem, so as to clamp the beam in the forward movement of the stem. The stem is actuated by a lever.

Claim.—The jaw J. the sliding bar L, and screws K, in combination with the lever D, ratchet F, joint bar C, main stem B, with its foot H, the whole being constructed and arranged to operate substantially in the manner and for the purposes specified.

76,584.—CHARLES BARNES, Cincinnati, Ohio.—*Vise.*—April 14, 1868.—The inner tubular stem has end movement in the outer stem, which may be turned in the yoke. The yoke is clamped upon the outer stem by a screw and is itself swiveled to the bench.

Claim.—1. A bench vise, adjustable around two centers, at right angles to each other, substantially as set forth.

2. The arrangement of the cheeks G and I, with tubular stems F and H, capable of being slid one within the other, and secured within the divided yoke C, vibrating about a vertical stem B, in combination with the nut *b* and screws E and J for regulating and fixing the adjustments.

76,585.—SAMUEL P. BARTLEY, Columbus, Ohio.—*Steam Boiler Furnace.*—April 14, 1868.—The funnel-shaped passage is immediately to the rear of the grate, and at the rear of the said passage is a transverse pipe whose upper side has a longitudinal opening through which air passes to assist combustion. The rear end of the combustion chamber is curved to give the caloric current the right presentation to the return flues.

Claim.—The funnel-shaped chamber or passage D, in combination with circular or curve in rear of chamber O, and the cold-air pipe E, constructed and operating substantially as and for the purpose described.

76,586.—PETER R. BEAUPRE, Metropolis, Ill.—*Breech-loading Ordnance.*—April 14, 1868.—The breech block swings on trunnions which are above the level of the center of the bore. The breech joint has a cycloidal form below the center of the bore and is straight above that point. The expansion caused by heat is provided for by screws by which the breech strap is adjusted longitudinally. The breech block is held in firing position by a screw.

Claim.—1. The construction of breech-loading cannon, with the joint between the breech and barrel formed as described, with the center of the trunnions of the breech piece placed above the center of the bore, for the purposes specified.

2. The breech strap C, in combination with the expansion screws F, provided with the clutch pin T, substantially as and for the purposes set forth.

76,587.—SALMON BELDEN and JOHN FRANKLING CRABTREE, Visalia, Cal.—*Gun Lock.*—April 14, 1868.—A notch in the trigger head engages the free end of a lever whose other end is connected by a link to the tumbler, and when the trigger is drawn it allows the escape of the lever and consequent descent of the hammer. Riveted to the tumbler is a safety catch whose point enters a notch in the lock plate when the hammer is raised slightly above the nipple. When the hammer is raised to full cock the catch is placed in such position that its point will not enter the notch.

Claim.—1. The lever F, having a short arm connected with the tumbler by a link, and a long arm, to be held by the trigger, when at full cock, and released when the trigger is drawn for discharge, substantially as described.

2. The safety catch, consisting of the lever *n*, spring *p*, and lever *r*, together with the notch *o*, shoulder *u*, and the pin *v*, the whole combined and operating substantially as and for the purpose described.

76,588.—C. C. BLODGETT, Watertown, N. Y.—*Clutch for Elevating.*—April 14, 1868.—Designed to attach a clutch to an elevated beam in a barn as a means of suspension of the tackle of a horse hay fork and to detach the clutch therefrom when required. It has two arms attached to a handle of any suitable length and arranged to engage with the jaws of the clutch to hold them open until the beam is grasped or to unclose them when required.

Claim.—The clutch elevating and operating device herein described, of the accompanying drawings, arranged to operate in combination with a clutch or grapple, substantially in the manner and for the purposes shown and set forth.

76,589.—H. STORRS BOYNTON, Cortland, N. Y.—*Adjustable Clothes Drier.*—April 14, 1868.—The line is coiled upon two pulleys which may be separated by a space that cannot be reached by ordinary means, such as that between the upper stories of buildings. The line is stretched by weighted cords which are wound upon the shafts in an opposite direction to that of the line upon the pulleys.

Claim.—The mode of constructing and operating an adjustable clothes line upon wheels or pulleys, and regulated by weights, consisting of the line L, in combination with the wheels S S′, and the weights O X and axles E E′, with the posts P P′ and framework B B′, all constructed and operated substantially as set forth.

76,590.—EDWARD BRADY and JOHN SLOAN, Philadelphia, Pa., assignors to EDWARD BRADY.—*Hot Air Furnace.*—April 14, 1868.—The furnace is surrounded by a water jacket through a portion of which the air-heating pipes pass. The caloric current from the furnace ascends into a dome which is surrounded by an air-heating chamber into which steam passes from an upper chamber in communication with the water space. The water is kept at a certain level by a cistern with which the water space communicates.

Claim.—Furnace F, compartments W W′, dome

D, heating chamber H C, air pipes A P, movable top T, cistern and evaporation boxes R and R′, connecting pipes S P, S P′, S P″, and C P, evaporation boxes W B, smoke and gas escape apertures O, all constructed and combined and operating in the manner and for the purposes above set forth and described.

76,591.—JOSEPH BRAKELEY, Bordentown, N. J.—*Lumber Drier.*—April 14, 1868.—The steam passes into the chamber surrounding the drying chamber through a nozzle which may be made to act as an injector to draw the steam from the drying chamber.

Claim.—1. The chamber A and case B, used in combination with the pipes H, E, and G, whereby I am enabled to apply heat to the chamber by means of steam, and at the same time draw off and utilize the vapor from chamber A, as and for the purpose set forth.

2. The use of a pipe leading from the lumber chamber into the pipe which supplies steam for heating said chamber, for the purpose of drawing away and utilizing the hot vapor from the lumber, substantially as herein set forth.

76,592.—JOHN W. BRIMBLECOM, Lynn, assignor to WILLIAM CARLETON, Charlestown, Mass.—*Lamp Burner.*—April 14, 1868.—The cone is adjustable horizontally to accommodate it to irregularities in the wick.

Claim.—A lamp burner, in which the deflector is capable of being adjusted, with respect to the wick tube, laterally, or in the direction of the length of the slot in the said deflector, substantially as and for the purposes herein shown and described.

76,593.—R. M. BROOKS, Woodbury, Ga.—*Cotton Press.*—April 14, 1868.—The press box is stepped in the frame and its upper end is supported by the screw which turns in a socket in the top beam of the frame. The screw is fast to the follower, and as the press box is notched the screw turns in the fixed nut and forces the follower downward.

Claim.—1. The metal pieces G G and J, having flanges *e e* and *d d* and used with the cross head F, all constructed and used as specified.

2. The straps P P and N N, used in combination with the metal pieces G G and straps E, all constructed as and for the purposes specified.

76,594.—R. M. BROOKS, Woodbury, Ga.—*Cotton Gin.*—April 14, 1868.—The inclined guides on the bottom of the cotton box or hopper turn the cotton to each side as it is drawn downward so as to present fresh material to the saws.

Claim.—The guide boards D D, used in the chamber B of the roll box of a cotton gin, and operating as and for the purpose set forth.

76,595.—JOHN BROUGHTON, New York, N. Y.—*Breech-loading Fire-arm.*—April 14, 1868; antedated October 14, 1867.

Claim.—1. The combination of the swinging breech piece B, which, in opening, swings down through the open bottom of the breech receiver; the swinging recoil brace H, working upon an axis, *h*, arranged, relatively to the axis of the breech piece, in or nearly in the same plane, perpendicular to the face of the closed breech piece; the lever E, pivoted to the lower and rear portion of the swinging breech piece, and acting centrally upon the front of the brace H, and through it upon the hammer; the spring or springs *m*, held in place by the trigger pin *n*, and acting on the rear of the brace H; the hammer G, vibrating on the axis *h*, independent of the brace H, and with its head working, relatively to the breech receiver, in such a manner that the slot in the upper surface of the receiver, through which the comb of the hammer projects, is filled by the said head both at the "down" and "full cock" positions of the hammer, the whole arranged and constructed to operate together, substantially as herein shown and described.

2. The firing pin D, constructed in the form of a hammer, and swinging within, but sufficiently independent of, the swinging breech piece, upon the same shaft or axis as the breech piece itself swings upon, as herein described.

3. The hook K, spring L, and sector J, in combination with each other and with the swinging breech piece and extractor, substantially as and for the purpose herein specified.

76,596.—GEORGE A. BROWN, Kalamazoo, Mich.—*Car Stake Holder.*—April 14, 1868.—The sides of the car, at given distances, have two circular metallic plates, of which the one next the car beam has a rim, on which is fixed the outer plate to which the stake socket is attached. The parts are secured by a bolt from the inside, which is secured by a nut. A gravitating bolt, between the two plates, falls into place when the stake is raised from a horizontal to a perpendicular position.

Claim.—The combination of the plates L, catches J, circular projection E, arms *d*, and gravitating bolt D, when constructed and arranged substantially as described and for the purpose set forth.

76,597.—NATHANIEL H. BROWN, Derry, N. H., assignor to himself and JOSEPH A. VEAZIE, Boston, Mass.—*Horse Rake.*—April 14, 1868.—The heads of the rake teeth vibrate between two bars of the rake head, and are each held down by a spiral spring bearing against the upper bar.

Claim.—1. The teeth *a*, with their wooden heads *b*, in combination with the bars D E, and the springs *m*, constructed, arranged, and operating substantially as described.

2. The device for elevating the teeth *a*, consisting essentially of the arm or lever G, in combination with the crank H, operated substantially as set forth.

76,598.—ALLEN BURTON, Chicago, Ill.—*Post Hole Auger.*—April 14, 1868.—The hollow in the stem allows the passage of air to the space beneath the auger when withdrawing the same, and the cylindrical head of the rod prevents the passage of earth into the side perforations when boring.

Claim.—In combination with the hollow handle A, the rod C, arranged within said handle, and operating in the manner and for the purposes set forth.

76,599.—HENRY L. BUTTS, Norwich, Conn.—*File for Grooving Rolls.*—April 14, 1868; antedated March 28, 1868.—One portion of the file is rectangular and smooth, and the opposite edge has a double bevel, and is finished as a file.

Claim.—The within described tool, as an article of manufacture, constructed and used as and for the purpose herein specified.

76,600.—GEORGE J. CAPEWELL, West Cheshire, Conn.—*Machine for Attaching Buttons to Fabrics.*—April 14, 1868; antedated April 9, 1868.—Devices for holding the button and bodkin, and for pinching the cloth, are combined with the parts that hold and flange the eyelet.

Claim.—The bent lever A, with elbow and journal formed of one piece, the conical-formed, adjustable set screw *d*, and spring *e*, when combined and arranged substantially in the manner and for the purposes specified.

76,601.—PATRICK P. CARROLL, Washington, D. C.—*Swing Cradle.*—April 14, 1868.—The cradle is arranged to act as the pendulum to a train of clock work moved by a weight.

Claim.—The spring arm F, connecting rod G, and wrist crank R, as arranged and combined with gear mechanism for swinging a car or cradle, substantially as and for the purposes herein set forth.

76,602.—JOHN I. CASSEL and WILLIAM QUIN, Eaton, Ohio.—*Bee-Hive.*—April 14, 1868.—The bottom of the hive is hinged to give it any desired inclination. The entrances to the honey boxes are through their bottoms in order to cut off access of the worms.

Claim.—The hinged bottom C, in combination with the perforated bottom of the honey box B, all constructed substantially as and for the purpose set forth.

76,603.—JAMES CHARLTON, Allegheny City, Pa.—*Rubber for Washing Clothes.*—April 14, 1868; an-

tedated April 1, 1868.—The parts of the clamp are hinged together, and are gripped upon the clothes by grasping the handles; the tool has a corrugated face to assist its action, as the clothes are drawn to and fro over the ridges of the wash board.

Claim.—A rubber for washing clothes, said rubber consisting of parts A and A′, provided with handles B, and corrugated face *f*, and hinged together as herein described, and for the purpose set forth.

76,604.—Silas E. Chase, Boston, Mass.—*Shuttle for Looms.*—April 14, 1868.—The bobbin carrier, or spindle, is pivoted to a movable base or plug, inserted into a hole bored longitudinally within the body of the shuttle, and leading out of its bobbin chamber.

Claim.—The combination, with the body of the shuttle, of the plug or base *f*, and the bobbin spindle, with its appurtenances, hinged to said base, substantially in the manner and for the purposes herein shown and set forth.

76,605.—A. O. Coleburn and H. T. Stanard, Wayne, Mich.—*Sand Cap for Carriages.*—April 14, 1868.—The elastic metallic collar is placed upon the neck of the spindle, so as to intercept gravel or sand which would enter at the point and be ground between the spindle and the base of the hub.

Claim.—The adjustable sand caps *c h* applied in connection with an axle and hub, as and for the purpose described.

76,606.—Andrew J. Conner, Louisville, Ky.—*Churn.*—April 14, 1868.—The barrel has two revolving vertical shafts, armed with sections of screws on collars, which may be slipped from the shaft for cleansing. The blades are about six on each shaft, and are disposed at different angles.

Claim.—The combination of the churn M, the shafts or double dashers K K, with the wings or blades L L, and the lid or cover I, when constructed, arranged, and operating in the manner set forth.

76,607.—Benjamin Crawford, Pittsburg, Pa.—*Steam Generator.*—April 14, 1868.—The mouth of the passage from the boiler into the drum is protected by a grating or perforated plate, so that if the float or other object become loose in the boiler it cannot stop the said passage.

Claim.—The arrangement of a perforated plate, *m*, over the mouth of the steam-pipe *g*, inside of the boiler, in combination with the pipe *g*, for the purposes hereinbefore described.

76,608.—Lewis P. Curtis, Marlboro, Mass., assignor to himself and Justin D. Barker, same place.—*Leather Trimmer.*—April 14, 1868.—The cutter is attached to the needle bar, so as to trim the edges of the leather as the sewing progresses.

Claim.—The knife or cutter E, attached to the awl or needle-carrier of a machine for sewing leather, and operating substantially as and for the purpose specified.

76,609.—Albro S. Dow and Elijah W. Wilcox, Cedarville, N. Y.—*Neck Yoke.*—April 14, 1868.—The bearing part of the ring, which surrounds the tongue, is formed of leather secured in a metallic case. The ring is swiveled to the metallic strap surrounding the yoke.

Claim.—1. Constructing the attachment, which connects the neck yoke to the tongue or pole, with a swivel joint, formed as described, that is to say, by the combination of the socket B, projection E, and bolt F, substantially as hereinbefore set forth.

2. The combination of the metallic strap or case C and the leather ring, or its equivalent D, said case C being so constructed as to support the said ring D in front and at its edges, or beneath the pole, as described, said ring D being secured in position by screws, or other equivalent device, and the space behind said ring D being left open, substantially as described.

3. The combination of the pad K with the metallic ring, which embraces the pole or tongue, in such a manner as to interpose the said pad between the tongue and that portion of the case C which lies directly between the said tongue and the under side of the neck yoke substantially as and for the purpose set forth.

76,610.—Jacob Edson, Boston, Mass.—*Scrubber.*—April 14, 1868.—The head is hollow, and contains water. It has an air valve operated by a spring lever actuated by a cord. A perforated grater-barred plate covers one end, and the other has a grooved strip of rubber or leather, above which is a row of small water holes.

Claim.—1. The combination and arrangement of a series of fine holes made in the reservoir, as described, with such reservoir, the strip of rubber and the valve and valve opening applied to the reservoir, as set forth.

2. The arrangement and combination of the burred plate with the reservoir, when the latter is provided with a valve D, and a strip of rubber arranged as set forth.

3. The combination and arrangement of the guide tube *e′* with the reservoir, provided with a cleaning strip, and a valve and valve-operating lever, and holes of admission and emission, arranged as set forth.

76,611.—William H. Elliot, New York, N. Y.—*Mortise and Tenon for Bedsteads.*—April 14, 1868.—The inclined tenon, or the stay-bearing shoulders thereof, are made of hard wood, which is attached to the soft wood of the rail.

Claim.—1. Cutting the shoulder *d* on one piece of wood, and the shoulder *e* on another piece of the same material, and fastening the two together, substantially as described, when said shoulders so operate upon each other and upon the post as to make the fastening self tightening, as herein set forth.

2. The double tenon *c* and *c′*, when so constructed and applied that it shall become self tightening when in use, and at the same time serve the purpose of a cleat to prevent warping or checking, substantially as herein shown and described.

3. The combination of pin *g*, double tenon *c* and *c′*, side rail *b*, mortise *h*, with its depressions *h′* cut in the material of the post, all being constructed and operating substantially as described.

76,612.—Charles Ellis, Canton, Mass.—*Screw Cutting Lathe.*—April 14, 1868.—The spindle of the axle is held between two self-centering chucks, and the square part of the axle is held by another chuck on the same tubular spindle. The die holder is rotatable in a horizontal plane.

Claim.—1. The holding chuck I, in combination with the self-centering chucks, substantially as described.

2. The combination of the self-centering chucks D and D′, the holding chuck I, and the revolving die holder M, substantially as described.

3. The combination of the chucks D and D′ and I, the revolving die holder M, and the tool carriage U, when made substantially as described and for the purpose specified.

4. The adjusting collars *a* and *b* and right and left screws G G′, in combination with the sliding jaws of a chuck, so that the said jaws shall always have their corresponding faces at an equal distance from the center of revolution.

5. The employment, in combination with the right and left screws G G′, of the adjustable collars *a b*, by which the jaws are centered, substantially as described.

76,613.—John M. Enos, St. Joseph, assignor to himself and Thomas Swartwout, Kalamazoo, Mich.—*Brick Press.*—April 14, 1868.—The follower is operated by toggle levers and is forced down upon the contents of the mold, which, after the follower is again raised, is withdrawn upon a slide board and another inserted in its place.

Claim.—The combination of the frame D D′, lever L, arms G H, plunger F, platform A, slide B, mold box C, spring S, and rod I, arranged to operate substantially in the manner and for the purposes set forth.

76,614.—Oliver Faurot and William Pond Harris, Brooklyn, N. Y.—*Curb for Streets, Roads, &c.*—April 14, 1868.—The curb is made of cast iron

plates having an inturned flange at the top and a horizontal double flange at the base. The sections are connected together by bolts which pass through their inturned end flanges.

Claim.—The construction and arrangement of the curb, as shown by the accompanying drawings, with the brackets, flanges, bolts, lugs, connecting blocks, bearings, supporters, &c., in the manner and for the purpose herein described.

76,615.—LUTHER W. FELT, Keene, N. H.—*Machine for Cutting Corks.*—April 14, 1868.—Improvement on his patent, June 26, 1867. The amount of taper is regulated by the vertical movement of the sliding, rotary cutters. The diameter of the cork is regulated by substitution of the cutter guide blocks. The collar may be disconnected when a cylindrical block is to be cut. A current of cold air is introduced up through the table to cool the cutters. The corks are freed to be driven up the tube when the plunger is moving them, and automatically caught by a spring when the plunger descends.

Claim.—1. Giving the required degree of taper to the cork to be cut by regulating the amount of vertical play of the collar Q upon the revolving shaft K, substantially as described.

2. Regulating the amount of vertical play of the collar Q, and consequently the degree of taper to be given the cork, by the rod S, in combination with the post B, lever 36, link 40, and yoked bar R with its ring 27, operating substantially in the manner set forth.

3. The blocks O O, made removable for regulating the diameter of the cork to be cut, substantially as set forth.

4. The grooved blocks O O, in combination with the cutters P P, substantially as and for the purpose set forth.

5. Introducing a current of cold air within the center of the table *b*, so as to impinge upon the edges of the cutters immediately after a cork has been cut, substantially as described.

6. The "spring catch" H, operated by mechanism, substantially as described, to allow of the rod J being thrown up, as and for the purpose set forth.

76,616.—CHARLES FERGER, New York, N. Y.—*Oil Cup.*—April 14, 1868.—The valve is opened by the motion of the crank, and kept close to save the oil when the same is at rest.

Claim.—As my invention the combination, with an oil reservoir or oil cup for oiling the bearings, of a valve closed by spring K, and raised at intervals by a positive motion communicated by the pin Q, or its equivalent, the parts being constructed as herein set forth.

76,617.—GEORGE B. FISHER, Chicago, Ill.—*Brick Machine.*—April 14, 1868.—The pressure blocks are in an endless chain, which is supported by rollers upon concavo-convex tracks. The mold wheel has a polygonal periphery, having a flat place for each mold. The cams which operate the plungers are removable to enable the working of various materials.

Claim.—1. The combination of a series or chain of blocks E, with a polygonal mold wheel B, arranged and operating substantially in the manner and for the purposes set forth and shown.

2. In combination with a revolving mold wheel B, provided with plungers operating as described, the arrangement of the removable cams D, and their supports F, substantially in the manner and for the purposes described.

76,618.—ISAAC FISHER, St. Louis, Mo.—*Rasp.*—April 14, 1868.—The alternate thin plates have a certain longitudinal movement to bring their serrations into transverse or oblique lines to admit of sharpening or cleansing.

Claim.—1. A rasp, formed of thin blades of steel *a*, having one or both of their edges serrated, and held together by means of screw bolts *a'*, substantially as herein shown and described.

2. The arrangement of the plates *a*, when their alternate numbers are constructed so as to slide on the connecting bolts *a'* at a distance sufficient to place the serrations in transverse rows for the purpose of sharpening, as described and set forth.

76,619.—EDWARD FITZHENRY, Boston, Mass.—*Machine for Dressing and Scouring Leather.*—April 14, 1868.—Improvement on his patent, February 26, 1867. Casters are substituted for the balls used in supporting the tablet.

Claim.—1. The combination of a series of casters E E, &c., in manner substantially as set forth, with the tablet A and its supporting frame, the whole being substantially as described.

2. In combination with a series of casters, a tablet and a supporting frame, arranged and composing parts of a machine, as and for the purpose described, an adjustable screw, or its equivalent, applied to each or any of such casters for the purpose of effecting the adjustment of the caster wheel, or the same and its spindle, with reference to the tablet, in manner as explained.

76,620.—JEDEDIAH I. FOGG, Chicago, Ill.—*Hinge for Sleeping Car Berths.*—April 14, 1868.—The berths are hinged to the partitions between the contiguous compartments, while at the same time they are folded up against the side of the car.

Claim.—The combination of the boxes *b* and the spindles *d*, when arranged, with respect to the partitions B and berths C, so as to operate substantially as and for the purposes specified.

76,621.—NEWTON FOSTER, Palmyra, N. Y.—*Guano Distributor.*—April 14, 1868.—The hopper has a discharge slot at the lower edge, which is regulated by a plate that is connected by links to one side of the hopper. The other side has a saw plate having end reciprocation, to disintegrate the guano and eject it from the slot.

Claim.—As an improvement in machines for sowing fertilizers, the serrated-edged distributing bar F, constructed as shown and described, and so arranged that the V-shaped teeth only of said bar shall be exposed to the material to be sown, substantially in the manner and for the purposes set forth.

76,622.—ROBERT JOHN GAINES, Portland, Conn.—*Hose Coupling.*—April 14, 1868.—The outside or one part of the coupling has two ribs, at whose outer ends are the catches. The catches are passed into slots of the outer part of the coupling, and retained by turning the ring which moves the slotted parts from before the catches.

Claim.—1. A hose coupling, the male and female parts or butts of which are constructed substantially as hereinbefore described, and having a movable band or ring fitted upon the female part or butt of the coupling itself, and constructed substantially as hereinbefore, to be used in connection with the catches K K of Fig. 1, and the flange upon the inner end of the female part or butt.

2. As a part of my device, the small screws passing through said ring, and extending into the grooves under said ring, upon the body of the female part, for the purpose of indicating when the grooves or slots in the said ring are on a line with the slots in the female part or butt, all of which is constructed substantially as hereinbefore described, substantially as and for the purposes herein set forth.

76,623.—JOHN GARDNER, New Haven, Conn., assignor to SAMUEL PECK & CO.—*Manufacture of Melodeon Stops and Other Articles.*—April 14, 1868.—Composed of gum shellac and ivory dust in equal proportions, with any required coloring matter. The pulverized ingredients are placed in a mold and aggregated by heat. Intended for melodeon stops, knobs, &c.

Claim.—The above-described composition of matter for melodeon stops and other knobs, substantially as specified.

76,624.—JOSEPH GECMEN, Chicago, Ill.—*Apparatus for Sprouting Malt.*—April 14, 1868.—The lower chamber of the apparatus contains a water tray, having a steam coil within it. The air is moistened by rose jets of water. This chamber has a sloping top to convey the sprouted grain outside. The grain is placed upon an upper platform, and in about six hours the slat floor of the platform is opened, and the grain falls upon a similar platform beneath. The platforms are made in sufficient number to in-

sure the proper sprouting of the grain by the time it has reached the inclined top of the lower chamber, over which it is discharged.

Claim.—1. In combination with a water chamber L and chute E, the arrangement of a series of floors, constructed substantially as and for the purposes set forth.

2. The combination of a series of floors, constructed as described, with a chamber L and fountain S, substantially as and for the purposes described.

76,625.—D. M. GREENE, Troy, N. Y.—*Thermometric Steam Gauge.*—April 14, 1868.—The copper-coated bulb of the thermometer is within a steam chamber attached to the boiler, and communicating therewith. The steam chamber has a small orifice to allow circulation of steam, and a try cock by which the contents of the chamber may be discharged.

Claim.—1. The combination of the reservoir B, and the exterior steam chamber I, the glass tube E, and a pressure-gauge scale attached thereto, determined by the expansion of the mercury or other fluid, by the heat of the steam conducted from the boiler to the steam chamber I.

2. The combination of the reservoir B, the exterior steam chamber I, the graduated glass tube E, placed outside of a boiler having a steam connection therewith by a tube or flange.

3. The drip tube, attached to the steam chamber I.

4. A coating of copper or other suitable material, when applied to the surface of the mercury cup, substantially as and for the purpose set forth.

5. The flexible bag *n*, secured to the end of the tube E, substantially as and for the purpose set forth.

6. The process of graduating the gauge by applying steam to the steam chamber at a series of pressures, determined by a standard gauge, and marking the position of the mercury, or other fluid corresponding thereto.

76,626.—THEOPHILUS HAMMOND, Petersburg, Ind.—*Harness for Breaking Horses.*—April 14, 1868.—Attached to the belly band is a pulley, around which passes a strap, whose ends are secured to the hind legs, so that they may be moved forward, one at a time, but cannot be thrown backward simultaneously. The pulley may be prevented from turning by a spring pin, which is operated by a cord or strap passing between the horse's legs and to the driver. The pin is made to catch in a series of holes in the flanged side of the pulley.

Claim.—The arrangement of the forked bar C, with its perforated disk, and pulley D, lever F, and spring, in combination with the straps E and R R and harness, as herein described, all constructed and operating substantially as set forth.

76,627.—CHARLES R. HARTMAN, Vincennes, Ind.—*Subsoil Plow.*—April 14, 1868.—The share is attached to the lower end of the colter, which is vertically adjustable in a box that is intended to be adjustably attached to a backward extension of the surface plow beam.

Claim.—1. The concavo-convex and triangular shovel D, secured to an extended heel piece *d* of the colter C, and abutting against the shoulder *e* of said colter, substantially as described.

2. The construction of the coulter C upon the standard C′, so that the upper portion of the cutting edge of this colter shall form an obtuse angle with the front edge of the standard C, in combination with the shovel D, applied substantially as described.

76,628.—H. M. HERVEY, Madison, Ohio.—*Jack Scale.*—April 14, 1868.—The beam has a recessed end to place beneath the object and an extensible standard by which it is raised to the proper position.

Claim.—The pedestal A, screw B, nut C, and standard E, as arranged in combination with the weigh beam F, for the purpose and in the manner as set forth.

76,629.—WILLIAM HEWETT, Trenton, N. J.—*Swing Carriage.*—April 14, 1868.—The treadles are between the seats, and are connected by rods, whose upper ends are pivoted on each side of the point of suspension. The rods at each end are connected by a cross tie, which plays in slots in the sides beneath the seat and is moved by the treadle to cause the oscillation of the spring.

Claim.—The levers D D, connecting the rods B B and the treadles *f f*, and secured to the carriage by bolts *e e*, substantially as and for the purpose described.

76,630.—SAMUEL S. HICKOK, Methuen, and DANIEL B. CLEMENT, Boston, Mass.—*Ball Caster.*—April 14, 1868.—The ball is held in a case, from which only its lower side projects, and turns upon anti-friction rollers set radially in the stock.

Claim.—The ball caster, made in two sections, as herein described, the one section consisting of the base *e*, constructed with the slotted legs *h*, in which the axles of rollers *c* are held, and the other of the cup *b*, with the caster ball which it holds, attached to said base, in the manner and for the purposes shown and specified.

76,631.—CHARLES JOHN HILL, Regent's Park, England, assignor to JOSEPH SHEPHERD WYON and ALFRED BENJAMIN WYON.—*Machine for Producing Reduced Copies of Medals, &c.*—April 14, 1868; patented in England April 5, 1867.

Claim.—1. The peculiar system or mode of an apparatus for ascertaining the correct length or depth of the cutter in relation to the tracer point, substantially as hereinbefore described, and illustrated by the drawings.

2. The peculiar system or mode of and apparatus for determining the correct size of cutter to be used in relation to the size of the tracer point, substantially as hereinbefore described, and illustrated by the drawings.

3. The employment, in this class of machinery, of removable mandrels, of different sizes, adapted to the various-sized cutters required, as hereinbefore described, and illustrated by the drawings.

4. The employment, in this class of machinery, of an arm, working on a universal joint at one end and actuated by hand at the opposite end, such arm carrying an adjustable frame, with cutter mandrel and rotary cutter, and a fixed frame, with vertically-adjustable tracer, the whole being arranged and operating substantially as hereinbefore described, and illustrated by the drawings.

5. The peculiar construction of rose cutters, as hereinbefore described, and illustrated by the drawings.

6. The peculiar construction of finishing cutter, as illustrated by the drawings.

76,632.—S. B. HILL, Chicopee, Mass., assignor to himself and LEVI B. TAYLOR, same place.—*Brace for Bits.*—April 14, 1868.—The bit is held in the socket by a sliding yoke, which embraces it beneath the shoulder.

Claim.—The slide *a*, in combination with the screw jacket *b*, both constructed, arranged, and operating substantially as herein described.

76,633.—BEECHER HITCHCOCK, Waukegan, Ill.—*Bed Bottom.*—April 14, 1868.—The sides of the frames are connected together by springs, so arranged that the head will be sustained at a greater height than the foot.

Claim.—The arrangement of a long spring I for the foot of frames A B, and a short spring H for their heads, in combination with side springs, having long arms C and short arms G, substantially as and for the purpose set forth.

76,634.—LEWIS M. HOLLAND, Galesburg, Ill.—*Cultivator.*—April 14, 1868.—The beams are coupled to the frame by screw pivots which are adjustable laterally on the metallic cross bars.

Claim.—Coupling the shovel beams B with the axle of the cultivator by means of the screw pivots *b*, with cross pieces *e* fitting in the sockets of the plates *a*, substantially in the manner and for the purpose as herein set forth.

76,635.—HENRY S. HOPKINS, Boston, Mass.—*Pump Piston.*—April 14, 1868.—The segmental packing is forced outward by rubber rings whose sides enter recesses in the back of the packing.

Claim.—1. In combination with the flanges *b b*,

the segmental packing pieces *g* pressed outwardly by springs, and the joint blocks *h*, constructed and arranged to operate substantially as set forth.

2. In combination with the segments *g*, the rubber springs *k* placed loosely in the recesses *i*, and pressing the segments outward, substantially as set forth.

76,636.—DANIEL HUSSEY, Nashua, N. H.—*Let-off Mechanism for Looms.*—April 14, 1868.—Overstrain of the yarn upon the whip roll causes the depression of the spring rod and pawl elevator and allows the reciprocating pawl to act on the ratchet of the disk turning on the shaft of the yarn roll. This revolves the pinion which engages the differential gears, one of which is held rigidly by a pawl, but allows the yarn-roll shaft to turn in it, the other being fast on the said shaft.

Claim.—The combination of the differential gears *r s t*, their ratchets *g v*, and holding and impelling pawls *h w*, with the shaft *k* of the yarn-beam gearing, and with the whip roller or depresser D, and mechanisms for actuating the impelling pawl *h*, substantially in the ways as hereinbefore described.

76,637.—MARTIN KRUMM, Jr., Columbus, Ohio.—*Construction of Fence Posts.*—April 14, 1868.—The posts are each made of a single bar bent over the top and forming two standards to which the panels are attached, thereby allowing of longitudinal expansion and contraction without straining the screws.

Claim.—A transversely-expansible post A, having its vertical portions united at the top by one or more springs A′, substantially as shown and described.

76,638.—GEORGE LANE, New York, N. Y., assignor to himself and BENJAMIN W. HICKS, same place.—*Ice Pitcher.*—April 14, 1868.—The pitcher is supported on trunnions and has spouts on opposite sides.

Claim.—Constructing a pitcher for containing ice water, with spouts F F, trunnions G G, stand A, and float E, substantially as and for the purposes set forth.

76,639.—NATHAN LAWRENCE, Taunton, Mass., assignor to REED and BARTON, same place.—*Butter Dish.*—April 14, 1868.—Improvement on his patent granted to Reed and Barton, Dec. 10, 1867. Spring latches are used in lieu of the pins to support the box or bearing of the dish, clasp it on opposite sides, and hold it down and in place.

Claim.—The combination and arrangement of the spring latches *g g* with the vase, and for the purpose of receiving and holding the bearings or boxes of the journals of the cover, and admitting of their removal, in manner substantially as specified.

76,640.—A. H. LEWIS, North Greenbush, N. Y.—*Fettering Horses.*—April 14, 1868.—Intended to prevent the raising of the fore legs. The leg straps connect with the surcingle and limit the forward motion of the legs, to restrict the pace of the horse and prevent jumping.

Claim.—The strap *a*, in combination with strap *b* and the loops *c c′*, as and for the purpose set forth.

76,641.—JERRY LEWIS, Albion, N. Y.—*Stove Polish, or Blacking.*—April 14, 1868.—Gelatin, 32 lbs., is dissolved in water, 32 lbs.; then add nitric acid, 1½ lb.; black lead, 20 lbs.; water, 12 galls.; ale, 5 galls.; and molasses, 2 quarts.

Claim.—A mixture, of the ingredients above mentioned, in about the proportions specified, for the purpose set forth.

76,642.—PHILO LULL, Norwich, N. Y.—*Apparatus for Removing Hides from Animals.*—April 14, 1868.—The bar has two joints and has a crank at each end. It is engaged with the hide after it is started and the same is torn off by turning the cranks.

Claim.—The rod or its equivalent, constructed and operated for the purpose and substantially as herein set forth.

76,643.—SYLVESTER G. MASON, Rochester, N. Y.—*Pump Piston.*—April 14, 1868.—The piston is girt around the middle with two semicircular packing sections, and within the sections play two segmental valves which admit the water to the tubular pump rod alternately from the upper and lower end of the piston. The upper end of the piston is supplied from the side chamber.

Claim.—The combination of the segmental openings *c c*, formed as above described, and the valves G G, resting in said openings, with the segmental packing rings H H, so arranged as to inclose said valves and to act as packings, and retain the water in the piston, as herein set forth.

76,644.—PETER MCCARTHY, Rochester, N. Y.—*Clamp for Holding Pickets.*—April 14, 1868.—The palings are clamped side by side between the bars confined by the screw-head blocks while pointing and dressing the ends.

Claim.—The head blocks B and B′, when constructed with projections *c*, and arranged in relation to a clamp, substantially in the manner and for the purpose described.

76,645.—WILLIAM C. MCGILL, Cincinnati, Ohio.—*Lamp Burner.*—April 14, 1868.—The socket of the oil receptacle is devoid of a screw thread, the stem being smooth and slotted so as to spring outward in the socket. The stem has side openings, one to allow tilting the burner when drawn somewhat upward, and the other furnishing an aperture through which the oil is poured. The chimney fits upon a cylindrical collar which has a bottom flange and side springs to steady the chimney. The top of the wick tube has points extending up into the flame to cause the heating of the oil.

Claim.—1. The elastic, tubular, and perforated stem C, substantially as described and shown, for the purposes set forth.

2. The combination of the collar D, tube G, ring F, with elastic wings *f f*, all constructed and arranged substantially as shown, and for the purposes herein set forth.

3. The conductor E, formed and arranged as and for the purpose set forth.

4. The combination of ring F and elastic wings *f f* and air conductor E, when constructed and arranged as herein shown and described, and for the purposes heretofore set forth.

76,646.—WILLIAM C. MCGILL, Cincinnati, Ohio.—*Conductor's Register.*—April 14, 1868.—The case is carried by a conductor, and a single movement of the knob registers "1" on the dial and also rings a bell, giving notice to the passengers that the charge is made.

Claim.—1. The actuating knob H and teeth G G′, in the described combination, with the recording and striking devices, substantially as set forth.

2. In the described combination, the half fare register slide P and ticket receptacle or pocket Q, upon or within a conductor's register, substantially as described.

3. The double register for recording full and half fares, constructed and adapted to operate substantially in the manner set forth.

76,647.—ALBERT G. MEAD and CHARLES J. ADDY, Boston, Mass.—*Stamping Press.*—April 14, 1868.—A swivel step is seated in the annular base, and a swivel die chuck connected with the lower end of the slide, or to the stem thereof. A spring dog is applied to the chuck by means of a screw to engage with the stem of the slide, the hook end entering a socket made in each side of the stem to prevent the slide turning when set for operation. A similar dog holds the swivel step.

Claim.—1. The reversible swivel step *a*, in combination with the reversible or swivel chuck *d*, for the purpose and substantially as described.

2. The slide A and screw D, and spiral spring E, or equivalent, when combined with the head C of the stand, for the purpose and substantially as described.

76,648.—HENRY MILLER, Cranston, assignor to himself and GEORGE O. MILLER, Johnston, R. I.—*Metallic Bird House.*—April 14, 1868.—The bird house is made of cast-iron plates which are held together by a single axial, vertical bolt, by which the

socket receiving the top of the pole may be attached.

Claim.—The metallic bird house, constructed substantially as described, as a new article of manufacture.

76,649.—Marshal Morse and P. W. Sawyer, Gray, Me.—*Churn.*—April 14, 1868.—The operative mechanism is detachable from the churn lid and dasher. The balance wheel is weighted on one side, to counterpoise the dasher.

Claim.—The single dash churn as described, said dash being operated by crank *g*, gear *f*, pinion *e*, crank shaft *d*, irregular balance wheel *h*, driving rod *i*, having the spring catch *k*, said churn also having the slides *b*, sockets *c*, and slides *o* moving in grooves *n* on divided cover *m*; the said driving devices also being intended to be removable, as described, for the purpose of being attached to any common cylindrical churn, and all as set forth.

76,650.—Joseph P. Noyes, Binghampton, N. Y.—*Toilet Comb.*—April 14, 1868.—The back is metallic and is turned down to form the end teeth.

Claim.—As a new article of manufacture, a comb provided with a metallic back, extended over the ends thereof, so as to form the end tooth or covering therefor, as represented and described, for the purpose set forth.

76,651.—Charles M. O'Hara, New York, N. Y.—*Propeller.*—April 14, 1868.—Improvement on his patent, November 5, 1867. The propeller is reciprocated by a horizontal engine. It is enveloped at the sides and before so that the water does not impinge against its forward side. The propeller is made sufficiently buoyant to raise it to position for making the effective stroke.

Claim.—The reversible buoyant propeller, constructed and arranged to operate as herein described.

76,652.—James Oliver, South Bend, Ind.—*Mold Board for Plows.*—April 14, 1868.—The chill plate is cooled by a water chamber in its rear. The mold is filled from the bottom to prevent "blows."

Claim.—The mold board B, annealed as set forth, as a new article of manufacture.

76,653.—George K. Osborn, Brooklyn, N. Y.—*Lamp Burner.*—April 14, 1868.—A portion is removed from the wick tube, which is surrounded by a larger tube which is open at the bottom, and the space between the tubes communicates by side ducts with the flame. The hiatus in the tube prevents metallic induction of the head of the flame to the oil reservoir.

Claim.—The combination of the jacket B, surrounding the wick tube A, the tube C placed a little above the wick tube A, and the passages D D, running from the bottom to the top of the tube C, all arranged as and for the purposes specified.

76,654.—Charles Grafton Page, Washington, D. C.—*Induction Coil Apparatus and Circuit Breaker.*—April 14, 1868.—This is an instrument for converting dynamic into static electricity, producing from the current of a battery shocks and sparks. For the purpose of breaking the circuits of the primary or secondary coils mechanical or automatic circuit breakers are used, as represented in the figures. The invention is substantially the same as the Ruhmkorff coil. The patent embraces inventions made as far back as 1837-'38, but owing to the disqualification of the late Dr. Page, as an official in the Patent Office, he was unable to obtain a patent until this disqualification was removed by act of Congress, March 19, 1868.

Claim.—1. An induction-coil apparatus, consisting of a primary and secondary circuit, when said secondary circuit is many times, that is to say, two, three, or more times the length of the primary circuit, having the connections so arranged that shocks, sparks, and electrostatic results may be obtained from the secondary circuit alone, or from the combined primary and secondary circuits, or from the primary alone, or from portions of either circuit, substantially as set forth.

2. The combination of an automatic circuit breaker with either a primary coil alone, or a primary and secondary coil combined, substantially as set forth.

3. The combination of a mechanical circuit breaker with a primary and secondary coil combined, substantially as set forth.

4. The combination of both a mechanical and automatic circuit breaker with a primary and secondary coil combined, substantially as set forth.

5. The combination of a primary and secondary coil, inclosing an electro magnet, with an automatic circuit breaker, substantially as set forth.

6. The combination of a primary and secondary coil, inclosing a compound or divided electro magnet, with an adjustable automatic circuit breaker, substantially as set forth.

7. The combination of a primary and secondary coil, inclosing a compound electro magnet, with an attached hammer circuit breaker, substantially as set forth.

8. The spark-arresting circuit breaker, whether used with a primary coil alone or a primary and secondary combined, substantially as set forth.

9. The spark-arresting circuit breaker, whether used with a coil or coils, inclosing an electro magnet, substantially as set forth.

10. The spark-arresting circuit breaker, whether attached to or independent of the primary or primary and secondary coils, substantially as set forth.

11. The adjustment of the retractile force of an automatic circuit breaker, substantially as set forth.

12. In combination with such adjustment, adjusting the distance of the hammer or the armature from the pole or poles of the electro magnet which actuates them, as set forth.

13. Adjusting or regulating the length of vibration of the circuit-breaking bar by means of a set screw, or any mechanical equivalent for substantially the same purpose, substantially as herein set forth.

14. The employment of one electro-magnetic instrument to open and close the circuit of another electro-magnetic instrument, using either one battery for both, or separate batteries for each, substantially as set forth.

15. The employment of separate and independent batteries to operate an electro-magnetic circuit breaker, and the circuit which is broken by it, substantially as set forth.

76,655.—William Phelan, Peoria, Ill.—*Condenser.*—April 14, 1868.—The steam passes into the lower part of the condenser, and up the spiral passage between the outer and inner cones, being condensed on their surfaces, and running down to the bottom of the condenser, from whence it is pumped into the boiler. There is a gradual circulation of water within the inner cone, the same having discharge into the outer chamber. A pipe having a valve allows the passage of water from the outer water chamber to the condenser, to supply any loss to the boiler.

Claim.—1. The two cones A B, the space between these provided with a spiral partition, thus forming a spiral chamber, surrounded by cold water, for the purpose of condensing steam or vapor, in the manner indicated.

2. The supply pipe and valve *l n k*, in connection with a condenser, of the construction indicated, to supply the incidental waste of water.

76,656.—Bellvill L. Randall, Roxbury, Mass.—*Vise.*—April 14, 1868.—One of the jaws is swiveled, so that its face may assume a position oblique to that of the other, when a tapering object is placed between them. The swiveled jaw may be made rigid by a key-pin when desired.

Claim.—The combination of the jaw *b'* and annularly-grooved tenon *f* with the base *e* and pin *g*, the said parts being constructed and arranged as herein described, and both base and tenon being perforated to receive a pin or bolt for rendering the said jaw immovable when desired, as and for the purposes shown and set forth.

76,657.—Benjamin Randall, Adams, N. Y.—*Sulky Harrow.*—April 14, 1868.—Improvement on his patent, November 12, 1867. The fore part of the harrow rests upon an adjustable caster, and is connected to the front end of a flexible bar attached

to the sulky hounds. The draught hook is at this point.

Claim.—1. The connecting of the sulky to the harrow by means of an elastic bar C attached to the front ends of the thills B B, and to an upright E on the front part of the harrow, substantially as shown and described.

2. The upright E, attached to the front end of the harrow, and having the whiffletree and elastic bar C connected to it, substantially as and for the purpose specified.

3. The adjustable caster *d*, attached to the front end of the harrow, when the same is constructed and arranged so as to operate substantially as described.

4. The combination of the upright E and draught hook *b*, when the same are constructed and arranged so as to operate substantially as described.

5. Attaching the rope H to the harrow, substantially as and for the purpose specified.

76,658.—Benjamin Randall, Adams, N. Y.—*Corn Planter.*—April 14, 1868.—The seed slide is operated by a spring and a cam turning with the wheel. It may be held out of operation by a lever. The furrows are opened by flexible bars, which are held back in operative position by a chain attached to the covering and rolling mechanism, so that when the latter is raised from the ground by its lever the opening bar is raised also.

Claim.—1. The seed slide F and the springs *d d*, when the latter are arranged within the seed box E, and the whole so combined as to operate substantially as described and for the purpose specified.

2. The seed slide F, when arranged in relation with the spring *d*, cam H, and the lever M, substantially in the manner as and for the purpose set forth.

3. The elastic furrow openers L, arranged and applied in connection with the shaft J, substantially as shown and described.

4. The tube G and bar I, in combination with the covering shares *f* and roller *g*, when the same are constructed and arranged substantially as described.

5. The bar I, attached to the lower end of the seed tube G, and provided with the covering shares *f* and roller *g*, in combination with the shaft J, arm *i*, and chain *h*, all arranged to operate in the manner substantially as and for the purpose set forth.

76,659.—Benjamin Reed, Allegheny, Pa.—*Clothes Wringer.*—April 14, 1868.—The rollers are journaled in the ends of the spring yokes, whose tension is adjusted by the thumb screw.

Claim.—The spring yokes A and B, in combination with the rollers C and D, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

76,660.—Isaac Rehn, Philadelphia, Pa.—*Printing Photographic Pictures.*—April 14, 1868.—The canvas is prepared by a compound of zinc white, 1 oz.; albumen, (from eggs,) 1½ oz.; salt, 20 grs.; solution of ammonio-nitrate of silver, 4 dr., (each drachm containing 30 grs. nitrate of silver.) The albumen, salt, and zinc are ground together, and then triturated with the solution in a dark room, and the canvas coated with a brush.

Claim.—The combination of the pigment, with the salted albumen and silver solution, for the purposes set forth in the above specifications.

76,661.—Andrew Reynolds, Rock Springs, Md.—*Horse Hay Fork.*—April 14, 1868.—The fork is thrust straight into the hay, the spiral fork causing the rotation of the central fork to which it is attached. The side fork prevents the rotation of the load to free itself from the spiral, and the latter is prevented from backward rotation, to allow the hay to fall, until the pawl is raised.

Claim.—A single spiral tine E secured to a central straight tine F, so that they both turn while the instrument is being forced into the hay and liberated from it, substantially as herein described.

76,662.—Alexander Ross, Freeport, Ill.—*Wagon Jack.*—April 14, 1868.—The lever is passed through a loop which is adjustable on the ratchet-notched upright. The upper side of the lever is ratcheted, and it is held by a pawl when sustaining the axle.

Claim.—A wagon jack having a lock arranged with a loop F, arm E, and lug G, in combination with lever C, notched standard B, and catch D, substantially as and for the purpose set forth.

76,663.—John W. H. Scott, Rochester, N. Y.—*Spring Mattress.*—April 14, 1868.—The webbing passes diagonally, so as to cross at the central point between each four springs.

Claim.—The combination of the springs E and the diagonal webbing C and the crossing D with a proper frame, as specified.

76,664.—Edwin Shackford and Derk Arnaud, Boston, Mass.—*Bureau Bedstead.*—April 14, 1868.—The bedstead has a transverse joint at mid-length, and is doubled together and folded up into the case. The crib unfolds from the side of the case.

Claim.—1. A bedstead, made in two parts, hinged together, when arranged with the case and its door, so that the bedstead when in use shall be outside of and parallel with the front of the case, all substantially as and for the purpose specified.

2. The arrangement of the bedstead A B and crib E, with the case and its doors D G, all substantially as and for the purpose specified.

76,665.—Amory F. Sherman, Roxbury, Mass.—*See-Saw, or Tilting Apparatus.*—April 14, 1868.—The seats are pivoted to two tilting frames in such manner as to insure the perpendicularity of the seats at all times.

Claim.—1. The combination of the tilt seats or chairs, and a means, substantially as described, of maintaining them in horizontal positions, while the tilt may be in action.

2. The parallel tilting bars, as made with notches, or equivalents, in their lower edges, as and for the purpose described.

3. The arrangement and combination of the adjustable double-inclined plane foot rest, with the seats or chairs, and the tilting parallel-motion bars and boards applied to such chairs and standards, as explained.

4. The combination and arrangement of the anti-concussion buffers with the tilt, as described.

76,666.—George C. Smith and Roswell Judson, Mattcawan, N. Y.—*Thill Coupling.*—April 14, 1868.—The connection between the clip and the thills consists of a roll of duck coated with rubber and galvanized.

Claim.—The coupling strap B, when constructed and used substantially as and for the purpose specified.

76,667.—Simon B. Smith, Salem, N. J., assignor to himself and Joseph K. Chew, same place.—*Bearing for Fifth Wheel of Carriages.*—April 14, 1868; antedated March 31, 1868.—The head block, perch bearings, and the disk of the fifth wheel are made in a single piece of casting. The king bolt has a larger diameter in its central position, and the shoulder at the upper end of this enlarged part is received in an enlarged part of the king bolt hole in the said casting.

Claim.—1. The head block *a''*, the perch bearing *a'''*, and the disk *a'*, when cast together in one piece of metal, substantially as and for the purpose described.

2. In combination with the combined mechanical devices of the preceding claim, the king bolt E, when constructed and applied as described and shown, for the purpose specified.

76,668.—L. C. Stiles and R. P. Jackman, Elgin, Ill.—*Stove Pipe Shelf.*—April 14, 1868.—The stove pipe passes through the horizontal frame, and it is sustained thereon by the clasp block pressed against the pipe by the thumb screw. The turning frame has radial arms on which clothes may be hung.

Claim.—The combination of disk B, clasp H, and set screw L, together with a rotating disk C, attached to disk B, all constructed and arranged substantially as and for the purpose described.

76,669.—Nathaniel F. Stone, Chicago, Ill.—*Can Opener.*—April 14, 1868; antedated April 1, 1868.—The point is thrust into the can top and a disk cut therefrom by a sweep of the adjustable blade.

Claim.—The plate *b* provided at one end with a cutter blade *d*, at the opposite end with a projection or heel *a*, in combination with the screw *e e* and the plate or slotted bar B, substantially as specified.

76,670.—Conrad C. Stremme, Austin, Texas.—*Bung.*—April 14, 1868.—The bung has two lugs which turn in spiral grooves in the socket. A valve in the bung allows the entrance of air when drawing the contents or the escape of gases in fermentation.

Claim.—1. The combination of the bung with the socket, the bung being secured by means of the teeth *d d*, working in inclined slits inside the socket, thereby making a water-tight lock for a barrel, without shouldering or the use of packing.

2. The vent or air valve, constructed as shown, in combination with the bung, as substantially set forth.

76,671.—Charles Sulzman, Waterford, N. Y.—*Door Bolt and Lock.*—April 14, 1868.—The bolt is thrown by a tongued arbor operated by a crank outside the lock. At the back end of the bolt is a spring at whose free end is a locking pin which falls into one of a series of holes in the tumbler disk and prevents unlocking. A bridge piece may be placed across one of these holes and when the tumbler is set in the proper position the locking pin may be carried over the bridge and the bolt withdrawn.

Claim.—1. The combination of the sliding bolt and locking pin, and its actuating spring, of the grooved wheel or disk, and bridge which it carries, arranged to operate in connection with the bolt, substantially in the manner and for the purposes shown and set forth.

2. In a bolt or lock, such as described, providing the grooved wheel or disk with a bridge or stud, capable of being removed from and adjusted to any one of the sockets formed in the annular groove of the said wheel, substantially as and for the purposes herein shown and specified.

76,672.—James A. Southerland, Elmwood, Ill.—*Machine for Curbing Wells.*—April 14, 1868.—The staves are jointed together so as to allow turning inward or opening out into a cylindrical curb.

Claim.—1. The combination and arrangement of staves A B with iron straps *a a*, *b b b b*, and hinge joints *c*, as shown in Fig. 5, in the manner and for the purpose herein described.

2. The combination and arrangement of the straps *e e* and pin *f* with the staves A B, in the manner and for the purpose herein described.

76,673.—George J. Swingle, Knoxville, Ill.—*Fly Trap.*—April 14, 1868.—The rollers are baited and turned by clock work so as to gradually carry the flies around into the gauze trap or to a position from whence they drop into the drowning tray.

Claim.—The arrangement of the receptacle or prison A, gauze door *e*, trap cover B, with prongs X, cloth screens *b b*, trap door C, rollers D D, with prongs or curved pins Z, rod *d*, pan E, and rods O O, the whole combined and operating substantially in the manner and for the purpose as herein set forth.

76,674.—William H. Tambling, Mazo Manie, Wis.—*Bed Bottom.*—April 14, 1868.—The slats are laid on elastic bands which are laid upon pins projecting from the side rails. The slats are guided by vertical grooves in boards attached to the side rails.

Claim.—The arrangement of the grooved boards S, angular wires D, bands E, slats *h*, and movable bars F, all constructed and used substantially as set forth.

76,675.—Gottfried Tennie, Pittsburg, Pa., assignor to Frank S. Bissell.—*Hot Water Tank for Stoves.*—April 14, 1868.—The smoke passes into a box which is placed upon the rear end of the stove and supports a vertical flue boiler.

Claim.—The flue box A, made separate from a boiler and applied around the flue collar of a stove, so that it serves as a means whereby to support a flue boiler above said collar of the stove, all substantially as and for the purposes described.

76,676.—Flavius J. Van Vorhis and Thomas C. Workman, Stockwell, Ind.—*Rotary Steam Engine.*—April 14, 1868.—The piston carries two wings which traverse separate courses, and there are two systems of slide valves and passages which are operated by cam grooves in the piston. The piston admits of reversal by moving a valve slide.

Claim.—1. The construction of the case A, substantially as set forth.

2. The construction and arrangement of the piston B and valves D, substantially as set forth.

3. The arrangement of the valves D, with the piston B and cam grooves C, substantially as set forth.

4. The arrangement of the steam passages *i i i*, with the valves D, and the cavities I, substantially as set forth.

5. The arrangement of the valves D, with the passages H and ports E, substantially as set forth.

6. The arrangement of the reversing valve *e*, the steam induction ports E, and exhaust ports F, substantially as set forth.

76,677.—Londus B. Walker, Chicago, Ill.—*Saw Mill.*—April 14, 1868.—The frame carrying the feed mechanism is pivoted to the main frame and is adjusted to resaw the boards to any desired bevel.

Claim.—1. The frame B, pivoted as described, and constructed to sustain the feed rollers and their driving wheels, with slots and bolts, or their equivalents, to admit of the vibration of the frame, substantially in the manner and for the purposes specified.

2. The slides C C, which carry the feed rollers and gear wheels, in combination with the lever L, rods *r* and *t*, connecting link and adjusting nuts, all arranged and operating in the manner and for the purposes set forth and described.

76,678.—David P. Webster, New York, N. Y.—*Bottle for Holding Hydrofluoric Acid.*—April 14, 1868.—The bottle is made of wood in two parts, rabbeted together, and coated inside and outside with a substance impervious to hydrofluoric acid.

Claim.—1. The preparation of bottles for receiving hydrofluoric acid, by coating them internally and externally with asphalt of coal tar, or the herein-described composition of gum shellac and India-rubber, as set forth.

2. As an article of manufacture, a bottle, made of wood, papier maché, or like material, coated externally and internally with a composition of varnish not affected by hydrofluoric acid, substantially as herein shown and set forth.

3. Making the bottle for holding hydrofluoric acid of wood, and in two parts or sections, united substantially in the manner and for the purposes shown and described.

76,679.—David P. Webster, New York, N. Y.—*Smelting Lead Ore.*—April 14, 1868.—Scrap tin, 250 lbs, is spread over the bed of a reverberatory furnace and brought to a bright-red heat. Pulverized phosphate or phosphuret of lead 2,000 lbs. is then spread on and brought to a dull red. Scrap tin 250 lbs. is then spread evenly over the mass, which is brought to a bright-red heat. The mass is raked and stirred every 15 minutes for 2 hours, or until fused.

Claim.—The improved process herein described for smelting or reducing phosphurets or phosphates of lead.

76,680.—Seth Wheeler, Albany, N. Y.—*Pulley and Gearing for Machinery.*—April 14, 1868.—The pulley has a removable portion to allow the placing of it in an inner position without removing other pulleys from outer positions on a section of shafting. The removable portion is fixed in place by guiding grooves and by a key and set screw.

Claim.—1. The mode, substantially as herein described, of constructing a pulley or gear wheel, so that a portion of its rim, and of the metal forming its hub or eye, may be readily removed for the purpose of getting it on and off of a shaft or axle.

2. The construction of a pulley or gear wheel in such a manner that its detachable part or parts are held in their proper relation, and the pulley held on the shaft by the action of the same key or screw, or keys or screws, substantially as described.

3. The jogs *g g'*, in combination with a key, or

screw and key, in the construction of a two-part pulley or gear wheel, substantially as and for the purpose described.

4. The construction of the arm B^1 of a pulley or gear wheel, substantially in the manner and for the purpose described.

5. The pulley or gear wheel, made in two parts, one of which parts constitutes more than half of the pulley, and the other part less than half, the parts being united and held together, substantially as described.

6. The construction of the part B^2 of the pulley or gear wheel, substantially as and for the purpose described.

76,681.—CORNELIUS WILKIN, Dundas, Ill.—*Plow.*—April 14, 1868.—The standard is attached to the beam by a strap which is bolted to the side of the standard and ends in a screw-bolt which passes through the beam.

Claim.—1. In combination with the standard *b* of a steel or other similar plow, the bar C, secured to said standard by bolts or rivets *c*, and having a threaded or slotted portion, *c'*, for uniting said standard to the beam, substantially as described.

2. Securing the colter E by passing it through an opening b^5, in the breast of the plow, and fastening it with a bolt or rivet, *e*, on the inside, substantially as and for the purpose specified.

76,682.—ENOS D. WOOD, Utica, N. Y.—*Rotary Valve.*—April 14, 1868.—The valve casing is nearly cylindrical, being slightly tapering, and the open-work valve is made so as to oscillate therein. The casing is cut back between the valve seats to reduce the friction. The valve is made of open work for lightness and elasticity.

Claim.—The valves G, with the openings H between them and the hub E, constructed substantially as described.

76,683.—GEORGE W. WOOD, Philadelphia, Pa.—*Hair Crimper.*—April 14, 1868.—The hair is turned alternately around each horn of the fork and is confined by the sliding block which spreads the tines.

Claim.—Two-tined hair crimper A, with outwardly-curving ends, in combination with the expanding and fastening slide B, as a new article of manufacture, substantially as shown.

76,684.—DOUGLAS B. WOODWORTH, Cincinnati, Ohio, assignor to the CINCINNATI BRITANNIA COMPANY,—*Construction of Tea and Coffee Pots.*—April 14, 1868.—The sole plate is placed beneath the Britannia metal to prevent injury to the latter by heat.

Claim.—The sheath or sole plate C, of refractory metal, secured beneath the bottom of a Britannia tea or coffee pot, in the manner and for the purpose explained.

76,685.—WILLIAM P. WRIGHT, Philadelphia, Pa., assignor to himself and COLLINS W. WALTON, same place.—*Treating Muslin for Sweat Linings, &c., for Hats.*—April 14, 1868.—Ordinary muslin is slightly stiffened with size and then passed through a calender. The oil is then applied.

Claim.—The within-described process for treating muslin for hat sweats, &c., so as to give it elasticity and pliability, as herein set forth and described.

76,686.—JACOB and TOBIAS R. YAGGY, Plainfield, Ill., assignor to TOBIAS R. YAGGY.—*Bag Holder.*—April 14, 1868.—The bag top is held between the two rings which are hinged at the rear side and held by a clasp at the fore side.

Claim—The combination of the post A, the legs C C, the rim D, the hinged rim F, and clasp G *h*, arranged and operating substantially as and for the purposes specified.

76,687.—GEORGE W. ZEIGLER, Maumee, Ohio.—*Land Tiller.*—April 14, 1868.—The plows or cultivators are adjustably connected to the beam, and the beam may be so adjusted in relation to the draught attachments and handles as to plow a wider or narrower furrow.

Claim.—1. Providing a single beam A, carrying a gang of plows or shovels, with a draught rod D, which is pivoted at or near the middle of the length of said beam, and supported at or near its front end by means of a laterally-vibrating beam L, substantially as described.

2. Supporting the front end of a draught rod D, which is pivoted to the eye *h* of the intermediate stock B, by means of a laterally and vertically-adjustable segmental clevis N, applied to the beam L, substantially as described.

3. The adjustable casting G, provided with the standard *j* and adjustable standards *l l* for sustaining the handles J, and allowing these handles to be secured at their front ends by means of a clamping bolt *j*, substantially as described.

4. Providing for adjusting the handles J of a single-beam plow in line with a draught rod D, by means of devices G and L, which are arranged to operate substantially as described.

5. A metallic standard stock and holder B, constructed with a curved front edge *b*, a swelled corrugated surface head *e*, and a slot *g*, substantially as described.

6. The wooden shovel carrying standard C applied to a stock B, substantially as described.

7. The construction of the clevis N of a segment form, with a notched flange *p*, and also with perforations through it for receiving the draught rod D, substantially as described.

8. A single-beam gang plow which is provided with laterally-adjustable shovel standards B C, laterally-adjustable handles J, a vertically and laterally-adjustable clevis N, a laterally-adjustable arm or beam L, all arranged substantially as described.

76,688.—ALBERT ALDEN, East Cambridge, Mass.—*Broom Head.*—April 14, 1868.—The butts of the broom straw are held between the bars which are bolted together, and the corn, being bent down over the lower bar, is secured by wires.

Claim.—1. The manner of securing the corn or broom material to the head, by clamping its stub ends between the bars B and C, and tying it by a string, F, and confining it in position by a band, E, or its equivalent, substantially as herein shown and described.

2. The broom head, formed by combining the cross head B, slotted or perforated bar C, bolts *a*, band E, or its equivalent, and spring F, with each other, substantially as and for the purpose set forth.

76,689.—E. W. ALLEN, Auburn, N. Y.—*Corn Planter.*—April 14, 1868.—The seed is carried from the hopper in the cavities of the seed wheel and dropped into the spout, falling upon the sliding plate at the bottom thereof. The plates in both spouts are connected to levers which overlap each other, and are actuated by arms extending radially from the axle to draw the slides outward, the said slides being drawn back by a spring depending from the frame.

Claim.—1. Operating the movable plates *z z* by means of the revolving arms S S, levers *h h*, and spring L, with its connecting rod *j*, the several parts being constructed and arranged substantially as and for the purposes herein set forth.

2. The combination of the plows R, double coverers J J, rollers K, spouts F, and movable plates *z*, operated by the reel arms S S, springs L, and rod *j*, the whole constructed and used substantially as specified.

76,690.—J. G. ALLEN, Philadelphia, Pa.—*Spirit Meter.*—April 14, 1868.—The liquor flows through a series of cells, to the bottom of which any heavy matter sinks. The liquor is measured in a tilting meter, and when it is emptied therefrom a small portion of it falls into a trough which empties into one of a circular series of transparent sample tubes. The spout is caused to move around by a horizontal ratchet wheel actuated by a pawl pivoted to the tilting measurer so as to empty into the tubes in succession. Self-registering thermometers are attached to the sample tubes to show any tampering with the samples by heat. Inclined tubes are arranged so that tilting of the machine will cause an outflow of liquor into traps connected therewith.

Claim.—1. Delivering the spirits into a series of cells, P', provided with strainers at their outlets, sub-

stantially as described, to prevent the entrance into the meter of any foreign substances.

2. The tilting measuring cells C, provided with the sample spouts E, arranged to deliver the samples into the funnel G, substantially as described.

3. A series of sample chambers or tubes, L′, arranged to receive the samples as they are delivered from the funnel G through the spout *d*, or equivalent means.

4. Providing a meter with the rotating spout *d*, arranged to be operated by the movements of the measuring apparatus, so as to deliver the samples to the sample tubes in succession, substantially as set forth.

5. Making the sample tubes L′ with double glass walls, as described, for the purpose of preventing the evaporation of the samples by heat.

6. Providing the sample tubes with a valve, *i*, arranged to be opened by the movements of the arm *e*, or other part of the meter, to permit the entrance of the sample, and be closed again when the sample is in, to prevent evaporation.

7. Providing the sample tubes with a valve or cock at their bottom, to be opened by the incline *r* on the arm K, attached to and operated by the disk H, or equivalent means, to draw off the samples as described.

8. Providing a spirit meter with a series of radial tubes T, so arranged that any material movement of the meter will cause the contents of said tubes to flow out into and be retained in the vertical cups R, substantially as and for the purpose set forth.

9. The use of a measuring wheel, composed of a series of cells or compartments C, arranged as represented in Fig. 2, and herein described.

10. Constructing and arranging the measuring cups or cells of meters, as herein described, so that the leverage shall be uniform, whatever the quantity or specific gravity of the fluid being measured.

11. Making the pipes leading to or from the meter double, or encasing them within a second tube, to prevent tapping them or artificially cooling or heating them, or abstracting liquor therefrom by capillary holes, substantially as described.

76,691.—James E. Austin, Oswego, N. Y.—*Shingle Machine.*—April 14, 1868.—The bolts at the ends of their movement settle down upon a tilting table, which is actuated by the sliding block on the inclined surfaces of the ends of the table rest. This mechanism may be disconnected, when parallel sided boards may be sawn.

Claim.—The combination of the pivoted tables L L with the sliding blocks M M, having the shoulders *m m*, and operating the tables, substantially in the manner and for the purposes specified.

76,692.—James S. Baldwin, Newark, N. J.—*Elevator.*—April 14, 1868.—A portion of the platform is made to slide inward when an object is interposed between the edge of the platform and the landing. This may be accomplished by the direct pressure of the object, or the pressure of the object may act upon other mechanism.

Claim.—The withdrawal of the yielding platform or edge B by the action of an interposed body, by means and in the manner described.

76,693.—James S. Baldwin, Newark, N. J.—*Elevator.*—April 14, 1868.—A movable bar is secured to the side of the platform, and when any object is interposed between the said bar and the landing, the bar is moved and puts in operation the brakes or other stop mechanism.

Claim.—The checking or stopping of the elevator by the pressure of an interposed body upon the bar D, or its equivalent, said pressure being transmitted and applied by the means and substantially in the manner described.

76,694.—James S. Baldwin, Newark, N. J.—*Elevator for Transporting Passengers.*—April 14, 1868.—The style of elevator in which the platforms all have a reciprocation, from landing to landing, is applied to buildings in which the stories vary in height, by passing the hoisting rope from a common barrel, or drum, over differential pulleys bearing proportion to the height of stories.

Claim.—The elevator for buildings having floors of varying height, constructed substantially in the manner set forth.

76,695.—John Barclay, Attleborough, Mass., assignor to himself, Rufus D. Case, James Barclay, and Daniel Bing, New York, N. Y.—*Button Hole Lining for Carriage Curtains.*—April 14, 1868.—The eyelet is surrounded by three washers which extend its hold upon the cloth.

Claim.—A carriage-curtain button-hole lining, consisting of the three annular plates B, C, and D, and of the eyelet E, all made and operating substantially as herein shown and described.

76,696.—Alfred Barnes, Newark, N. J.—*Printing Hat Body.*—April 14, 1868.—The block having the hat body thereon, and, after pouncing, is screwed upon the end of a shaft which is made to rotate the said body, in conjunction with a printing roller, which may have more or less rapid feed given to it.

Claim.—The die *a*, operated by the screw-shaft *b*, whereby a continuous spiral line is printed upon the body of the hat B while on the cone, as herein described, for the purpose specified.

76,697.—Asa Barrett, Baltimore, Md., assignor to himself and Milton D. Mettee, same place.—*Oyster Rake.*—April 14, 1868.—The grappling arms are held in extended position by a spring, and brought together by the action of raising, through means of the toggle rods. The head is sunk by a longitudinal bar to which the jaws are hinged.

Claim.—The instrument above described, consisting of the rake-heads A A, teeth *a a*, spring S, and weight B, in combination with the crossed rods or arms C C, and the connecting rods D D, and link E, substantially as and for the purpose specified.

76,698.—William C. Bartlit, Aledo, and Joseph M. Merriman, Moline, Ill.—*Grading Machine.*—April 14, 1868.—The scraper is so attached to a sulky that it can be adjusted to any desired inclination, or can be tilted by the driver.

Claim.—1. The arms H, when so connected with the frame A and scraper E as to swing vertically, when the scraper revolves, substantially as herein set forth.

2. The lock levers U and V, in combination with the arms H, and scraper E, when arranged to lock the arms and keep the scraper from revolving, and at the same time admit of the front of the scraper being elevated or depressed to receive its load, substantially as herein described.

3. The shaft K, and arms L, when arranged in connection with the front of the scraper E, with the lugs M, and lever N, or their equivalents, so that the operator can raise or lower the front of the scraper at pleasure, substantially as and for the purposes specified.

76,699.—Carl Baumann, Poughkeepsie, N. Y.—*Watch Protector.*—April 14, 1868.—The watch is held between a ring and a C-shaped plate, to which its lower side is attached, and can only be taken from the pocket after the upper side of the ring has been drawn from the plate.

Claim.—1. A watch-protector, consisting of a spring plate A, and of the bent rod B, which is fastened to the plate, and between the upper part of which plate and rod the stem of the watch is clamped, substantially as herein shown and described.

2. Forming a hook, *b*, on the lower end of the spring plate A of a watch protector, substantially as and for the purpose herein shown and described.

76,700.—Richard Beem, Antrim, Ohio.—*Rat Trap.*—April 14, 1868.—The bait is fixed upon one end of a lever, whose other end has a catch which engages a serrated arm upon a spring shaft. When the bait is raised, the arm makes one revolution in a horizontal plane and dispatches the rat. The arm is checked by the brake, and is arrested by the trigger.

Claim.—1. Arm F, with its serrated arms *f* and *f′*, catch *c*, and knob *i*, in combination with main-spring B and shaft E, when constructed and operating substantially in the manner and for the purposes set forth.

2. Spring I, when constructed and operating sub-

stantially in the manner and for the purposes set forth.

3. Trigger T, with its guide G, when constructed and operating with lever L and bait-arm *n*, substantially in the manner and for the purposes set forth.

4. Arm F, shaft E, spring B, when constructed and operating in combination with spring I, trigger T, guide G, lever I, bait-arm *n*, body A A′, and bottom *a*, substantially in the manner and for the purposes set forth.

76,701.—George I. Birch, New York, N. Y.—*Ironing Board.*—April 14, 1868.—The board is jointed to a sustaining frame, which may be folded into small compass when not used.

Claim.—The combination of the board A, hinged end frames B D D B′ and E D′ D′ E′, with the bottom frame B″ B″ C C, and hinged slide *n*, all substantially as shown and described, and for the purpose set forth.

76,702.—Washington Blythe and Nathaniel Hayes, Alexandria, Va.—*Apparatus for Turning Locomotive Crank Pins.*—April 14, 1868.—An inner cylinder is adjusted upon one of the journals by set screws, and an outer cylinder carrying the cutting tools is revolved upon it to turn off the other journal.

Claim.—1. The reversible and adjustable end-centering device, in combination with the outer and inner cylinder, or either of them, when combined therewith substantially as described.

2. The exterior cylinder, carrying the tools 8 8, in combination with the inner and stationary cylinder, when arranged substantially in the manner set forth.

76,703.—Jacob W. Bope, St. Louis, Mo., assignor to himself and George R. Chittenden, Chicago, Ill.—*Dumping Platform for Harvesters.*—April 14, 1868; antedated April 7, 1868.—The tilting platform turns on a pivot near to its rear edge, and has a hinged folding extension for adaptation to tall grain. The platform may be adjusted in inclination to the ground, and may be also adjusted in distance from the cutters.

Claim.—1. A tilting platform or dropper turning upon an axis at or near its rear edge, in combination with a hinged extension or tail-piece for adapting said platform for use in tall grain.

2. A hinged folding extension or tail-piece, in combination with an anti-friction rod or guard on the platform, for the purpose as described.

3. The anti-friction rod, in combination with the tilting platform provided with teeth, operating as and for the purpose described.

4. A tilting platform or dropper turning on a pivot or fulcrum at or near its rear edge, operated by means of a lever crank or arm attached to said pivot or fulcrum, substantially as described.

5. A tilting platform or dropper turning upon a pivot or fulcrum located at or near its rear edge, in combination with arm or lever F attached to said fulcrum, adjustable rod L, arm or lever K, rock-shaft J, and foot-piece or treadle I, substantially as described.

6. A tilting platform, in combination with a means for adjusting said platform and setting it up or down, or nearer to or further from the cutting apparatus.

7. The adjustable arm D′ forming the support for the pivot at the inner end of the tilting platform, substantially as described.

8. The adjustable swinging arm or support H, in combination with the hook pivot or fulcrum G at the outer end of the tilting platform, substantially as described.

76,704.—Job Borton, Antrim, Ohio.—*Coal Excavating Machine.*—April 14, 1868.—The chisels are upon a reciprocating frame supported on a truck, and are operated by the sledges which are raised by the wipers on a rotating shaft.

Claim.—1. The picks or chisels M′ M′, sledges M M, and cams *c c*, operated by shaft H and wheel I, in combination as described, and operating as and for the purposes set forth.

2. Cam-roller *a′* on shaft H, adjustable arm I¹, connecting-rod *b*, arms *b′* and *p* on rock shaft *b″*, pawl *o*, and ratchet wheel R, in combination with cog-wheels S S, as described, and operating as and for the purposes set forth.

3. In combination with a mining machine thus constructed, crank shaft G, balance wheel F, and gear wheel K, pitman N, constructed and operating as described and set forth.

4. The combination of the chisels or picks M′ M′ with the transversible frames B and C, carrying the intermediate devices, constructed as described, and operating as set forth.

76,705.—James Edward Boyce, and Robert Harrington, Birmingham, England.—*Umbrella.*—April 14, 1868.—Patented in England June 17, 1867.—The stick has plain studs, which engage a hole in the spring lever upon the runner. The runner is prevented from rattling by a spring, which extends beneath it when the umbrella is spread.

Claim.—1. The combination, with the umbrella or parasol stick, and studs or projections thereon, of the slotted runner and lever, constructed, arranged, and applied to said runner, substantially in the manner described, so that while the runner rides or passes over the studs, one arm of said lever will engage with one or the other of said studs, and thus fix the umbrella or parasol in its open or closed position, as shown and set forth.

2. One or more bow-springs, made from sheet steel, or other elastic metal, applied to the taper stick of an umbrella or parasol, so as to steady the runner thereon, substantially as herein shown and described.

76,706.—Henry Brevoort, Brooklyn, N. Y.—*Detachable Ball Joint.*—April 14, 1868.—The ball lies in the socket, and its shank passes through a slot therein, and is turned 90° to prevent withdrawal.

Claim.—1. The ball joint, constructed as described, consisting of the shell A, open at one end, and provided at its opposite end with the slot having the shoulder *b*, whereby, as the ball is introduced into the shell, and its shank turned in the wider part of the slot, it will strike said shoulders, and be locked in the shell until turned again, so that its narrower part will enable the ball to be withdrawn from the slot, as herein shown and described.

2. The ball joint, constructed as described, in combination with the bracket B or screw B, as herein described for the purpose specified.

76,707.—Harvey Brown, Harlem, N. Y.—*Portable Cooking Stove.*—April 14, 1868.—Hooks upon two of the sides pass through slots in the other sides, and serve to engage them together. The bottom is also attached by similar hooks, and is prevented by a pawl from slipping, to allow disengagement of the same. The top plate may be somewhat elevated by the wedge-formed portions of bars which are passed beneath it. The stove may be a compound bail, which admits of folding out of the way.

Claim.—1. The connecting together of the side and end plates A B, and bottom plate C of the stove, by means of the hooks *b d* and slots *a c*, substantially in the manner as shown and described.

2. The pawl D and lug *e*, in combination with the hooks *b d* and slots *a c*, all arranged substantially as and for the purpose set forth.

3. The lid or cover E, provided with the inclined plates *h h*, for the purpose of admitting of the lid or cover being tightly fitted on the stove, or more or less elevated, as desired.

4. The bent or angular wires F F and bail G, arranged and applied to the stove, substantially in the manner as and for the purpose specified.

76,708.—Spencer H. Brown and Charles H. Willets, New York, N. Y.—*Corset Spring.*—April 14, 1868.—The spring is made in two parts, and is extensible by screws and slots.

Claim.—1. A corset spring, composed of two parts *b b**, connected so that the spring can be lengthened or shortened substantially as set forth.

2. The slide *a**, moving between the parts *b b** of the spring A, in combination with the fastening *a′*, substantially as and for the purpose described.

3. The adjustable button *c*, in combination with an extension corset spring A or A′, substantially as and for the purpose set forth.

76,709.—Daniel Broy, Canton, Mo.—*Hand Corn Planter.*—April 14, 1868.—The seed slide is horizontal, and is reciprocated by the relative movement of the two parts of the stock. The stock forks so as to deposit the seed in two separated spots.

Claim.—1. The combination and arrangement of the forked bars or boards A and B, plates C and D, channels H, slide F, cap or block G, and seed box E, with each other, substantially as herein shown and described, and for the purpose set forth.

2. Forming the upper edge of the partition I, that separates the channels H from each other, sharp or wedge-shaped, substantially as herein shown and described, and for the purpose set forth.

76,710.—John Buercky, Overpeck's Station, Ohio, assignor to himself and John C. Bandtel, same place.—*Broom.*—April 14, 1868.—The butt ends of the broom straws are placed in the screw clip, and the side bars hooked into the ferrule. The ring is then crowded down over the brush and rests on the hooks at the lower ends of the side-bars.

Claim.—The combination of the rod *b b*, link *d*, nuts *c c*, bent wires and band *f f'* and *g*, with the perforated ferrule *e* and handle A, when the parts are constructed, arranged, and applied for securing the wisp B, in the manner and for the purpose described.

76,711.—Jacob Busser, Philadelphia, Pa.—*Shifting Bucket Propeller.*—April 14, 1868.—Improvement on his patent, July 2, 1867.—The propellers are placed beneath the boat to render this device applicable to canal boats.

Claim.—The arrangement of the frames carrying the shifting buckets upon the bottom of or underneath the boat, so that both series of buckets shall work in the same plane, and guarded, guided, and shifted for changing the direction of the boat by devices substantially such as set forth and described.

76,712.—William H. Castle, Washington, D. C.—*Water Elevator.*—April 14, 1868.—The bucket is raised by turning the hand crank forward and retained by the weighted pawl which engages a ratchet wheel turning loosely upon the barrel shaft. Attached to the shaft is a ratchet wheel which engages a tooth upon the crank which is attached to the first mentioned ratchet. The tooth is freed from the ratchet by drawing back the crank, and the bucket is then free to run down.

Claim.—The combination of the slot L, in the crank head, the spring M, the tooth N, cap O, and toothed wheel Q, when constructed and arranged as and for the purpose set forth.

76,713.—J. J. Cline, High Hill, Ohio.—*Animal Trap.*—April 14, 1868.—The animal enters one of the counterpart, end, wire compartments, and takes hold of the bait upon the lever; the movement of the latter causes that of the trigger wire pivoted thereto, and the fall of the gate. The animal enters beneath the drop gate into the inner compartment and by raising the said gate resets the trap.

Claim.—The combination of the door D, rod E, and lever F, as arranged with door N, rod H, lever G, and cord K, for forming a self-setting trap, as and for the purpose herein set forth.

76,714.—Gideon W. Cole, Canton, Ill.—*Plow.*—April 14, 1868.—The plow beam has lateral and vertical adjustment by an adjustable cap which is secured to the upper end of the standard by a bolt, passing through it, and working in a slot having an inclined depression to receive the bolt head. A segment-faced shoe is secured to the lower corner of the heel of the beam and works on a curved plate attached to the handle.

Claim.—1. The adjustable cap *a*, secured to standard *b*, as described, and operating substantially as set forth.

2. The segment-faced shoe *f*, working on plate *g*, as described, in combination with the cap *a*, or equivalent attachment, arranged substantially as and for the purposes set forth.

3. The combination of the vertical and lateral adjustment of the beam, when the different parts are constructed and operated substantially as set forth and described.

76,715.—George W. Combs, Canandaigua, N. Y., assignor to himself and J. B. Murray & Sons, same place.—*Car Brake.*—April 14, 1868.—The brake is secured to toggle levers which are pivoted to a foot which puts on the brakes when the car is thrown from the track, and also acts through a system of levers to draw down the coupling pin and uncouple the cars.

Claim.—1. In combination with the wheels B, the intermediately-placed brakes C C, connected by a toggle joint, D D, and beam E, suspended upon the slotted hangers F, and so arranged in relation to the track that when the cars are thrown from the track the weight of the car shall be applied to press the brakes against the wheels, substantially as set forth.

2. The combination of the beams E and E', arms G and H, spring G', lever I, spring K, and pin K^1, for automatically disconnecting a car when thrown from the track, substantially in the manner set forth.

3. The combination of the draw bar L, jaw M, spring K, and pin K^1, and arm K^2, arranged to operate substantially as and for the purpose set forth.

76,716.—Henry Coulter, Philadelphia, Pa.—*Lamp Burner.*—April 14, 1868.—The chimney holder has three or more springs which press against the chimney and hold it in place.

Claim.—Springs *h h h*, so constructed and connected to a lamp-chimney holder as to retain upon the same either a swelled or a cylindrical chimney, as specified.

76,717.—Richard T. Crane, Chicago, Ill.—*Ventilator.*—April 14, 1868.—The heater is arranged so that when the warm-air pipe is closed the cold-air pipe is opened, and ventilation still goes on.

Claim.—1. The cold-air pipe B, in combination with the hot-air pipe A, substantially as and for the purposes specified.

2. The air-pipe B, in combination with the pipe A and register C, substantially as and for the purposes specified.

3. Providing the hot and cold-air flues A B with a register, so constructed and operated that when one flue is closed, or partially closed, the other will be correspondingly opened, substantially as and for the purposes specified.

4. The deflector E, in combination with the register C, constructed and operating substantially as and for the purposes specified.

5. The deflector E, constructed and operating substantially as and for the purposes specified.

76,718.—Richard T. Crane, Chicago, Ill.—*Ventilator.*—April 14, 1868.—The valve is automatically opened by the engine when the steam in the boiler is at a high pressure. When the valve is open a current of cold air passes through the pipe, and by this current of air the curtains are driven against the wire netting, and no air can pass through the netting into the pipe. But when the valve is closed, a current of air will pass through the netting into the pipe, and thence through the heating chamber into the room to be ventilated.

Claim.—The projection and opening B, provided with the netting *a* and curtains or valves *b*, in combination with the pipe A, substantially as and for the purposes specified.

76,719.—Samuel Darling and John E. Hall, Bangor, Me.—*Inkstand.*—April 14, 1868.—The pen rack is hinged to the lid so that the act of putting the pen upon the rack places the lid upon the ink vessel.

Claim.—1. A swinging pen rack, so combined with the cover of an inkstand, that the movement of the rack will operate the cover.

2. The combination, with an inkstand and its cover, of a pen rack, or its equivalent, in such manner that the mere weight of the pen-holder, when laid down by the writer, shall cause the ink to be covered, and that the ink shall be uncovered when the pen is taken up.

76,720.—Edward P. Davis, North Attleboro, Mass.—*Hemmer.*—April 14, 1868.—The hem is turned down so as to bring the right side of the stitches to the right side of the work.

Claim.—The combination of the plates *b* and *c*,

formed as shown and described, with the arm A, as and for the purposes set forth.

76,721.—Josiah P. N. Davis, Point Arena, Cal.—*Shingle Machine.*—April 14, 1868.—The bolt is placed on the carriage, and the shingle is rived therefrom and shaved. The shingles are carried up by claws, and dropped into the straight or inverting chute by which they are deposited in the packing box.

Claim.—1. The combination and arrangement of the clamps H H, for holding the shingle, the curved pivoted knives I I, and the wedge *b*, for graduating the distance between the edges of the same for tapering the shingles, substantially as described.

2. The combination and arrangement of the rod K and lever M, for releasing and delivering the finished shingles, substantially as described.

3. The double delivery trough L, divided by the vibrating diaphragm *g*, in combination with the cam S, arms T and U, and pin *d*, for operating the same, substantially as described.

4. The bar or rod *i*, in combination with the vibrating diaphragm *g*, for reversing every alternate shingle on its way to the packing box, substantially as described.

5. The sliding packing box, having movable partitions, in combination with the inclines *m m*, levers *n* and *r*, latch *t*, and spring *z*, for operating the same, substantially as described.

76,722.—Robert Dick, Buffalo, N. Y.—*Printers' Chase.*—April 14, 1868.—The inner sides of the chase are cut into inclined recesses which receive the wedges or quoins used in locking up the form. The flange upon the quoin prevents the descent of the same to touch the stone and raise the chase from contact therewith.

Claim.—1. The construction and use of a sufficient number of suitably-inclined planes, formed along the side and foot of otherwise common chases, employed in combination with thin wedges of any suitable substance, operating between these inclined planes and a reglet of suitable material, so as to lock up a form in an eighth of an inch of chase room as easily and as efficiently as in two inches of chase room, all constructed and operating in combination, substantially as set forth.

2. The flanged quoin or wedge, constructed and operated substantially as set forth.

76,723.—Bartlett Doe, Boston, Mass.—*Shutter Fastener.*—April 14, 1868.—The case is made in two parts and is screwed through a cylindrical hole in the blind. The catches consist of two levers, and are so arranged that the outer catch can be moved by the inner catch lever, but the inner cannot be operated from without.

Claim.—1. The manner of uniting the two halves of the cylindrical case, by means of a ligature applied between the ends of the shell, and at a place of less diameter than said ends, substantially as described.

2. Giving to the lower part of the case the rounded and depressed form shown and described, for the purpose of shedding the rain, as described.

3. Constructing the upper half of the shell with the opening *f*, substantially as and for the purpose set forth.

76,724.—Frederick C. Ehrenberg and Theodor Ehrenberg, New York, N. Y.—*Thread Winding Machine.*—April 14, 1868.—Improvement on patent No. 43,474. As the spool is rotated the thread guide has reciprocation by a rotating cam which is driven by a screw gear. The thread guide has an adjustable pivot by which it is made to suit different sizes of spools and thread.

Claim.—1. The eccentric roller X, with corrugations or teeth on its periphery, in combination with spool frame S, substantially as described.

2. The eccentric roller X and its finger Z in combination with the stops Y Y′, substantially as described.

76,725.—Samuel Ehrman, Chicago, Ill.—*Table Leaf Support.*—April 14, 1868.—The curved arm passes through the frame, and when the leaf is raised the drop latch falls into the notch to retain it in that position.

Claim.—The arrangement of the plate C, with its drop latch D and slot E, in combination with the curved arm A, when provided with a hinge, B, at one end, and notch or shoulder, *a*, at the other, operating and constructed in the manner and for the purpose specified.

76,726.—William Emmons, Sandwich, Ill.—*Concrete Brick Machine.*—April 14, 1868.—The lid is arranged to swing off the mold, and when in position thereon is held down by the lugs.

Claim.—The lid E, arranged with a lug, P, and to swing on a bolt, C, in combination with lugs D D D S, and mold I I, as and for the purpose set forth.

76,727.—D. S. Esten, Monson, Mass.—*Hinge for Gates and Doors.*—April 14, 1868; antedated April 9, 1868.—The hinge closes by the force of gravity, assisted by that of the spiral spring.

Claim.—The upper part D, provided with a pendent rod, E, passing loosely through the lower part, C, and surrounded by a spiral spring, F, fitting against the under side of the part C, and held upon the rod E by the nut G, said parts C D provided with inclined surfaces and shoulders *a b*, substantially as and for the purpose specified.

76,728.—Thomas Evans, Newark, N. J.—*Construction of Ears for Can and Kettle Bails.*—April 14, 1868.—The base portion is bent at an angle to the upper portion. It has corrugations formed along the sides and end to stiffen it and improve the appearance.

Claim.—The ear for the bail of cans or kettles, formed with corrugations, as and for the purposes set forth.

76,729.—John De Galleford, Cohoes, assignor to himself and William E. Marston, Troy, N. Y.—*Tube Cutter.*—April 14, 1868.—The four rollers which abut upon the pipe maintain the tool in position. Between the two lower rollers projects the cutter, being protruded by the screw shank. When driven against any protuberance on the pipe the block with the lower rollers retires, condensing the spring, which returns the rollers into position when the inequality is passed.

Claim.—1. A pipe cutter, consisting of the G-shaped frame A, with its rollers, *b b*, of the screw B, adjustable block C, with its rollers *f f*, of the spring D, and cutting tool E, all made and operating substantially as herein shown and described.

2. The grooved rollers *f f*, when arranged as described, so that they not only serve as supports for the pipe, but also as guides for the cutter, substantially as herein shown and described.

3. The block C, when provided with the spring D, against which the screw B abuts, and when fitted loosely around the cutter E, substantially as described, so that it can yield to projections on the pipe without influencing the position of the cutter, arranged as set forth.

76,730.—Bernard Demming, Cleveland, Ohio.—*Scroll Saw Mill.*—April 14, 1868.—The inclination plane of motion of the saw is adjusted by means of the partial rotation of the saw frame in a vertical plane, a set screw maintaining the required adjustment so as to cut a bevel kerf. The rake or forward pitch of the saw is regulated by the vibration on its axis of the lever, from which the upper end of the saw is suspended.

Claim.—1. The frame H, pivoted at *h*, and having projecting bolts or pins, *e i′*, working respectively in slots, *g f*, whereby the frame may be fixed at any required inclination, substantially as specified.

2. The combination of the saw S with the lever *o* and slide *m*, the lever being pivoted to the slide, and its inclination being adjustable by means of a pin, *p*, and nut, *a*, or some equivalent device, so that by inclining the lever at different angles to the slide the saw may be caused to rake more or less, substantially as described.

76,731.—Lewis Elliott, Jr., New Haven, Conn., assignor to L. Candee & Co., same place.—*Overshoe.*—April 14, 1868.—A partial upper is at-

tached to the rubber foxing, which is subsequently vulcanized.

Claim.—An overshoe, formed from India-rubber in the usual manner, and provided with a fabricated upper, A, when the said upper is applied thereto in the manner herein set forth.

76,732.—WILLIAM ETTENGER and HORACE P. EDMOND, Richmond, Va.—*Hydraulic Press.*—April 14, 1868.—The cylinder is placed upon an elevated platform, and the plunger head rests against a cross head connected by two or more bars to a moving platform immediately beneath the other. The object is placed between the two platforms. The retainer surrounds the plunger between the cylinder and the cross head, and is operated by turning to hold the press to any position gained by the action of the pump.

Claim.—1. The placing of the cylinder of the hydraulic press immediately under the head piece or cross beam of the frame of the press, the head piece or cross beam resting directly on the piston.

2. The retainer H, formed with two sets of horizontal steps, 1, 2, 3, 4, and sustained and operated substantially as and for the purpose set forth.

76,733.—GEORGE W. FELTES, Carbondale, Ill.—*Wood Lathe.*—April 14, 1868.—The spokes are placed in a movable frame and rotated in contact with the rotary cutters which reciprocate longitudinally by the feed screws. The movable frame is operated by a pattern.

Claim.—In connection with the two models L, L, arranged and operated as described, the arrangement of a series of revolving shafts, E E′, each bearing two cutting instruments, one at each end of the shaft, the shafts being held in a sliding frame, which allows the cutters on one end of the series to operate upon a series of sticks parallel to one model, while those on the other end of the series operate on another series of sticks parallel to the other model, whereby any number of spokes, M M M M, may be made simultaneously in a single machine.

76,734.—ADDISON C. FLETCHER, New York, N. Y.—*Grate Bar.*—April 14, 1868; antedated April 3, 1868.—Each of the tubular grate bars has a valve at the front end, and has at the other end an annulus, which, when the bars are put together, forms a section of a hollow cylindrical bridge, which is perforated on the upper side and covered with like perforated fire clay. Air becomes heated in its passage through the grate bars, and passes through the perforations of the cylinder to aid in the combustion of the gases.

Claim.—1. A grate bar, having cast to or forming part of it, in the rear, a perforated cylinder, C, having an annular projection on one side and a corresponding recess on the other, the axial line of which cylinder is arranged transversely to the length of the bar, the same forming, in connection with the other bars of like construction, a tubular perforated bridge, for the passage of heated air to the fire, substantially as specified.

2. The application to a grate bar, constructed substantially as described, of a longitudinal tubular portion, A, terminating in a transverse cylindrical perforated structure, C, of bridge-like character, and made to form part of the grate bar of an outside lid or valve, B, essentially as and for the purpose or purposes herein set forth.

76,735.—MATTHEW FLINN, St. Louis, Mo.—*Gang Plow.*—April 14, 1868.—The plow beams are attached to blocks which have free lateral movement at the bottom of vertically adjustable standards. The blocks are attached by connecting rods to the rear lower corners of triangular frames which are attached, to both the axle and main beam. The wheels both run on the land.

Claim.—1. The sliding blocks *c*, connecting rods c^1, and sectors c^2, when arranged and employed substantially as herein shown and described, for the purpose of transmitting the draught from the axle to the plows.

2. The sectors or sector D, pinion *d*, and beams B′, when combined and arranged as herein shown and described.

3. The hook d^2, and lever d^3, when combined with the beam B′ and sector D, as described and shown.

76,736.—I. G. FLISHER and E. M. BATES, Stark County, Ohio.—*Double Shovel Plow.*—April 14, 1868.—The sole is hinged at the toe and its screw threaded rear end turned up and passed through an eye in which it is adjusted by nuts.

Claim.—1. The adjustable sole D E, constructed and arranged substantially as and for the purpose set forth.

2. In combination with the adjustable sole D E, the slide *g*, and nuts *f h*, arranged and operating substantially as and for the purpose described.

3. The cutters or knives *a a* when used in combination with the shovel *c*, substantially as and for the purpose described.

76,737.—DANIEL and MICHAEL FOREMAN, Dalton, Ohio.—*Draught Bar.*—April 14, 1868.—The double tree is made in two hinged sections which are maintained by a spring in a slightly open position when at rest, so as to close by the first impulse of the draught of the team and relieve the wagon of the usual jerk incident to starting.

Claim.—Constructing the draught bar in two equal parts, and so hinging said parts as to leave a space between them when the same is used in combination with spring C, staple *d*, and clevis *e*, all arranged substantially as and for the purpose set forth.

76,738.—J. H. FRAMPTON, Hopewell, Ohio.—*Corn Planter and Plow.*—April 14, 1868.—The forward plow opens the furrow for the seed which drops from the box; the following plows turn a light furrow upon the seed from each side. The seed slide is moved by a rod and lever connected to the right handle, which vibrates on its fulcrum post when depressed.

Claim.—1. The handle D composed of two pieces, *d* d^1, hinged together at d^2 when used for the purposes set forth.

2. The combination of the hinged handle D with the rod *n*, lever *l*, and sliding bottom *m* of the seed box I, when operating substantially as and for the purposes set forth.

76,739.—THOMAS W. FROST, Dorchester, assignor to himself and J. B. KENDALL, Milton, Mass.—*Shipper for Shifting Belts.*—April 14, 1868.—The belt passes between curved plates which are attached to the sliding shipper bar. The plate toward the loose pulley is at a lower elevation, so as to cause the relative depression of that side of the belt in stopping the machine.

Claim.—The within-described guide N, formed in one or more pieces and secured to a sliding bar M, for giving the belt a lateral inclination, as and for the purpose set forth.

76,740.—O. P. FURMAN, Addison, N. Y.—*Wood Planing Machine.*—April 14, 1868.—The work is held between the centers of one slide, the other slide being raised to hold the work while being operated upon by the cutter. When one side or face is dressed the slide is covered, the work rotated on its center to present another side, and again raised within the range of the cutters.

Claim.—The slide G, having inclined ways upon its sides, working vertically in inclined grooves in the sides of the slide F, in combination with the crank shaft H and lever *h*, all constructed and operating as herein described for the purpose specified.

76,741.—WILLIAM M. GALUSHA, Arlington, Vt., assignor to himself and N. H. BATCHELLER.—*Adjustable Scroll Index for Gear Cutting Machines.*—April 14, 1868.—On the face of the disk is a spiral groove in which perforated plates are arranged to move freely. The holes through the plates are equidistant, and although the plate is not held in a circle, the distance between every adjoining two holes will comprise a number of degrees of a circle described around the center of the disk, equal to that between any one pair of holes of the same plate.

Claim.—1. An index for gear cutting and other spacing machines consisting of the perforated or marked plate C moving on a scroll track, which is provided on the face of the disk, substantially as herein shown and described.

2. The slotted clamps D D when fitted to bolts *b b*,

which move in a groove *d*, as set forth, in combination with the plate C, as specified.

3. The index plate E when provided with the fixed stop *e* and with the movable stop *f*, and when combined with the disk A and scroll plate C, all made and operating substantially as herein shown and described.

76,742.—G. GIUSEPPE GARIBALDI, Buffalo, N.Y. —*Mosaic Floor.*—April 14, 1868.—A foundation is laid with lime, sand, and seagliola in equal parts. Upon this are laid colored compositions disposed in patterns. The compositions are made of pebbles or pieces of rock of different colors imbedded in the marble cement described in his patent of August 20, 1867.

Claim.—1. A composition for mosaic work, substantially as herein described.

2. A mosaic floor, ceiling, or wall made of the composition, and in the manner substantially as herein described.

76,743.—GEORGE B. GARLINGHOUSE and J. C. MOORE, Madison, Ind.—*Hay Raker and Loader.* —April 14, 1868.—The apron has a double series of slats and three connecting chains. The outer end of each slat is fast to the outer chain, but its inner end slides past its fellow slat in a link of the middle chain. The chain pulleys are nearer together on the upper shaft than upon the axle, so that the apron is contracted as it passes upward.

Claim.— 1. The contracting apron when constructed to operate substantially as described and for the purpose as set forth.

2. The guard formed of the bar K and fingers *h h h h* when used in the manner and for the purpose as described.

3. In combination with the above, the mode of lifting the rake and holding it up, in the manner substantially as shown and described.

4. In combination with the first clause, the wheels H H′ H″, auxiliary wheels J J, and teeth *i i*, &c., or their equivalents, when used substantially in the manner and for the purpose as set forth.

76,744.—FRANK GERARD, Lincoln, Ill.—*Hopper Attachment for Wagons.*—April 14, 1868—The triangular overshoot at the rear end of the wagon box is hinged to a transverse bar on the bed of the latter, and is supported by latch bars to the box. It is arranged to vibrate on its hinges and let down to the ground to form a chute in the delivery of the contents of the box.

Claim.—1. The combination of the hopper B, formed with side boards *e*, with the wagon box A, substantially as and for purpose specified.

2. The arrangement of the transverse bar *b* with reference to the rear end of the box A and the edge or end *e* of the hopper, substantially as and for the purpose specified.

3. The arrangement of the hasps *r*, staples *r′*, and hooks *r**, with reference to each other, and with the triangular side pieces *e* of the hopper B and the box A, substantially as and for the purpose specified.

76,745.—J. A. GORMLY, Bucyrus, Ohio.—*Field Fence.*—April 14, 1868.—The boards are attached to the metallic posts by wire loops which are passed through holes in the posts, and through the boards and bearing blocks, and are then clinched.

Claim.—1. The loop *d* when the same is constructed and applied substantially as described.

2. The combination of the anchor A, post B, board D, and loop *d*, when the same are constructed and arranged substantially as described.

76,746.—FRANCIS H. GOULD, Newark, N. J.— *Detachable Covering for Buttons.*—April 14, 1868.— The forked shank of the cap passes beneath the button, and the hinged cap is brought over and snapped fast to catch on the ends of the prongs.

Claim.—A cap, B, provided with a suitable fastening, whereby said cap can be readily attached to or detached from a button, substantially as set forth.

76,747.—EDWARD GRAY, Cuyahoga Falls, Ohio. —*Hospital Bed.*—April 14, 1868.—The bed bottom is hinged so that different parts may be made to assume different inclinations. The invalid may, by means of the devices, be raised from the bed or turned thereon.

Claim.—1. The side rails A^1 with grooves *a*, caps a^2 a^3 in combination with springs a^1. and bed frame B^1, B^2, B^3, as and for the purpose set forth.

2. The bed frame with parts B^1 B^3, having rollers *x x* in combination with part B^2, having flat slats, substantially as and for the purpose described.

3. The middle part B^2 of the bed frame, constructed as described, in combination with rod b^3, arranged as described, as and for the purpose set forth.

4. The table S with the rods *s*, in combination with ears *s′* and rod S′, substantially as described.

5. The shaft C^1 with frames C^3 C^4 when combined and arranged so as to operate the head piece B^1 or middle part B^2 of the bed frame, or both, in the manner and for the purpose described.

76,748.—ELISHA GRAY, Cleveland, Ohio.—*Telegraph Apparatus.*—April 14, 1868.—The invention described in the claims relates to the use of an inductive apparatus in connection with a relay at each office, and the use of an induction, "to and fro" current to operate the relay instead of the direct or battery current.

Claim.—1. Operating a relay by to and fro currents of magneto-electricity, momentarily induced by a disturbance of the main or line currrent, in the manner substantially as described.

2. In combination with the receiving magnet or magnets, the electro-magnetic armature, in which a secondary current is induced on the disturbance of the line current, substantially as described.

3. In combination with the induction apparatus, constructed as described, the polarized relay, placed in a short circuit, and operated by induced currents, in the manner and for the purpose as set forth.

4. The arrangement of the magnets B C and B′ C′ in combination with the magnets D′ D′, used in the manner and for the purposes substantially as described.

76,749.—GEORGE D. GREENLEAF and DARIUS C. LARKINS, Depauville, N. Y.—*Apparatus for Treating Milk.*—April 14, 1868.—The rectangularly coiled pipe has a central funnel, and its outer end is turned over the edge of the pan and descends so low as to act as a siphon in emptying the pipe when the stop cock is opened. The coil is suspended in the pan by chains.

Claim.—1. The cooling pipes B adjusted in the pan or vat A by means of the chains D and pins E, as herein described for the purpose specified.

2. The combination and arrangement of the adjustable pipes B, having central turned-up end B^1 and siphon B^2, the handles C, and vat A, as herein described for the purpose specified.

76,750.—C. B. GREGORY, Beverly, N. J.—*Fireplace.*—April 14, 1868.—Improvement in his patent, December 28, 1867. The fire pot is perforated, and between it and the outer shell the space is occupied by air chambers and gravel. The entering air passes through the chambers, the gravel, and then through the openings in the fire pot into the fire space.

Claim.—The air chambers *m* and *n*, situated between the inner perforated casing B and outer casing A of a fireplace, and communicating with chambers containing gravel or other suitable granulated material, through which the air must pass prior to entering the fire pot, all substantially as and for the purpose herein set forth.

76,751.—W. D. GUSEMAN, Morgantown, W.Va. —*Fireplace.*—April 14, 1868.—Above the basket grate the cheeks are extended outward and a canopy above covers in the space. Within the canopy is a segmental plate which may be let down to occupy the space above the grate and form a blower.

Claim.—1. The projecting front or cap C above and beyond the perpendicular line of the front of the grate, substantially as and for the purpose specified.

2. The sliding blower or screen E in combination with the projecting front or cap C, substantially as and for the purpose set forth.

76,752.—W. I. HALE, Ashley, Ill., assignor to himself and W. M. LOGAN, same place.—*Post Hole*

Boring Machine.—April 14, 1868.—The cylindrical auger is open on one side to give flexibility, and is sharp and armed with spurs upon its lower edge. It is used by imparting a rotary reciprocation and a simultaneous pressure of the foot on the cross bar. The plunger is used to expel the earth.

Claim.—The body A, spurs *c*, plunger F, guides G, and cross head H, when constructed, arranged, and combined as and for the purpose specified.

76,753.—Don C. Hall, Hannibal, Mo.—*Atmospheric Churn.*—April 14, 1868.—Air at any desired temperature is forced into the churn at a point near the bottom by the reciprocating air pumps, and has exit through the lid.

Claim.—1. The combination of the removable pipes L, cylinders C, one or both pistons D, lever F, and supply pipes H, having valves I placed in them, with each other, and with the churn A B, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the removable pipes L, cylinders C, supply pipes H, having valves I placed within them, and flexible pipe or hose K, with each other, whether used with or without the interposition of the branched pipe J, substantially as herein shown and described, and for the purpose set forth.

76,754.—Judson W. Hall, Worcester, Mass.—*Sad Iron.*—April 14, 1868.—The iron is perforated longitudinally and turned up at the forward end, where it has a lid. The iron is supported on a stand, so that the chimney of a coal oil lamp may occupy the perforation of the iron. The window allows a view of the flame.

Claim.—1. The combination with the rear of the iron of the concavities *m m*, for the purposes stated.

2. The combination with the rear of the iron of window *e*, substantially as and for the purposes set forth.

76,755.—G. F. Hammer, Cincinnati, Ohio.—*Machine for Polishing Wood.*—April 14, 1868.—The drum is covered with sand paper, and has rapid rotation and slow vertical reciprocation in the aperture of the table.

Claim.—The revolving vertical spindle *b*, drum E, the pulleys B C, belted together, in combination with the cross head *g*, connecting rod *f*, crank *c*, spur wheel *d*, and worm gear *e*, upon shaft *a*, all arranged to operate as described.

76,756.—Henry J. Hancock, New York, N.Y.—*Clothes Dricr.*—April 14, 1868.—A number of bars are pivoted to a bracket which is hinged in such manner that the bars can be turned down into a horizontal position and spread out for use, or brought together and raised into a vertical position against the wall when unused.

Claim.—1. The combination of the pivoted frame B, carrying the laterally extending arms or bars C, with the bracket *b*, on the shaft or rod A, whereby the arms or bars, when closed together, may be brought into nearly or quite vertical position, substantially as herein set forth.

2. The combination of the clasping device D with the supporting rod or shaft A and the movable arms or bars C, whereby the latter, when closed and turned into an upright position, may be retained in such position, substantially as herein set forth.

3. The arrangement of the laterally extending bracing arms *g g** upon the clasping device D and the bracket *b* of the pivoted frame B, and with reference to the rod or shaft A, whereby the apparatus is prevented from turning upon the axis of the shaft, substantially as herein set forth.

76,757.—Theodore William Heinemann, New York, N. Y.—*Purifying, Seasoning, and Preserving Wood.*—April 14, 1868.—The wood is boiled in water, with from ½ to 2 per cent. of carbonate of soda, until no more color is extracted by the solution. It is then dried. The wood may then be put into a close boiler with resin and sufficient water to fill the boiler with steam, and raised to 306° F. It is kept at that temperature until the timber is heated through. The boiler is then cooled to 200° F., and then heated again. Glass solution may be substituted for resin.

Claim.—1. The method herein described of purifying, seasoning, and preserving wood, by first freeing it from substances liable to spontaneous decay, in the manner described, and afterward impregnating it with any of the substances herein specified, or their equivalents, by means of high steam pressure, substantially as described.

2. The method herein described of impregnating wood with any of the substances specified, or their equivalents, by means of high steam pressure, when the steam is generated and superheated in the same boiler or retort in which the wood and impregnating substances are contained, and subjected to steam pressure, substantially as set forth.

76,758.—Samuel M. Hoagland, Catawissa, Pa., assignor to himself and Daniel Kostenbander.—*Horse Hay Fork.*—April 14, 1868.—The jaws are barbed on the contiguous sides, and are held in their engaging position by a spring catch on one handle which rests against the looped end of the guide rod attached to the other.

Claim.—The rod *d* and spring E, substantially as shown and described, in combination with the handles B of a double tined hay fork, all as and for the purpose set forth.

76,759.—Frederick Hoddick, Buffalo, N. Y., assignor to George A. Prince, same place.—*Reed Organ.*—April 14, 1868.—The body of the upright organ is divided into chambers, against which the several sets of reeds are placed. The chambers correspond in number with the reeds in a set, and each chamber covers the corresponding reeds in each set,

Claim.—1. The employment, in upright organs, of the chambers B B, interposed between the sets of reeds and the valves, and operating in the manner and for the purpose set forth.

2. So combining several sets of reeds E E with the chambers B B that the opening of the one valve C, in any one chamber, shall act upon all the reeds opening in that chamber, as herein set forth.

3. Arranging the valves C C and the openings D D, which they cover, in two rows, one above the other, and alternating in position, when combined with the chambers B B, in such a manner as to economize space, as herein set forth.

76,760.—Cyrus B. Holden, Worcester, Mass.—*Horse Rake.*—April 14, 1868.—The rake is tilted by the traction of the wheels through medium of a ratchet wheel and pawl operated by levers.

Claim.—1. The tubular head C, composed of two parts, connected by the yoke *b*, in combination with the axle A, the ratchet *c*, and pawl *d*, substantially as and for the purpose specified.

2. The arrangement and combination of the hook *f'* and yoke *b*, with the tubular head C, and its teeth C*, substantially as shown and described for the purpose set forth.

3. The tubular head C, arranged eccentrically upon the axle A, in such manner as to permit the innermost ends of the teeth C* to be passed through such tubular head without interfering with the axle, substantially as and for the purpose specified.

76,761.—Robert Holmes, Middletown, Conn., assignor to Middletown Plate Company, same place.—*Ice Pitcher.*—April 14, 1868.—The lower bottom is detachable with the rim base, and is depressed in a concavo-convex shape so as to rest upon the table. The concavo-convex inner bottom is stepped in the lower bottom.

Claim.—1. The providing of the bottom of the internal wall F, with a pendent pin, *c*, to fit into a step, *d*, at the center of the upper edge of the base E, substantially in the manner as and for the purpose herein set forth.

2. The connecting of the detachable base, E, with the external wall A, by means of a screw joint, *a*, when said detachable base is used in connection with the step *d*, and the pendent pin *c* at the bottom of the inner wall, substantially as set forth.

76,762.—Benjamin F. Hooper, Newark, N. J.—*Coach Pad.*—April 14, 1868.—The flaps are made of thin sheet metal with down-turned edges, and are riveted to a body piece of metal. Near each side

of the body piece are cavities for reception of the terrets.

Claim.—The metal sides *b*, and body piece *d*, constructed and arranged substantially as herein shown and described.

76,763.—Eben N. Horsford, Cambridge, Mass.—*Preparing Acid Phosphate of Lime.*—April 14, 1868.—The sulphuric acid is diluted until the sulphate of lead present therein is precipitated. The phosphate of lime is dissolved in dilute nitric or hydrochloric acid making a nearly saturated solution which is filtered, and the dilute and purified sulphuric acid added, which precipitates the sulphate of lime. The nitric acid and water are evaporated by heat.

Claim.—The use of sulphuric acid or oil of vitriol of commerce, purified as above described, to be employed in the manufacture of pulverulent acid phosphate of lime, when such acid phosphate is so manufactured as to contain gypsum or sulphate of lime derived from the phosphate of lime used in making said pulverulent acid phosphate for the purpose of raising bread.

76,764.—Mark W. House, Cleveland, Ohio.—*Lamp.*—April 14, 1868.—A non-conducting ring is interposed between the burner and the reservoir, and to the bottom of the ring is an extensible tube with a serrated, lower edge resting on the bottom of the lamp.

Claim.—The adapter B, in combination with the tube D E, substantially as arranged and described, for the purpose set forth.

76,765.—John W. Hyatt, Jr., Albany, N. Y.—*Composition for Billiard Balls and other articles.*—April 14, 1868.—Paper pulp is mixed with the same weight of flour of gum shellac, the water is expressed, and the object is then molded, heated, and cooled under pressure.

Claim.—1. My improved method of producing such mixture by first pulverizing the gum, as above described, and then mixing the same with paper pulp, in the manner and for the purpose above described.

2. The billiard ball, or other article of manufacture, produced from such composition, substantially in the manner and for the purpose above described.

76,766.—E. D. Ives, New Haven, Conn.—*Manufacture of Glass Knobs.*—April 14, 1868.—The knob is cast upon the screw shank, and its surface finished under exposure to heat.

Claim.—A glass knob, attached to its socket, shank, or whatever it may be, and completed by giving to the said knob a fire surface finish, substantially in the manner herein set forth.

76,767.—Allen S. Jackson, Kokomo, Ind., assignor to himself and John F. Myers, same place.—*Lantern.*—April 14, 1868.—The air passes downward through the perforations of a horizontal annular plate and around the edge of another plate beneath it, before reaching the deflecting cone and passing up inside and outside of the same. The guard wires are hooked to the base.

Claim.—1. In combination with the base and burner of the lamp, the flange plate B′, perforated annular plate F, and annular plate G attached thereto at G′, arranged to operate substantially as and for the purpose set forth.

2. A lantern combining in its construction the following elements: A base and lamp, a flange plate B′, perforated annular plate F, deflecting annular plate G, ring G′, chimney L, detachable frame H H′, and top I, said parts being respectively constructed and arranged in relation to each other substantially as described.

76,768.—Samuel S. Jamison, Jr., Saltsburg, Pa.—*Car Replacer.*—April 14, 1868.—The grooved inclined metallic plates are arranged so that they can be wedged to the rails to extend to either the right or left, and rest upon the cross ties.

Claim.—1. The combination of the two inclines M N, when constructed with ears *m m*, *n n*, on each side, so that they can be applied on either side of the rail, substantially as and for the purposes specified.

2. In an apparatus consisting of the grooved incline M, and the smooth incline N, so constructing the groove O, that it receives the flange of the car wheel at the lower and expanded end of the groove, and guides it gradually towards the rail, finally dropping the wheel upon the rail in the manner described, and without causing the wheel to cross the rail.

76,769.—Samuel S. Jamison, Jr., Saltsburg, Pa.—*Steam Engine Valve Gear.*—April 14, 1868.—At the end of its stroke the cross-head strikes against blocks, which are attached to the slides to which the lower ends of the operative lever of the valve are pivoted, and causes the reciprocation of the valve.

Claim.—1. The combination of the slides M M, blocks *m m* N, lever J, valve stem I, and cross-head C′, when the said parts are constructed and arranged so as to operate the valve gear from the cross-head, substantially as described.

2. The arrangement of the springs *s s* with the blocks *m* and N, substantially as specified.

76,770.—Samuel S. Jamison, Jr., Saltsburg, Pa.—*Rotary Steam Engine.*—April 14, 1868.—The hub turns in a concave which covers 120°, more or less, of its periphery. The periphery of the hub has a number of inclined cavities into which the steam is projected as they pass by the tangential steam port.

Claim.—The arrangement of the regulating screw F, spring brace G, movable abutment D, and guides M M, operating in connection with a rotary cylinder, A, in the manner described.

76,771.—John William Jarboe, Green Point, N. Y.—*Paper Cask.*—April 14, 1868.—Each edge of the paper cylinder has a metallic band which is riveted through the chine to the metallic casing of the head.

Claim.—A cask, or vessel of similar nature, made of paper, having its head or heads supported by an outer casing, *e*, and secured to the cylinder or body, substantially as shown and described.

76,772.—Edward T. Jenkins, Ravenswood, N. Y.—*Closing the Mouths of Jars, Cans, &c.*—April 14, 1868; antedated April 7, 1868.—The lower plate spans the aperture and the upper plate covers the same and passes down the rubber gasket upon its edge. The pin is attached to the upper plate and passes through the lower one to prevent its turning.

Claim.—The combination of the plates A and D, screw B, washer C, and pin E, for the purposes specified.

76,773.—Henry W. Johns, New York, N. Y.—*Compound for Roofing and other purposes.*—April 14, 1868.—Asbestos is combined with pigments and earthy matter to form cement for various purposes.

Claim.—The combination of asbestos with pigments, oleaginous or resinous matters, or varnishes, or spirits, or ground or powdered minerals, or rubber, all substantially as described, and for the general purposes set forth.

76,774.—Erastus Johnson, Wilkins, Pa.—*Lubricator.*—April 14, 1868.—At the top of the cylindrical lubricator is an inside, screw-threaded, cylindrical neck into which the top of the valve stem enters. The head of this stem is spread out into a cross-bar whose ends are screw-threaded and engage the screw-thread of the neck. The cap screws into the neck and has two jaws engaging the top of the valve stem and causing its vertical adjustment by turning the cap. The top of the neck and cap are packed by an India-rubber cover.

Claim.—The combination of the valve stem D, having the head *m*, with the neck I, and stopple E, having the jaws *e e*, all constructed and combined substantially as and for the purpose set forth.

76,775.—James W. Jones, Cumberland, Md.—*Apparatus for Making Extracts from Bark and other materials.*—April 14, 1868.—Improvement on his patent Nov. 5, 1867. The liquor from an upper tank is introduced into the bottom of the leach beneath a quantity of ground tan bark which is between a false top and bottom that are sufficiently open to allow passage to the liquor. After the liquor has

been forced upward through the bark by the pressure from the elevated tank, it is drawn downward and discharged at the bottom.

Claim.—1. Introducing at the bottom of a vat, leach tub, or other vessel, a column of water or liquid of any desired altitude, to increase the force of the upward hydraulic pressure, when the liquor is drawn off at the bottom, substantially as and for the purpose specified.

2. The combination and arrangement of the vats, leach tubs, and other vessels, with the troughs or pipes G and H, and reservoirs G′ and H′, substantially as and for the purpose specified.

3. The combination and arrangement of the leaches, tank, and hose or pipes, when the same are constructed and arranged substantially as described.

4. The combination and arrangement of the leaches, reservoirs, pump, and hose or pipes, when the same are constructed and arranged substantially as described.

76,776.—Thomas L. Jones, Natchez, Miss.—*Slide Valve of Combined High and Low Pressure Engine.*—April 14, 1868.—The steam is exhausted into the open air until the pressure of steam at that end of the cylinder equals the atmospheric pressure, after which it exhausts into the condenser.

Claim.—The arrangement of the steam ports a a^1 a^2 a^3, condenser ports e e', exhausts i i', valves g g', and valve e c^1 e^2, when the parts referred to are constructed so as to operate substantially as and for the purposes set forth.

76,777.—Lewis L. Kelley, Delaware Station, Ind.—*Machine for Tanning.*—April 14, 1868.—The hides are suspended on the pins upon the rim of a horizontal wheel which has oscillation within the tank by an arm of its shaft, which is connected by a rod to a crank upon a shaft extending to the outside.

Claim.—The arrangement of the wheel or rack E F, having a reciprocating or partial rotation within a tanner's vat, as and for the purpose set forth.

76,778.—William P. Kirkland, San Francisco, Cal., assignor to himself, John L. Murphy, and Edgar W. Murphy.—*Drain and Water Pipe.*—April 14, 1868.—A series of loosely twisted cords are placed in a caldron of boiling asphaltum. Their ends are confined to a cylinder suspended over the tank. The cords are so arranged as to cross each other diagonally when the cylinder is turned; and between the coils of rope is placed a layer of oakum. After the pipe is formed it is removed from the former and coated with the contents of the caldron.

Claim.—1. In the manufacture of drain and water pipes, the use of ropes, cords, or strands dipped in a pitchy or tarry substance, and wound spirally or placed at right angles around a form, for the purpose of obtaining the desired shape and thickness of the pipe.

2. The use of a filling of oakum or other fibrous material, placed under the strand or cords, substantially as described, for the purposes set forth.

76,779.—Dallas Knowlton, Liberty, Me.—*Stove Pipe Drum.*—April 14, 1868.—The plates forming the flue passages in the drum are secured to a disk, and the caloric current may be allowed to take a nearly straight course or be forced through a very devious course in the drum. Above the drum is a common damper. The disk is turned by a crank.

Claim.—The combination and arrangement of the partitions f g h, with the disk D and the drum or case A, its induct B, educt C, and plates e c', the whole being to operate substantially as specified.

2. The combination and arrangement of the damper E, with the partitions f g h, the disk D, case A, induct B, educt C, and plates e c', arranged substantially in the manner and so as to operate as set forth.

76,780.—Jacob E. Kohout, Brooklyn, N. Y.—*Padlock.*—April 14, 1868.—The hasp is locked to the body of the lock by a lever and springs attached to the front plate. By pressing the lever downward the hasp is thrown outward, exposing the key hole. A device is placed between the sliding bolts, which obliges the key to move in one direction for locking or unlocking.

Claim.—1. The stop K and spring L, for preventing retrograde movement of the key.

2. In combination therewith, the sliding bolts M and shackle spring R, all operating together, substantially as and for the purposes described and set forth.

76,781.—Frederick H. Laforge and William Geddes, Waterbury, Conn.—*Machine for Straightening and Rounding Shafting.*—April 14, 1868.—The shaft is fed longitudinally between the pressure rollers, which are geared to a common wheel, so as to have rotation in the same direction. The feed rollers are upon the ends of adjustable slides, and are placed obliquely to cause the feed.

Claim.—1. The obliquely-arranged feed rolls, in combination with the pressure rollers, substantially as and for the purpose specified.

2. The combination of the guide rolls C, the pressure rollers B, and the obliquely-arranged feed rolls a' b' e', provided with their respective means of adjustment, all arranged and operating substantially as set forth.

3. The construction of the pressure rollers and supporting rolls, with beveled or tapering-end portions m m', arranged, in relation with the mechanism which feeds the shaft or rod to the pressure rollers, substantially as and for the purpose specified.

76,782.—Patrick H. Lawler, Rochester, N.Y.—*Shingle Machine.*—April 14, 1868.—The reciprocating swing table has a pawl acting on the six-armed star wheel to cause it a rotation of 60° each reciprocation of the carriage, and to turn the pinion 180°, to cause the adjustable crank upon the pinion shaft to tilt the table, by which the bolt is adjusted to give proper inclination to the shaft.

Claim.—The arrangement of the pawl I, star wheel K, spur wheel W, pinion P, and its shaft S, in combination with the crank C, or its equivalent, and slotted piece N, operating substantially for the purposes and in the manner herein described.

76,783.—Isaac Lindsley, Pawtucket, R. I.—*Woven Fabric for Floor Matting, &c.*—April 14, 1868.—Straws are woven with fibrous warp in such manner as to hide the latter, allowing the straws to pass alternately over two threads and under one. The selvedges are woven closer, and may have a number of rows of stitches added subsequently. In finishing, the fabric is stamped and pressed.

Claim.—1. The method herein described of preparing and assorting straw for weft of, and weaving the same into, a fabric.

2. The woven fabric herein described, composed of a weft of straw, prepared, sorted, woven, and finished, as set forth.

3. The mode herein described of forming the selvedge of a woven fabric, by securing the ends of the weft by one or more rows or courses of machine stitching, as set forth.

76,784.—Joseph W. Lull, Glen Hope, Pa.—*Revolving Cylinder for Tanning Hides.*—April 14, 1868.—The barrel is studded inside with pins, and has a perforated false bottom near one end, through which the tanning liquid flows in passing from the tubular induction gudgeon to the hides within the cylinder. The liquor passes out through the other gudgeon.

Claim.—1. The tanning of leather by means of a revolving cylinder, substantially as described.

2. The cylinder A, constructed with the heads D D, perforated interior head C, hoops G G, fastened by couplings H, door F, and projecting pins e e e, substantially as and for the purpose set forth.

76,785.—J. I. Mabbett, Titusville, Pa.—*Bed Bottom.*—April 14, 1868.—The slats are composed of an upper and under piece, which are connected at their end and spread by blocks between them. A frame beneath the head is pivoted to the side rails and by levers, operated by a cord which is coiled upon a shaft at the head of the bed.

Claim.—The combination of the slats h h, constructed as described, and their bands g g, with the movable arms D D, cross slats j j, levers C C, having

pulleys at their tops, cords *f f*, and winding shaft *d*, the several parts being constructed, arranged, and used as specified.

76,786.—ALEXANDER MARTIN, Basel, assignor to himself and GEORGE OTT, Schaffhausen, Switzerland.—*Match Box.*—April 14, 1868.—A metallic plate having a corrugated surface forms part of a match safe, or is attached to a wall.

Claim.—The application of the described metal grate to match boxes or walls, or any articles whatsoever, for the purpose of lighting friction matches.

76,787.—ANTHONY M. MARTIN and JOHN C. BLOCHER, Bloomville, Ohio.—*Horse Hay Fork.*—April 14, 1868.—The tines are held in their horizontal position by the roller upon a lever which passes beneath the end of the shank. The heels of the tines slide in a slot in the shank, and they are fulcrumed upon a hanging rod.

Claim.—The horse hay fork, constructed as described, having its central tines bent upward, in rear of the bar J, to receive the end of the pivoted lever L, bearing the roller *d*, said roller adapted to fit under the lower end of the curved slotted brace B, when the fork is loaded, and withdrawn therefrom to permit the brace to slide, by its slot *e*, upon the rod *m*, in said lever, to discharge the load, as herein shown and described.

76,788.—JOHN MASTERS, Wankegan, Ill.—*Ditching Machine.*—April 14, 1868.—The earth is raised by a double-pointed, concave-topped plow, and the earth is compacted upon it by an adjustable roller. The earth is carried upward and backward by an endless conveyor.

Claim.—1. The pivoted plow I, when constructed and arranged so as to be adjustable in a horizontal position upon the elevator box D, at whatever depth in the ground it may be operating, in combination with the elevator box D, as herein described.

2. The plow I, when constructed with two land sides *i i*, the concave donble mold board *i'*, the curved cutting edge *i''*, and the arms I' I'', substantially as and for the purpose specified.

3. The wheel W, rendered adjustable in the manner herein described, when arranged so as to operate in combination with and at the plow point, substantially as and for the purpose specified.

76,789.—WILLIAM J. MCLEA, Buffalo, N. Y., assignor to himself and C. F. YOUNG, same place.—*Gas Reflector.*—April 14, 1868.—The burner projects from the face of the reflector disk, which is jointed to the standard and is connected to a sliding block, by whose vertical movement both the burner and reflector are inclined either upward or downward. The pipe behind the burner is flexible, to allow of this movement.

Claim.—The combination of the gas chamber A, the rod *a*, the slide C, the sliding rod *c*, the reflectors D, and the rubber gas tubes *m*, constructed, arranged, and operating substantially as and for the purposes herein described.

76,790.—G. M. MCMAHAN, Mount Sterling, Ky.—*Door.*—April 14, 1868.—A spring platform beneath the door is made, by the weight of a person, to depress the arms of a rock shaft, which has a segment rack engaging a spur wheel at the bottom of a vertical shaft whose arm opens the door. A spring beneath the arms of the horizontal rock shaft raises them into a horizontal position, and thereby closes the door when the weight is removed from the platform.

Claim.—The combination of the door D, rods C R, gearing *w s*, arm *a*, and spring *m*, with the platform B', posts *n n*, hollow supports *e e*, springs *u u*, arched beams I I, and pin *p*, when the said parts are constructed and arranged so as to operate in connection with each other, substantially in the manner and for the purposes set forth.

76,791.—RUFUS N. MERIAM, Worcester, Mass.—*Wood Planing Machine.*—April 14, 1868.—One or more presser blocks have their bearing surfaces the reverse of that of the molding, and are so arranged in relation to the molding cutters and the side cutter as to insure the movement of the stuff in a straight line as it passes from the molding cutters to the side cutters, which trim the edge opposite to the molding. The feed rollers are pressed down upon the stuff by the downwardly and inwardly-curved ends of springs which rest upon their boxes, and are adjusted by thumb screws.

Claim.—1. The slots *w* in the bed A, arranged beneath the cutter head F, to permit the escape of the chips or shavings, substantially as herein set forth.

2. The arrangement of one or more presser blocks D* E*, in relation with the molding cutter and one or more side cutters J, substantially as shown and described, and for the purpose specified.

3. The curved end portions *b* of the springs B, arranged to act upon the sliding bearings of the feed rollers, substantially as shown and described, and for the purpose specified.

4. The presser plate D, formed with a stem *r*, and spiral spring *s*, arranged in the sleeve *n*, and made adjustable upon the slotted bar C, substantially as and for the purpose specified.

5. The presser block E*, constructed with a detachable bearing piece, whose under surface is the reverse of the surface of the molding, and made adjustable vertically and laterally, substantially as herein shown and set forth.

6. The slide K*, in combination with the slotted bar L, screw *b***, and pivoted frame K, all constructed and operating in connection with the slotted bar *r* to admit of an angular adjustment of the side cutters J, substantially as set forth.

76,792.—GEORGE MERRITT, Brooklyn, N. Y.—*Inkstand.*—April 14, 1868.—The jump is an India-rubber diaphragm, whose edge is held beneath the screw, and is operated by a knob. At the lower end of the dipping funnel is the circumferentially-grooved plug, which prevents the splashing of ink.

Claim.—1. The filter plug M, in combination with the funnel A^1, and with the jump H, arranged to operate substantially as and for the purpose herein set forth.

2. The duplicate collars C D, threaded, the one male and the other female, as shown, and arranged relatively to each other and the neck of the orifice A^2, and to the jump H, or equivalent means of raising and lowering the pressure of the air in the inkstand, substantially as and for the purposes herein specified.

3. The pen rack P P^1 P^2, arranged to lock, by its elasticity, upon the main body of the inkstand, and to form a hinge for the cover R, substantially as herein set forth.

76,793.—JAMES R. MILLS, Macon City, Mo.—*Weather Strip.*—April 14, 1868.—A flexible strip, attached to the bottom of the door, occupies, when the door is closed, a metallic trough which carries the water away.

Claim.—In combination with a weather strip, placed underneath a door, and having in its upper surface a groove extending the full width of the doorway and increasing in depth from one side of the doorway to the other, and having a notch or spout in the outer ledge of the groove, at the deepest end, for the purpose of letting the water outward, the elastic band E, made of rubber or other material, and applied to the bottom of the door in such a way as that when the door is shut the free edge of the band shall extend down into the edge of the groove, in the manner and for the purpose specified.

76,794.—JOHN R. MOFFITT, Chelsea, Mass.—*Heel Casing.*—April 14, 1868.—The sheet metal is cut into the section of an annulus and slotted radially on its convex edge, which is bent to form the fin or seat piece, the concave side forming, when bent around and riveted, the cavity for the rubber heel.

Claim.—1. A heel casing, formed of sheet metal, substantially as described.

2. In combination with a metal heel casing, spurs *o*, substantially as and for the purpose set forth.

76,795.—RICHARD MONTGOMERY, New York, N. Y.—*Metal Beam.*—April 14, 1868.—Improvement on his previous patents. The bearing ends of the corrugated, arched beams are extended beyond the

spring of the arch in a right plane coincident with its chord. Interlocking elevations and depressions are made in the ends of the beams and in the saddle plates which embrace and hold them. A forked bolt is used to secure the ends of the corrugated beams to any object, the forks in the shank of the bolt being made to pass between each fold of the corrugation in the beam.

Claim.—1. So shaping and forming the ends of an arch constructed of corrugated metal as that said ends shall coincide with the straight ends of a beam forming a chord to said arch, if superimposed thereon, substantially in the manner herein set forth.

2. Imparting a curved or irregular line to the folds of a corrugated metal beam, substantially in the manner and for the purpose herein specified.

3. Indenting or breaking the surface of the folds or corrugations in a corrugated metal beam, substantially as and for the purpose herein set forth.

4. A bolt E having a forked shank, so arranged and disposed as to fit within and between the folds of a corrugated metal beam, at the ends thereof, substantially in the manner and for the purpose herein set forth.

76,796.—I. Morris, Clinton, Ill.—*Work Stand.*—April 14, 1868.—The vertical spool spindles surround a box, which may contain a ball of yarn, whose end traverses the lid, which has a pin cushion and is surrounded by a thread cutter.

Claim.—1. The groove and socket of the standard D, in combination with the deflected bars *d d'* of the knives E, substantially as and for the purpose set forth.

2. The spool spindles *a a*, twine box A B, pin cushion C, and knives E, combined, arranged, and operating substantially as set forth.

76,797.—Cyrus B. Morse, Rhinebeck, N. Y.—*Making Rings for Ring Spinning.*—April 14, 1868.—The ring is bored and finished on the end of a steel tube which passes through the tubular spindle of the lathe head stock. The ring is then cut off the end of the tube and its wearing end only is hardened.

Claim.—1. As a new method in the manufacture of rings for ring and traveler spinning, forming a finished ring on the end of metal tubes, and then severing the same from the tube itself, as herein described.

2. Making rings, for ring and traveler spinning, of highly carbonized cast steel, and hardening or tempering at a low heat only the wearing portion or parts of the same, as herein described.

76,798.—Cyrus B. Morse, Rhinebeck, N. Y.—*Spinning Frame.*—April 14, 1868.—The lifting rods work in boxes which extend from the step to the bolster rail, and are adjustable in both rails by set screws.

Claim.—The tubular lifting-rod support E, in combination with the slotted bolster and step rails A B, and with the lifting rail C, for the purpose of adjusting said lifting rail to and from the center of the machine, substantially as herein set forth.

76,799.—David B. Mosher and Charles C. Mosher, Seneca Falls, N. Y.—*Window-Blind Fastener.*—April 14, 1868.—The shaft is turned by hand and extends nearly through the casing, where it has a bevel-gear wheel engaging a similar wheel attached to an arm, by which the blind is opened and closed.

Claim.—The combination of the shaft and gear B, gear, with arm attached C, box or frame D, link E, dog F, rose G, knob or handle H, when made substantially as specified and applied as herein set forth.

76,800.—E. M. Naramore, North Underhill, Vt.—*Gate.*—April 14, 1868.—The rails are pivoted to one post and the pickets to the rails. The gate is opened by drawing back to the catch, when it is thrown upward by a spring beneath the lower rail.

Claim.—1. The spring J, applied to a pivot gate and in combination therewith, substantially as and for the purpose described.

2. In combination with the pivot gate and spring J, the catch K, substantially as described, for the purposes set forth.

76,801.—John Nichols, Gardner, Mass.—*High Chair for Children.*—April 14, 1868.—The seat portion is hinged to the support and the parts are capable of assuming the position of seat and table, respectively.

Claim.—The child's high chair constructed as described, having the divided legs removably hinged together, the lower part D of which, carrying the box G, is adapted to be folded up in front of the chair seat, as herein described, for the purpose specified.

76,802.—Josiah H. Noyes, Center Abington, Mass.—*Cap for Oil Cans.*—April 14, 1868.—The ordinary can has a screw-threaded mouth and a covering plate attached to its top. The plate has a perforation toward one side. A cap is screwed upon the mouth, and in the screw cap is a cork which bears upon the plate. The cap has an aperture which agrees with that in the plate when turned in one position, otherwise the perforation is closed. A pin acts as a stop to limit the movement of the cap.

Claim.—1. The construction of the revolving perforated cap, in combination with the neck of the can or other vessel, substantially as herein shown and described.

2. The combination of the sealing packing E with the cap and the diaphragm *a*, substantially as herein shown and described.

3. The slotted flange D, in combination with the stop pin *g*, as and for the purpose set forth.

76,803.—Lewis E. Osborn, New Haven, Conn.—*Indicator for the Springing or Bending of Railway Axles.*—April 14, 1868.—The toe of the lever is notched to receive the flange of the wheel and its deviation from rectitude is shown by an index finger to which it is connected by a cord. The band is placed in the axle at its mid-length, and its crookedness is indicated in the same manner.

Claim.—1. The lever C placed upon the truck acted on by the flange *b*, and connected with the pointer *d*, to indicate in the manner and for the purpose specified.

2. The band or ring D placed upon the axle, upon which the said axle acts as an eccentric or cam, and connected with the pointer *d*, to indicate in the manner and for the purpose herein specified.

3. The combination of the dial A, levers C C, and rings D D, as a double-acting indicator, in the manner and for the purpose specified.

76,804.—James L. Parker, Harrisonburg, Va.—*Hollow Auger.*—April 14, 1868.—The cutters and dogs are adjustable to form tenons of varying size. The length of the tenon is regulated by the adjustable stop.

Claim.—The combination in one instrument of the two adjustable dogs D D, the cutting instruments G G', when constructed and arranged together as described, the clamp F, the stop S, adjustable by means of the set screw *s*, the bifurcated stock A, and the solid head B, provided with the central opening O and the raised bed C, in which the blades are countersunk, all the said parts being constructed and arranged and operating together substantially in the manner and for the purposes set forth.

76,805.—Henry O. Peabody, Providence, R. I., assignor to the Providence Tool Co., same place.—*Breech-Loading Fire-Arm.*—April 14, 1868.—The needle has a side arm whose point impinges against the center of the cartridge for "center fire."

Claim.—In combination with the breech block A, (operated as described in the reissue letters-patent granted to me March 13, 1866,) a central and rim firing needle *b* B, constructed and arranged substantially as described.

76,806.—Antonio Pelletier, Washington, D. C.—*Cement for Coating Wood, &c.*—April 14, 1868.—Composed of paper pulp of prepared woody fiber, sand, oxide of zinc, Portland cement, and soapstone. The mass is well stirred and worked with chloride of zinc.

Claim.—1. The compound, consisting of vegetable fiber, sand or pulverized silicious limestone, caustic or carbonate of lime, Portland cement, oxide of zinc,

chloride of zinc, without or with the additional use of silicate of soda, substantially as described and set forth.

2. As substitutes for oxide and chloride of zinc, equivalent metallic salts, substantially as described and set forth.

3. As substitutes for Portland cement, or hydraulic cement, the addition of aluminous salts, mineral, and slags, together with oyster shells, gas house lime, dolomite, or similar magnesian limestones, substantially as described and set forth.

4. As a new article of manufacture, the composition, substantially as herein described and for the purposes set forth.

76,807.—T. W. Pepper, New York, N. Y.—*Sewing Machine.*—April 14, 1868.—The feeder is at the extreme end of the table and is at the top of the upwardly bent end of a horizontal shaft which has either a rocking or a longitudinally reciprocating motion, by arms upon it, which are actuated by adjustable cams on the main shaft. The shuttle has reciprocating motion from a wick and two engaging spur wheels. The needle and shuttle are at the end of an arm which is intended for insertion within tubular work, such as boot legs.

Claim.—1. The combination of the sliding clutch T, with its cams or cam formations, levers N O, and rod *h*, with its feeder L, for operation in concert with a presser foot I, as herein set forth.

2. The combination of the reciprocating shuttle K, with the feeder L, needle, and presser foot I, at the extreme forward end of the table C, all constructed and arranged as shown and described.

3. In combination with the shuttle driver M, at or near the forward end of the table C, the pinions *d e* and rack *f*, substantially as and for the purpose herein set forth.

76,808.—George B. Phillips, Poughkeepsie, N. Y., assignor to Alexander G. Hues, same place.—*Mortising Machine.*—April 14, 1868.—The machine is convertible so as to use the tool with a drilling or slotting motion.

Claim.—The hinged or detachable holder F, so connected to the standard or frame B, that it may be removed or turned aside at pleasure, and constructed to receive the shank of the table, or other support adapted to the work, substantially as shown and described.

76,809.—Truman Piper, Birmingham, Conn., assignor to Howe Manufacturing Company, same place.—*Pin Book.*—April 14, 1868.—The paper is so folded that the heads in each row lie in succession one row slightly above the other, and the point sides of the folds are secured together so that each row of pins, with the fold of paper, constitutes a leaf in the book.

Claim.—The herein-described pin book, consisting of the continuous strip of paper A, having thereon a succession of rows of pins, and folded, and their point ends secured in the manner described, and having combined therewith the inclosing cover H and I, substantially as herein set forth.

76,810.—Amos Putnam, Vernon, Big Bend Post Office, Wis.—*Swing Sheep Feeder.*—April 14, 1868.—The swinging feeder may be placed so as to guide the feed to either of two troughs or racks.

Claim.—The removable spout B, hung in open bearings within the opening in the floor C, and provided with flanges on both faces and at both sides, when so arranged that as its lower end is swung to either side, its upper end will cover one part of the opening in the floor C, whereby hay or other feed is conveyed from said floor C into either one of the parallel racks, cribs, or troughs, as set forth.

76,811.—John Raddin, Lynn, Mass.—*Car Wheel.*—April 14, 1868.—The rim of the wheel is so connected to the central part that it has a limited radial movement thereon and an elastic packing is interposed between the parts.

Claim.—1. In combination with the felloe *c*, the tire *d*, having a flange *f*, projecting over the face of the felloe, the felloe and tire being bolted together, and having elastic cushions so disposed as to receive the direct lateral strain upon the felloe or tire, substantially as described.

2. Combining with the felloe and tire, made relatively movable, the elastic cushions *k*, placed in recesses in the felloe periphery, and bearing, either directly or through the shoes *j*, upon the tire, substantially as shown and described.

3. The elastic cushions or springs *q*, placed in the sockets *p*, and resting upon seats *s*, with means for forcing out the cushion radially, the cushions being surfaced by a cap *o*, or bearing directly against the tire, substantially as described.

76,812.—Carl Recht, New York, N. Y.—*Stove Pipe Elbow.*—April 14, 1868.—The mitered edges of the elbow sections are turned out in a plain flange and the parts secured together by an embracing sheet metal ring.

Claim.—The detached ring *d*, in combination with the plain flanges *b c* on the parts B C of an elbow A, substantially as and for the purpose described.

76,813.—Jerome Redding, Charlestown, and John B. Coe, Boston, Mass.—*Pastry Jigger.*—April 14, 1868.—The rotating marker is upon the side of a shank which extends beyond it so as to act as a guide by contact with the side of the pan.

Claim.—As a new article of manufacture, a pastry jigger made up of a circumferential marker *b*, and a shank, which, while operating as a gauge, is notched so as also to serve as a marker, as described.

76,814.—Thomas Rhoads, Fiskilwa, Ill.—*Propelling Vehicles.*—April 14, 1868.—A coiled spring is applied to turning the wheels of a vehicle. The mechanism may be stopped or checked by a brake.

Claim.—1. The arrangement, with relation to the revolving shaft L, carrying the wheels A′, of the wheels G H J, pinion *b*, and spring S, as herein described, for the purpose specified.

2. The pawl *h* pivoted to the frame D, when connected to the lower end of the pivoted lever *e*, whereby it is made to engage with the ratchet drum E when said lever is drawn back to the extent of its vibration, as herein described, for the purpose specified.

3. The brake lever *d*, in combination with the ratchet drum E, pivoted lever E, and pawl *h*, as herein described, for the purpose specified.

4. The combination and arrangement of the gearing G H J, pinion *b*, spring S, ratchet drum E, lever *e*, pawl *h*, brake *d*, all operating as described, for the purpose specified.

76,815.—Thomas Rich, Kingston, N. Y.—*Churn.*—April 14, 1868.—The blades are turned so as to cause the cream to flow from the ends toward the center of the churn, where the influence of the blades is greatest.

Claim.—The twisted blades C D, when set in reverse direction upon the shaft B, the outer blades of each series being entire or without perforations, the inner ones being perforated, as shown and described.

76,816.—M. A. Richardson, Sherman, N. Y.—*Horse Power.*—April 14, 1868.—A fixed horse power is applied by gear wheels and crank to a plunger churn. The dasher is balanced by a weighted arm extending in opposition to the crank arm.

Claim.—1. The projecting beam A, supporting the gearing D G F H, and stayed by braces B C, in combination with the removable driving shaft E, resting in square socket *d* of the spur wheel and supporting the forked sweep P, the whole being specially arranged for allowing the displacement of the said driving shaft, as herein set forth.

2. The cord *g*, passing centrally through the top of the driving shaft, and having a swivel *h* beneath, to prevent twisting, when combined with a belt passing around the horse's belly, in the manner and for the purpose specified.

3. The special construction and arrangement of the apparatus as a whole, consisting of projecting beam A, braces B C, gearing D G F H, removable shaft E, forked sweep P, pulley J, crank K, and the spurring cord *g*, operating in the manner and for the purpose specified.

76,817.—CHARLES ROBINSON, Boston, Mass.—*Chamber Vessel.*—April 14, 1868.—The inverted, conical cover has a circular series of holes near the lowest part, through which the water flows when the valve is raised, which is done by pressure upon an arm extending to the edge of the cover. The water runs down a frusto-conical case to render its descent noiseless.

Claim.—1. The combination of the concave or inclined cover B and valve C, with its extension *d*, arranged and operating substantially as and for the purpose herein specified.

2. In combination with the cover B, the inclined conductor *g* beneath, substantially as and for the purpose herein set forth.

76,818.—WILLIAM H. RODEHEAVER, Miamisburg, Ohio.—*Hub for Wagon Wheel.*—April 14, 1868.—The hub is inclosed in a metallic case, constructed in two sections, which, at the point of meeting, form a continuation of the spoke mortises. The projections of the two sections between the spokes are rabbeted together and connected by dowel pins.

Claim.—The arrangement of the pair of bands B C, inclosed in a wooden hub, and being provided with flanges D E and interlocked lugs *d e*, the whole being secured by rivets, in the manner and for the purpose set forth.

76,819.—P. G. ROSS, Davenport, Iowa.—*Shaft Coupling.*—April 14, 1868.—An interiorly longitudinally-ribbed shell has a ribbed hub cast therein so as to allow the shafts attached to the said shell and hub to have considerable variation in inclination, while the one causes the rotation of the other.

Claim.—The spherical-shaped shell A, with the head B cast therein, substantially in the manner and for the purpose as herein set forth.

76,820.—JOHN G. ROTH, New York, N. Y.—*Nutmeg Grater.*—April 14, 1868.—The nutmeg is placed in a bottomless box, which is supported on sideguides, so as to admit of reciprocation over the grater.

Claim.—As a new article of manufacture, the nutmeg grater constructed as described, and consisting of the plate A, forming the bottom and ends of the grater, the side guide pieces C, convex perforated grating surface B, sliding block D, removable tube E, and disk F, all arranged and operating as and for the purpose set forth.

76,821.—BURDETT L. ROWLEY, New Britain, Conn.—*Flexible Bit for Bridles.*—April 14, 1868.—The eyes are made by folding the tapered ends around and confining them by a ferrule. The chain connecting the two double eye pieces is covered by an India-rubber case.

Claim.—1. The double eye A, when used in combination with the rings B, chain C, and ferrule D, for the purpose and substantially as herein set forth.

2. The flexible bit, composed of the double eyes A, rings B, chain C, ferrule D, and rubber casing E, for the purpose and substantially as herein specified.

76,822.—J. F. SARGENT, Tunbridge, Vt.—*Upsetting Machine.*—April 14, 1868.—The upsetting levers are operated by two links eccentrically pivoted to a turning disk.

Claim.—1. The disk *b* and links *m*, or other equivalent devices, constructed and operated substantially as shown and described, in combination with the levers D and arms I, all as and for the purpose set forth.

2. The block B and base A, combined and forming a pedestal for supporting the mechanism, substantially as shown and described, in combination with the bed plate E and levers D and arms I, all as and for the purposes set forth.

3. The levers D, formed with arms I, in combination with the links *m*, disk *b*, and crank *h*, all constructed, arranged, and operating in the manner substantially as herein shown and described.

76,823.—DAVID SAUNDERS, Brooklyn, assignor to JOSEPH NASON & Co, New York, N. Y.—*Threading Tubes.*—April 14, 1868.—The threading dies are at the center of a circumferentially cogged disk, which is turned by a pawl on the lever which is pivoted to the stock that is clamped to the pipe.

Claim.—The threading tool herein described, constructed and arranged substantially as herein set forth.

76,824.—BRUNO SCHMIDT, Hoboken, N. J.—*Restoring Old Leather.*—April 14, 1868.—The leather is steamed and soaked in a weak solution of soda, scraped clean and immersed for 24 hours in strong tan liquor; after drying, it is rubbed with a mixture of tannin and fat.

Claim.—The within described process of restoring old leather, by subjecting the same to the various manipulations above set forth.

76,825.—BRUNO SCHMIDT, Hoboken, N. J.—*Preparation of Manganates and Permanganates.*—April 14, 1868.—The residuum from the manufacture of chlorine is subjected to the action of spirits of ammonia until it ceases to precipitate oxide of iron. As soon as a clear and filtered sample of the liquid, when treated with spirits of ammonia, produces a white precipitate slightly colored with rose, the oxide of iron is allowed to settle. The clear liquid is drawn off and treated with spirits of ammonia until no precipitate is produced. The precipitate is allowed to settle and the clear liquid run off. The precipitate is dried on a linen cloth; after which it is heated to a red heat, which converts protoxide of manganese into the red oxide which is used in the production of manganates and permanganates of the alkalies. The proportions used are, (by weight,) red oxide of manganese, 160; caustic soda, (containing 60 per cent. of hydrate of soda,) 270; and chlorate of potash, 125 parts.

Claim.—1. A compound of manganate of soda and chloride of potassium, prepared substantially as and for the purpose described.

2. The within described process of treating the residuum obtained in the manufacture of chlorine, substantially as and for the purpose set forth.

76,826.—PETER SCHOONMAKER, New Britain, Conn.—*Trace Clip.*—April 14, 1868.—The trace clip has a side plate to which the eye of the hold-back ring is attached.

Claim.—1. Securing the hold-back ring to a pin *e*, which is fastened in the trace clip, substantially as herein shown and described.

2. Providing the trace clip with a flange *a* for the reception of the pin to which the hold-back ring is secured, so that the hold-back ring is fastened to the trace clip, substantially as herein shown and described.

76,827.—T. S. SCRANTON, New Haven, Conn.—*Pipe Stem.*—April 14, 1868.—The two parts of the stem are secured together by screw collars, and may be taken apart longitudinally for cleansing.

Claim.—A tobacco pipe stem, divided into parts lengthwise, so that said parts may be separated to expose the interior of the tube, substantially as and for the purpose set forth.

76,828.—PHILIPP SCHREYER, New York, N.Y.—*Gas Heater.*—April 14, 1868.—The burners have a small, perforated, cylindrical tube, surrounded by a corrugated tube, leaving triangular openings for exit of gas.

Claim.—1. The burner D, constructed as described, consisting of the corrugated upper tube *c*, fitted upon the perforated smaller tube *d*, as herein described, for the purpose specified.

2. Making the frame of a gas stove polygonal, so that a series of such stoves can be set close together to produce one large heating apparatus, as set forth.

3. A gas stove, consisting of the V-shaped uprights *a a*, polygonal rim *b*, block *c*, pipe C, and burner *d e*, all made and operating substantially as herein shown and described.

76,829.—SAMUEL H. SCRIBNER, Chicago, Ill.—*Wristband for Shirts.*—April 14, 1868.—One side-edge of the cuff has a stud inside and out, and the other side-edge has two button holes to make the cuff reversible.

Claim.—Attaching the wristband or cuff to the

shirt sleeve so as to form a reversible cuff, substantially as herein specified and shown.

76,830.—Henry D. Scudder, Amsterdam, N. Y.—*Paper Box.*—April 14, 1868.—The blank is slit radially from the edges of the bottom, and the wings turned up to form the sides.

Claim.—Forming the sides and bottoms of a circular paper box of one and the same piece, in the manner herein specified.

76,831.—Samuel W. Sears, New York, N. Y.—*Lawn Mower.*—April 14, 1868.—The machine is pushed before the operator, and has a cutter similar to a power mover, which is operated by a crank turned by hand, or by connection with the ground wheel.

Claim.—In a hand mower, the combination of the roller or driver C with the concentric gear f', supporting the frame A, the crank shaft d, the shifting sleeve gear, the shaft E, and the reciprocating cutter bar D, constructed, arranged, and operating substantially as and for the purposes herein described.

76,832.—S. P. Sedgwick, Wheaton, Ill.—*Medicine.*—April 14, 1868.—For treatment of scarlet fever and diphtheria. Composed of sulphate or acetate of copper, ½ oz.; ipecac, ½ oz.; strong sage tea, (sweetened,) 6 oz.; alcohol, ½ oz. To be given as a vomit and a gargle. Alkaline mixture.—Bicarbonate soda, 1 tablespoonful; paregoric, 1 tablespoonful; water, ½ pint; loaf sugar, a tablespoonful. Dose, a dessert spoonful.

Claim.—The medicine or specific, composed of the ingredients about in the proportion as set forth, for the purpose specified.

76,833.—David V. B. Smart, Troy, N. Y.—*Car Coupling.*—April 14, 1868.—The coupling latch pin is hung upon a staple whose ends slide in vertical holes at the sides of the draw head. The entering link swings back the pin, which drops therein and engages the link. The staple and pin may be drawn upward to uncouple the cars.

Claim.—The staple C, having its ends passing through the sides of the draw head, in combination with the sliding coupling pin B and the slotted draw head, all constructed and operating as described, whereby, as the staple is raised, the pin B is swung by the knob E clear of the draw head through the slot H, as herein shown and described.

76,834.—Eldridge J. Smith and Benjamin H. Cheever, Washington, D. C.—*Paper File.*—April 14, 1868.—The projecting arms take around the edge of the bottom and tend to hold the moving end to any position in which it is placed.

Claim.—1. The combination, in a paper file, of an adjustable plate with a base and fixed vertical plate, substantially as and for the purpose set forth.

2. The adjustable plate A, with the projecting arms D D, in combination with the bottom plate B and end plate C, substantially in the manner and for the purpose herein set forth.

76,835.—Hiram Smith, Des Moines, Iowa.—*Cook Fork.*—April 14, 1868.—The potato is forced from the fork by a sliding block, which is forced down the tinks by toggle levers.

Claim.—The lever D, pivoted at a to the shank B of the fork, its outer end provided with the thumb plate G, and pivoted at b to the rod E, whose lower end is attached to the slide F, between the tines C, all constructed, arranged, and operating as described, for the purpose specified.

76,836.—J. Homer Smith, Brewster Station, N. Y.—*Lamp.*—April 14, 1868.—The wick is confined so tightly between two serrated cylinders that no flame can pass. Circumferential grooves allow passage to oil.

Claim.—As an improved article of manufacture, the device for preventing the descent of flame in lamps, consisting of the cylinders B B, mounted in fixed bearings in the wick tube, and as long as said tube is wide, when the outer surface of the cylinder is formed with serrated ribs, extending entirely around the cylinder, grooves being formed between the ribs, as described, for the purpose set forth.

76,837.—John Somerville and Robert Elsdon, Maidstone, Great Britain.—*Manufacture of Illuminating Gas.*—April 14, 1868.—The gas retort is filled with limestone, and a cap, with an air pipe extending nearly the whole length of the retort, is luted upon the retort. The cap of the ascension pipe is removed, and a current of air being established through the retort the "scurfing" (or removal of the carbonaceous coat) of the inside of the retort takes place simultaneously with the elimination of carbon from the limestone.

Claim.—The use of chalk, limestone, or foul gas lime for the purpose of removing carbon from the interior of gas retorts without injuring them, in the manner substantially as herein described, while by the same operation a useful product, namely, quicklime, is obtained.

76,838.—Gideon O. Spence, Titusville, Pa., assignor to himself, A. R. Williams and J. S. Lathrop, same place.—*Lubricating Oil.*—April 14, 1868.—Composed of petroleum or residuum, at 30° Baumé, 200 galls.; salt, 5 lbs.; dissolved potash, 5 lbs.; muriate of ammonia, 10 lbs.; spirits turpentine or linseed oil, ½ per cent.; and flour of sulphur, 5 lbs. Sufficient heat is applied during the process, and the liquid decanted when necessary.

Claim.—1. As a new article of manufacture, a lubricating oil, made from petroleum or coal oil, or their products, as a base, combined with the second and third chemical ingredients herein specified, for the purposes set forth.

2. As a new article of manufacture, a lubricating oil, made from petroleum or coal oil, or their products, as a base, combined with the five chemical ingredients herein specified, for the purposes set forth.

76,839.—Edward I. Stearns, Cambridge, Md. *School Desk.*—April 14, 1868.—The "cleats" act as brace stops when the cover is open, and act as book rests when the desk is closed.

Claim.—A school desk, with the lid opening toward the seat and occupant, and supported in position, when open, by the cleats B, or other suitable device, so that what is the under side of the lid when shut is the upper side, for the books to rest upon, when open, substantially as above described.

76,840.—Harvey B. Steele, West Winsted, Conn.—*Machine for Cleaning and Renovating Feathers.*—April 14, 1868.—The cylinder is filled with feathers and steam, and the fumes of a disinfecting compound are passed into the cylinder while it is rotated. When sufficiently treated the fumes are allowed to escape.

Claim.—1. The arrangement of the chamber P, surrounding the inner cylinder, and the cover H and slide E, constructed as described, for the purposes set forth.

2. The arrangement of the fumigating shaft C, in combination with the entire double cylinders A and B, so constructed and regulated by stop cocks that the feathers are first disinfected and afterwards steam dried, as herein set forth.

76,841.—Levi Stevens, Washington, D. C.—*Apparatus for Manufacturing Illuminating Gas.*—April 14, 1868.—The hydro-carbon in a vaporized form is mixed with steam in a chamber over the boiler. The chamber is heated by flues. The gas from this chamber passes through retorts, where it is heated, to form it into a fixed gas. It is then cooled and mingled with atmospheric air, after which it passes through the purifier.

Claim.—1. In combination with the mixing chamber D, the superheater E, so that the mixed hydro-carbon and hydro-oxygen vapors may be superheated before being retorted, substantially as and for the purpose described.

2. In combination with the mixing and superheating chambers, the arrangement of retorts for retorting the vapors, substantially as described.

3. The mixing chamber or vessel L, into which the retorted gas is passed, and into which atmospheric air is forced, and therein mixed with the gas, substantially as described.

4. In combination with the mixing chamber L, the

cooler M, so that the cooling shall take place after the atmospheric air is introduced and mixed with the gas, substantially as described.

5. In combination with the cooler M, the purifying chamber N, furnished with chloride of calcium as a purifier, substantially as described.

76,842. — EZRA STILES, New York, N. Y.—*Car Truck.*—April 14, 1868.—The safety wheels are placed at each corner of the truck, and have spring bearings by which the shaft is eased in case any part of the weight of the truck falls upon them. These wheels are ordinarily carried clear of the truck, but may operate, owing to their small diameter, to remove an impediment therefrom. When these wheels are turned their axle winds up the chain by which the brakes are applied to the main wheel.

Claim.—1. The broad wheels E E′, when arranged in front of the main wheels B, and having bearings in the bar D and springs I, substantially as and for the purposes herein set forth.

2. The chain G, and cord H, in combination with the broad safety wheels E E′, arranged as and for the purpose herein set forth.

76,843. — EZRA STILES, New York, N. Y.—*Car Brake.* — April 14, 1868. — The immediate operating mechanism of the brake is carried in a housing between the wheels, and the brake operates by contact with the rails, being depressed by a cam and raised by a spring.

Claim.— The flange-bearing block or brake block E E′, when made to extend beyond the lines of the wheels, both outside and inside, as represented, and when combined with and operated by the cam H, lever H′, and spring G and chain I, all arranged substantially as and for the purposes herein set forth.

76,844.—EZRA STILES, New York, N. Y.—*Railroad Car Wheel.* — April 14, 1868.—The web and tread are swaged from a plain disk, and the hub attached subsequently.

Claim.—The within described car wheel, formed of a plate of metal of uniform thickness, by bending and swaging the same in dies, as herein set forth, and having a hub attached thereto, substantially as and for the purposes herein set forth.

76,845. — O. M. STILLMAN, Westerly, R. I. — *Combined Steam Generator and Air Heater.*—April 14, 1868.—The grate bottom is conical, and may be rotated by a gear upon the lower side of its outer rim, which is engaged by a spur wheel upon a shaft passing through a tube traversing the water leg. The furnace door is made steam tight. Steam from the primary boiler is, with the addition of air, passed beneath the grate, and passing up through the fire the caloric current is carried beneath the water in the secondary boiler, from whence the purified gases and steam pass to the engine.

Claim.—1. An apparatus for generating steam, and mixing and superheating air and steam, consisting of a furnace C, a primary generator B, connected with such furnace by suitable injection pipes H, and discharge nozzles *n n*, and one or more secondary generators E, arranged and operating together substantially as set forth.

2. Connecting the furnace C with the passages K, leading to the secondary generator E, by means of the blast nozzle *n*, discharging steam from the primary generator, for the purpose of exhausting the contents of the flue D, for the passage of gases, and thereby relieving the furnace from pressure, as set forth.

3. Combining the conducting passage or passages K, leading to the secondary generator, with the furnace C, by means of suitable connecting pipes, whereby the products of combustion, in the state in which the same are in the passage K, can be readmitted to the fire chamber, substantially as described.

76,846.—DRAPER STONE, Rochester, N. Y.—*Fruit Jar.*—April 14, 1868.—The jar is covered by a slightly grooved and flanged metallic disk, and the joint covered by an annulus of rubber which is stretched thereon and bound with wire.

Claim.—The annular or flat packing ring H, constructed and applied substantially in the manner shown and described, in combination with the cover of fruit jars, for the purpose specified.

76,847.—D. C. STOVER, Dayton, Ohio.—*Attachment for Cultivator Shovels.*—April 14, 1868.—The shovel is attached to the standard by a hook bolt and staple, and has a cylindrical bearing in the standard so that it may be adjustably inclined to either side.

Claim.—1. The bearing C, fitted between the shovel B and standard A, in combination with a slip-joint fastening, substantially as and for the purposes described.

2. The staple *a*, fastened to the shovel B, and the hooked bolt fastening *b b′*, in combination with the rounded bearing portion C, interposed between the shovel B and recessed standard A, substantially as described.

3. So attaching the shovel B to its standard A, that the shovel can be adjusted and set at different angles with respect to the line of draught without changing the axis of movement of said shovel out of its true line, substantially as described.

76,848.—B. W. SUTHERLEN, Freesoil, Minn.—*Sulky Plow.*—April 14, 1868.—The plow clevis is connected by a chain to the forward part of the jointed tongue. The plow is adjusted by the winding of its supporting chains upon the pulleys on the wheel frame.

Claim.—1. The combination of the axle E, standards B B, and plow A, working loosely between the standards, so as to admit of a plow of any construction being suspended by the chains *c c′*, and drawn by the chain *c‴*, substantially as and for the purpose specified.

2. The frame I, in combination with the pulley G and lever L, substantially as and for the purpose described.

3. The combination of the lever L, frame I, pulley G, chains *c c′*, and plow A, substantially as and for the purpose specified.

76,849.—S. J. TALBOTT, Milford, N. H., assignor to himself, JAMES H. HALL, and JAMES H. GRAY.—*Plate Lifter.*—April 14, 1868.—The jaws are drawn together upon the edge of the plate, both by the action of the springs and the weight of the disk.

Claim.—A device for lifting hot dishes, composed of the bars A A, connected by hinges or joints *a a* with a spring B, placed between them and each bar, having a jaw C attached, substantially as shown and described.

76,850.—EDWARD T. TINCH, Salem, Ind., assignor to himself and GEORGE R. HARRIS, same place. — *Washing Machine.*—April 14, 1868.—The clothes are attached by the latches to the cylindrical part of the flanged drum, and carried around beneath the flexible concave.

Claim.—1. The flanged drum C, provided with latches *b b*, and combined with a flexible concave of rolling or rubbing bars E′, and a device for forcibly depressing this concave, substantially as described.

2. The combination of a lifting cord *d*, with a flexible concave, a rotary flanged drum C, and a device for depressing the concave upon the articles being washed, substantially as described.

3. The construction of the drum C with flanges upon its ends, and also with spring latches *b b*, for the purposes and in the manner substantially as described.

76,851.—DANIEL J. TITTLE, Albany, N. Y., assignor to ABBIE M. TITTLE, same place.—*Machine for Raking Potatoes.*—April 14, 1868.—A rake composed of a number of share bars is drawn through the ground to raise the roots therefrom.

Claim.—A root comb or rake, constructed of a number of teeth A A, of shape shown in Fig. 5, arranged in position and secured as described, and operated with a single or crotch beam B, or its equivalent, and provided with one or more handles H H, as set forth and described.

76,852.—CHARLES F. WALDRON, New York, N. Y.—*Lamp for Vehicles.*—April 14, 1868.—The lamp is attached to the engine by three annular screw

plates, the upper one of which has a flange turning over the inturned bead at the bottom of the frame.

Claim.—1. The annular internal plate C, formed with the flanch *b*, in combination with the lower portion or edge of the body A, substantially as and for the purpose herein set forth.

2. The annular nut D, in combination with the base shell B and internal plate C, substantially as and for the purpose specified.

76,853.—Andrew Barclay Walker, Warrington, England.—*Apparatus for Brewing, Malting, &c.*—April 14, 1868.—A blast of cold air is blown from a rose and impinges upon the surface of the yeast or worts in the gyle tuns. The air is cooled in summer time by passing through pipes surrounded by ice or by cold, running water. The sides of the tuns are double, and contain ducts through which cold air is passed.

Claim.—1. The general construction and arrangement of the apparatus for attemperating air, as described, and illustrated in Figs. 1, 2, 4, and 6 of the accompanying drawings.

2. The construction and arrangement of the apparatus for preserving yeast or worts in gyle tuns, as described, and illustrated in Figs. 2 and 3 of the accompanying drawings.

3. The means employed for preserving yeast in the troughs or receivers, as described, and illustrated in Figs. 5 and 6 of the accompanying drawings.

4. The construction and arrangement of the apparatus for attemperating the atmosphere in malting rooms, gyle-tun rooms, cellars, &c., &c., as described, and illustrated in Fig. 7.

5. The construction and arrangement of the apparatus for cooling worts, as described, and illustrated in Figs. 10, 11, and 12 of the accompanying drawings.

76,854.—Benjamin Ward, Troy, N. Y., assignor to Clark Tompkins.—*Knitting Machine.*—April 14, 1868.—Loose yarn hanging in the barbs of the needles is removed by the inclined, radial wings of the stripping wheel, and catching upon the comb causes the machine to stop.

Claim.—1. A claw, comb, or equivalent device, arranged in respect to the needles of a knitting machine, and combined with mechanism for stopping the machine, substantially as described, so that yarn which has fallen or been taken out of the needles will catch on or engage with the claw, comb, or equivalent device, and cause the machine to stop.

2. In a knitting machine having spring-barbed needles, a stripping wheel M, arranged as described, so as to take knots or loose yarn out of the needles, and thereby prevent the injurious retention or accumulation of such knots or yarn in the needles, substantially as herein set forth.

3. The arrangement, in a knitting machine having spring-barbed needles, of a stripping wheel just forward of the "sinker wheel," or device for feeding yarn into the needles, substantially as herein set forth.

4. In knitting machines, a series of needles and a stopping mechanism, combined with a comb, or its equivalent, and a stripping wheel, substantially as described, so that yarn taken from the needles by the stripping wheel will engage with the comb, or its equivalent, and stop the machine.

5. In knitting machines, a stripping wheel and a cam, or its equivalent, combined with a circular series of spring-barbed needles, substantially as described, so that the cam, or its equivalent, will press or hold the knit fabric or old loops back on the needles at the place where the stripping wheel is arranged to take waste or loose yarn out of the needles.

6. In combination with a series of needles in a knitting machine, a stripping wheel, a cam, or its equivalent, for pressing or holding the knit fabric back on the needles at the point where the stripping wheel acts, a comb, or its equivalent, for engaging with yarn taken from the needles by the stripping wheel, and a stopping mechanism, substantially as herein set forth.

76,855.—Charles H. Warner, Pittsfield, Mass.—*Window Blind.*—April 14, 1868.—The slats turn on tubular pins or tenons.

Claim.—A blind, in which the tenons of the slats *a a*, &c., are formed of tubes of metal *b b*, &c., inserted into the ends of the slats, substantially as herein shown.

76,856.—Edward Warren and Thomas Brangwin, Ceresco, Mich.—*Dray.*—April 14, 1868; antedated April 8, 1868.—The body of the dray is jointed transversely, so that the rear portion, to which the wheels are attached, may be inclined as a skid. The body may be rendered rigid by spring catches. The shaft frame is arranged so that it may be turned around to either side.

Claim.—1. The dray shafts D, provided with a semicircular bow head E, in combination with the hinged sections A and B of the platform bed of a dray, substantially as and for the purpose specified.

2. The arrangement and combination of the spring catches F, lock plates L, cranked tilting cam shaft T, and spring stop S, with the aforesaid hinged sections and pivoted bow-headed shafts, substantially in the manner and for the uses set forth.

76,857.—Charles R. Webb, Philadelphia, Pa.—*Boom Gear.*—April 14, 1868.—The ends of the jaws are pivoted to the slide plates, which always present straight surfaces to the saddle and mast.

Claim.—The slides A A′, or their equivalents, interposed and properly secured between a vessel's saddle E and the forward ends of the jaws C C′, for the purpose of preventing the jaws from chafing the saddle, substantially as herein described and for the purposes set forth.

76,858.—Eugene Webber, Portage, Mich.—*Horse Collar.*—April 14, 1868.—The lower end of the collar is made to open, and is secured by studs on one of the metallic boxes which enter catch slots in the other box.

Claim.—The metallic boxes B B, with elongated slots *a a*, and shanks *b b*, as constructed and arranged for fastening the collar in the manner as described and shown.

76,859.—Henry J. Weed, Cazenovia, N. Y., assignor to himself, E. S. Card, and F. Carpenter.—*Chimney Cap.*—April 14, 1868.—Openings presenting upward and inward are made in the side of the chimney cap.

Claim.—Providing chimney caps or smoke stacks with two or more rows of draught openings, arranged one above the other, the spaces between the openings being struck up to form inclines *b*, the part above said openings being struck out, and the part below struck in, whereby said openings are transformed into elliptical holes *a a*, as herein shown and described.

76,860.—J. Wentz, Girard, Ala.—*Cotton or Hay Press.*—April 14, 1868.—The cotton box is upon bed rails, upon which it is made to slide, passing between two posts to which the toggle-bars, operating the followers, are pivoted.

Claim.—1. The movable cotton box A, with its slot *e*, substantially as shown and described, in combination with one or more toggle-bars E, and capstan power, all as and for the purpose set forth.

2. In combination with the movable box A, having slots *e*, and with the toggle-bars E, the followers F, when provided with projections *d*, all constructed, arranged, and operating as and for the purpose set forth.

76,861.—David M. Weston, Boston, Mass.—*Belt Stud.*—April 14, 1868.—Improvement on the patent of G. W. Blake, March 26, 1861. The ends of the belt are laid with grain sides together and slightly beveled outward toward the junction. Longitudinal slits are then made within ⅜ inch of the end. One end of the stud is passed through the slits and the stud is turned 90°. The cross heads of the stud are rounded off on the salient corner.

Claim.—1. Rendering the heads rigid, by swaging or compressing them, substantially as described.

2. Forming the heads with a rounded or convex surface *e*, as herein set forth.

3. A belt stud, having a soft or yielding bar *b*, and rigid heads *e*, constructed substantially as shown and described.

76,862.—Miles B. Wheaton, New York, N. Y.—*Clothes Drier.*—April 14, 1868.—The frame is composed of a number of jointed racks which may be folded together or erected for use.

Claim.—The frame *a b*, with the two pairs of legs *e g*, one pair provided with knuckles *i*, the other resting against the rungs *b*, to admit of the parts being folded parallel, as shown.

76,863.—Aaron B. White, Mendon, Mich.—*Bolt Trimmer.*—April 14, 1868.—The jaws are at the ends of two compound levers, and are intended to cut the ends from bolts and rivets.

Claim.—The combination of the levers *d d'*, having stops J J thereon, with shear levers *a a*, straps *b b* and *f f*, all constructed, arranged, and operating substantially as described.

76,864.—Daniel and George H. White, Chicago, Ill.—*Street Letter Box.*—April 14, 1868.—The letter is passed through a passage which is extended upward and inward to prevent the abstraction of letters and the entrance of water. Access is gained to the box through a doorway in the bottom.

Claim.—1. The street letter box A, of the shape as described, with projecting and pointed roof B, and the sides narrowed toward the bottom, provided with movable bottom forming door D, the joints between said door and box protected by cornice G, the whole arranged and operating substantially as herein set forth and specified.

2. The inside guides or flanges *d d* of the openings C C, arranged and operating substantially as set forth, and for the purpose specified.

3. In combination with the above, the ears H H, loops or staples I I or K K, and brace L, substantially as herein shown and described.

4. The sexagonal or octagonal letter box, constructed as shown and described, provided with six or eight openings for letters and newspapers, and securely placed on an iron stool, the same being secured to the floor or sidewalk, substantially as set forth.

76,865.—Benjamin F. Whitner, Madison, Fla.—*Combined Planter and Manure Distributor.*—April 14, 1868.—The seed or concentrated manure is placed in the hopper and carried out in the radial cavities in the seed roller, or by the radial arms of the manure roller. The tops of the cavities are cleared by brushes. The furrow is opened by a plow pressed by a roller and filled behind the seed by a lunate-formed, convex-bottomed drag block.

Claim.—1. Making one of the flanges h^2 of the cylinder H movable, and securing it in place, clamping the jointed recessed ring I between it and the stationary flange *h'*, by means of the nut J screwing upon the said cylinder H, substantially as herein shown and described, and for the purpose set forth.

2. Adjustably securing the hopper F in place within the hopper E, by means of bolts and set screws, substantially as herein shown and described, and for the purpose set forth.

3. The combination of a removable weight K with the covering drag J, substantially as herein shown and described, and for the purpose set forth.

4. The discharging hopper M, constructed in two parts, in substantially the form herein shown and described, and adjustably secured to the under side of the frame B, as and for the purpose set forth.

5. The stirrer shaft or cylinder N, having radial arms n^1 and side arms n^2 attached to or formed upon it, in combination with the peculiarly-shaped hopper M, and with the frame B, substantially as herein shown and described, and for the purpose set forth.

76,866.—William L. Williams, New York, N. Y.—*Foot Scraper.*—April 14, 1868.—The boot is passed between the brushes which are on the jointed arms and are pressed against the boot by springs.

Claim.—1. The brushes *h*, jointed to the swinging arms *f*, and acting in the manner and for the purpose specified.

2. The swinging brushes *h*, in combination with the swinging arms *f*, scraper *b*, and brushes *e*, substantially as and for the purposes set forth.

76,867.—Albert C. Willson, Green Point, N. Y.—*Ferry Bridge.*—April 14, 1868.—The bearing of the bridge is near one side of the float, and the float has a weighted platform extending from one side which is operated by a cord and windlass to change its position, and consequently to change the height of the outer end of the bridge in respect to the surface of the water.

Claim.—For elevating or depressing the bridge at will, the variable float C, constructed and operating substantially as herein described.

76,868.—Franklin M. Willson, Whitney's Point, N. Y., assignor to himself and Isaac G. Dundore, same place.—*Horse Hay Fork.*—April 14, 1868.—The catch tines are pivoted to the stock and are drawn upward and outward by the links which pass from their middles to the end of the operative rod within the stock.

Claim.—1. The combination and arrangement of the compound detachable rod G with the tines L L, opening from and closing into the recess D, so that, when closed, their points will meet near the pointed end of the point B, and when opened or expanded will operate as herein described.

2. Constructing the sheath A, with the detachable pointed end B, in combination with the spring J, tumbler I, pin or key F, hole P, and joint pin C, all being constructed substantially as herein described and represented for the purpose set forth.

76,869.—George Wilson, New Lexington, Ohio.—*Treatment of Foot Rot and Other Diseases in Sheep.*—April 14, 1868.—The "biflex canal," as the seat of the disease, is drawn bodily from the foot. The cavity is dressed with ointment and kept clean for a few weeks.

Claim.—The above-described mode of treating diseased sheep having "foot rot," "dry decay," "scours," &c., *i. e.*, by extirpating the biflex canal, in the mode and by the process herein described.

76,870.—William V. Wilson, Philadelphia, Pa.—*Clothes Sprinkler.*—April 14, 1868.—The water is introduced into the space outside the central, perforated pipe, and passes through the latter to reach the sprinkler. A portion of the top is imperforated, which enables the machine to be laid on the side without the water escaping.

Claim.—1. Constructing a clothes sprinkler with a perforated pipe E, substantially as and for the purpose specified.

2. The combination of the pipe E and plate C, when the same are arranged substantially as described.

3. The combination of the pipe E and top plate F, when the latter is so constructed that only a portion of the same is perforated, substantially as and for the purpose specified.

76,871.—Zadig Wolfsbruck, New York, N. Y.—*Waistband for Wearing Apparel.*—April 14, 1868.—The tapes pass through pockets in both portions of the band, and converge to a point at each end. They are secured to hooks which engage series of eyelets.

Claim.—The waistband for drawers, provided with the adjustable fastening device, consisting of the tapes F F', G G', H H', passing through suitable pockets therein, and fastened thereto by means of hooks B E' and eyes *a a a*, as described heretofore.

76,872.—Edmund W. Woodruff and George C. Green, Washington, D. C.—*Paper File..*—April 14, 1868.—The boards of the files are made to fold together, and are held at a right angle, when opened, by a pointed brace. The follower is jointed to a bar whose lower end slides and clamps in a longitudinal, under-cut groove.

Claim.—1. A file, for holding papers or other similar articles, with hinged joints, so that it may be folded together when not in use, substantially as set forth.

2. A paper file, with the clamping device so arranged that the clamp lever will turn backward or forward, for the purposes specified, without being detached from the file, substantially as shown.

3. Attaching the file board to the lever clamp with a hinge, or its equivalent, substantially as shown.

76,873.—GEORGE WORSTENHOLM, Newark, N. J.—*Bolt and Rivet Machine.*—April 14, 1868.—The shank of the rivet is grasped between the two semi-cylindrical dies and the blank cut off by their action. The head then comes in operation, after which the dies separate and the rivet drops.

Claim.—The feeding slides *h*, and wedge blocks *g*, in combination with screw *l* and pin *k*, that presses the rod *i* upward to hold it while being fed to the machine, substantially as shown.

76,874.—GEORGE M. ZELL, Waynesville, Ohio.—*Harness.*—April 14, 1868.—The holder plate has loops for attachment of the saddle straps, the breeching straps, and the tugs. The thill link hangs in the plate and enters a notch in the lower side of a plate beneath the thill. The belly band is secured to the inner side of the links and bears down the thill into the link so as to secure the harness to the thills.

Claim.—The combination of the holder plate E, having the elastic cushion J, the link D, strap F, and notched plate B upon the under side of the shaft A, all constructed and arranged as described for the purpose specified.

76,875.—SEYMOUR AINSWORTH, Saratoga Springs, N. Y.—*Fan.*—April 21, 1861.—The handle is attached to the stiff foundation piece, and the latter is then clothed and trimmed as described.

Claim.—As a new article of manufacture, a fan, composed of the buckram foundation, covered with quill feathers throughout its center, on both sides, trimmed on its edge with down, and provided with a handle, attached substantially as described, the whole constructed and shaped as shown.

76,876.—EDWARD ANDREWS, Pottsville, Pa.—*Window Sash Holder.*—April 21, 1868.—The spring latch slides in a cylindrical box which is attached to the sash. The latch engages the notches of the vertical rack to set the sash to the desired height.

Claim.—The arrangement and combination of the rack C, box A, latch B, and spring J, operating in the manner and for the purpose herein described and specified.

76,877.—ALONZO ARMSTRONG and ALEXANDER WELLER, Buffalo, N. Y.—*Sleigh.*—April 21, 1868.—The reach is curved upward to allow the fore bob to pass beneath the reach in turning. The body is supported on pendent bars and hanging links.

Claim.—The combination of the curved reach H with the pendent links, hangers, and elevated standards for supporting the sleigh body upon the rear bob.

76,878.—E. H. ASHCROFT, Lynn, Mass.—*Steam Safety Valve.*—April 21, 1868.—The valve when slightly raised allows the steam to issue through small side openings which have exit beneath the flanged part of the disk and increase the upward pressure on the valve.

Claim.—The valve seat E, with its elbow orifices *h*, in combination with valve cover D, rod *e*, and spring E, or its equivalent, arranged, constructed, and operated in the manner as shown and described, and for the purpose set forth.

76,879.—DAVID D. BAKER, West Alexandria, Ohio, assignor to himself and HARVEY CAMPBELL, same place.—*Churn.*—April 21, 1868.—The dasher has an open-bottomed box which has jet holes near the edge. It has reciprocation by a lever.

Claim.—The combination of wings 1 2 3 4, and vanes *a b e d*, with the canopy D, rod B, and lever C, the parts being constructed, arranged, and operating conjointly, in the manner and for the purpose specified.

76,880.—J. F. BARKER, Springfield, Mass.—*Apparatus for Carburetting Air.*—April 21, 1868.—The current of air is furnished by a small water wheel and fan blower. The entering air is heated and dried by steam pipes, and the hydro-carbon heated by the same.

Claim.—1. The steam pipe *a*, placed within the air conduit H of a carburettor, or within a sufficient portion of the length of such conduit, for the purposes specified, substantially as set forth.

2. The arrangement, within the air space of a carburettor, of the steam pipe *a*, for the purpose of directly heating the air contained within the carburettor, whether a portion of such steam pipe is immersed in the hydrocarbon for heating the same, or entirely exposed to the contained air, substantially as described.

3. In combination with a carburettor or generator, the arrangement of independent water wheel, fan blower, and air conduit H, the whole forming an apparatus for carburetiug air, substantially as described.

76,881.—GEORGE W. BELL and GEORGE W. FULMER, Hinckley, Ohio.—*Horse and Cattle Poke, &c.*—April 21, 1868.—The ends of the yoke are pivoted to the cross bar through which the poke is passed. The rear end of the poke has a spring plate which is pushed back by the animal when approaching a fence, and the concealed points allowed to pierce the neck.

Claim.—The adjustable slide C, in combination with the yoke A, poke B, and head D, in the manner as and for the purpose set forth.

76,882.—BENJAMIN V. BETTERTON, Piqua, Ohio.—*Stone Paint.*—April 21, 1868.—Composed of crushed shale or calcareous earth, 50 lbs.; rosin, 8 oz.; linseed oil, 5 quarts. Heat the pitch and oil and liquefy in the benzole or turpentine. Then add the mixture to the shale and grind to the consistence of ordinary paint. Color to suit.

Claim.—The compound above described, for the purposes above mentioned.

76,883.—THOMAS BRETT, Geneva, Ohio, assignor to himself and W. H. SAXTON.—*Rest for Grinding Harvester Cutters.*—April 21, 1868.—The cutter is clamped by the screw, between the jaws. The standard is adjustable on the head, and has a wheel at its lower end which runs on the stone to adjust the cutter to the proper inclination.

Claim.—The adjustable standard B, and wheel F, as arranged in combination with the jaws A, for the purpose and in the manner as described.

76,884.—WESSEL BRODHEAD, Meadville, Pa.—*Carpenters' Gauge.*—April 21, 1868.—The bar is slightly convolute in transverse section so that the head is clamped thereto by a twist.

Claim.—The bar A and the head piece B, constructed and operated as and for the purpose set forth.

76,885.—JOHN BROWN, Utica, N. Y.—*Caster for Furniture.*—April 21, 1868.—The ball has a circumferential recess into which the journal ring enters, being not quite flush with the face of the ball. The ball is made in two hemispheres and is clamped over the ring by an axial screw. In use the ball either turns on the ring or the ball and the ring turn on the journals of the latter.

Claim.—Forming the roller of the parts B and C and the plate D, substantially as described and for the uses and purposes mentioned.

76,886.—OBADIAH B. BROWN, Malden, Mass.—*Toy Boomerang Pistol.*—April 21, 1868.—The boomerang lies upon the upper side of the rest, and is propelled by the spring beneath the rest, whose end is turned up so as to strike the boomerang when released.

Claim.—The toy herein described, consisting of an instrument for supporting and throwing a small boomerang, constructed and operating substantially as described.

76,887.—A. W. BUCKLAND and A. M. DANIELS, Hartford, Conn., assignors to themselves, BENJAMIN BENNETT, same place, and ALBERT FULLER, Windsor, Conn.—*Artificial Fuel.*—April 21, 1868.—Dissolve rosin, 12 lbs., in gasoline, 1 gall.; add sulphur, 1 oz.; saturate sawdust or shavings with the liquid, then add coal dust, shovel into molds, and press the blocks into shape and leave in the molds till "caked."

Claim.—An artificial fuel, made from the materials, in the proportions, and in the manner substantially as above described.

76,888.—E. P. H. Capron, Springfield, Ohio. assignor to himself, George H. Gerrish, and D. B. Rich.—*Brick Machine.*—April 21, 1868.—The molds on leaving the pug mill pass beneath the striking plate whose vertical pressure is regulated by a screw rod. This plate is secured to a rod which passes through a post, and its friction therein is regulated by a set screw so as to give way when a stone has found entrance into the mold. The pressure cam beneath the molds is made adjustable vertically and horizontally. The mold wheel surface is coated with removable steel plates to keep the surface true. The molds on leaving the cams are supported on pivoted spring arms which engage shoulders in the cavities. The followers have friction rollers which are adjustable, to compensate for wear. The top of the followers is covered by cloth which is sewed to leather strips secured in grooves of the follower. The follower tops are adjustable by screws which are operated from beneath.

Claim.—1. Securing the striker plate in position, by means of the rod *i* and set screw *j*, arranged to operate substantially as described.

2. The rod *h*, provided with a nut *i*, and arranged to bear upon the striker plate *g*, substantially as set forth.

3. Facing the iron mold wheel E, above described, with the detachable V-shaped steel plates *e*, substantially as set forth.

4. The incline *l*, made adjustable both horizontally and vertically, for varying the pressure and pressing the brick from below, substantially as described.

5. Providing the follower *m* with the hinged supports *p* thereon, and the springs *q*, for supporting the follower clear from the track while the molds are passing under the hopper, substantially as described.

6. The combination and arrangement of the hinged supports *p*, nuts *s*, and the shoulders *r'*, in the mold wheel, for adjusting the follower to vary the thickness of the brick as desired.

7. Providing the follower *m* with a friction roller, *w*, that can be adjusted to compensate for the wear of the rollers, or the track, or both, substantially as set forth.

8. Securing the cloth to the plate by means of the grooves *t*, and leather strips placed therein, and sewing through the leather, substantially as described.

9. The plate *a'*, with beveled edges, and adjusted on the follower *m* by means of the screws, substantially as set forth.

76,889.—John Carr, of the Crescent, Clapham, and Charles Lucop, Drummond Road, England.—*Manufacture of Meat and other Biscuit.*—April 21, 1868; patented in England January 18, 1868.—The biscuit is first baked, and after being pulverized is mixed with the meat extract, and formed into cakes by heavy pressure.

Claim.—The manufacture of meat and other biscuits by first baking such of the ingredients of the biscuit as require to be baked, then adding extract of meat or such other of the ingredients of the biscuit as would be injured by the heat of the oven, and forming the whole into biscuits by pressure or force applied to the ingredients while they are contained in molds, substantially as hereinbefore described.

76,890.—Joseph Cartwright, South Reading, Mass., assignor to himself, James Cartwright, Jr., and W. K. Lewis.—*Sheet-Metal Can.*—April 21, 1868.—The rectangular sheet of metal has its edges bent over to form the future groove, and is then bent into polygonal form, the ends meeting to form a single, side joint.

Claim.—A polygonal can, having but one side joint, and a groove *d*, (for receiving a lip turned down from the head,) when said groove is made before the body is formed or bent up, substantially as described.

76,891.—O. Cate, Boston. Mass.—*Sash Fastener.*—April 21, 1868; antedated April 9, 1868.—Two levers upon the portion attached to the lower sash are swung between the plates of that part which is secured to the upper sash, and the said levers are held by the projections of a catch plate, moved forward by a cam. The short ends of the levers are bent, and have studs which enter a cross slot of a sliding plate, moved by a knob to operate the levers.

Claim.—A fastener for window sashes, &c., composed of an arm or arms O and a slide U, when arranged and combined together, substantially as and so as to operate as described.

76,892.—Dominico Checkeni, New York, N.Y., assignor to himself, John W. Boteler, and Charles K. Sherwood, Washington, D. C.—*Toy.*—April 21, 1868.—The birds are supported upon spring wires, which are so operated as to cause them to go through the motions of fighting chickens.

Claim.—1. Combining two cocks or other animals by rods, cords, wheels, or an equivalent therefor, in such manner that by operating the said rods, cords, or wheels, the said cocks or other animals will be caused to imitate the motions peculiar to such animals when fighting, substantially as herein shown and described.

2. Connecting the heads or bodies of the birds or other animals together by means of a horse hair, or an equivalent therefor, running from one to the other, substantially as and for the purposes herein specified.

76,893.—Levi H. Colborn, Chicago, Ill.—*Low-Water Indicator for Steam Generators.*—April 21, 1868.—When the water falls below a certain level, steam is admitted to the valve chamber. The valve seat is made of brass and the valve of iron, so that the unequal expansion of the two makes a leakage of steam and operates a whistle or feed-water apparatus.

Claim.—A low-water indicator for steam boilers, constructed, connected, and operating substantially as herein described.

76,894.—J. C. Cook, Buffalo, N. Y., assignor to himself and John C. Clifford, same place.—*Bosom Pad.*—April 21, 1868.—The pad is elastic and inflatable, and has a knitted cover which limits its expansion and determines its shape.

Claim.—A bosom pad, consisting of an inflatable body or sack, provided with a non-elastic covering of fibrous material, shaped to the contour and dimensions desired, substantially as herein described.

76,895.—Seldon L. Crockett and Benjamin T. Mills, Lowell, Mass., assignors to Benjamin T. Mills, same place.—*Cam for Card-Stripping Machines.*—April 21, 1868.—To obviate the breaking down of the card teeth on the front side of the strip board and at the back side of each top flat, the flanges are so arranged that as the cam rotates the pin passes into the groove between them and upward over the rounded projection when the strip card is passing under the elevated top flat, the pin moving gradually downward in the depression and remaining in that position, with the top flat bearing on the strip card, allowing the latter a sufficient time to take the waste substance from off the top flat, and to remove it from beneath the said flat.

Claim.—1. The lifting and replacing cam B, constructed as shown and described, viz, with the prominent portions indicated as 5, 6, and 7, and the depression between 6 and 7, and a flanch or flanches *k*, to relieve and ease down the top flats, and again elevate the same, substantially in the manner and for the purpose set forth.

2. The cam B, provided with a flange *k*, constructed as described, and operating in connection with the slide and its pin 1, as and for the purpose set forth.

76,896.—Henry A. Dirkes, New York, N. Y.—*Ballast Keel for Boats.*—April 21, 1868; antedated April 7, 1868.—The ballast keel has a certain freedom of motion fore and aft, and also vertically in beaching or riding over obstacles. Its range of depression is regulated by a screw.

Claim.—The ballast keel B, hung or attached to the boat by toggle joints C, and operating or operated substantially as described.

76,897.—Johnn Engelhardt, Carbondale, Pa., assignor to E. E. Hendrick and Peter Dolan, same place.—*Composition for Blacking Leather.*—April 21, 1868.—Composed of lager beer, 1 gall.; oxide of iron, 1 oz.; and logwood, 1 oz.

Claim.—The ingredients in combination, substantially as described for the purpose named.

76,898.—JOHN FARREL, New York, N. Y.—*Fire-Proof Safe.*—April 21, 1868.—The object is to prevent the conduction of heat from the outside to the inside of the safe. In the usual mode of building, the door frame and front casing are of one piece; but in this they are made of several pieces, with interposed non-conductors.

Claim.—Constructing the front casing and the door of fire-proof safes each of two or more plates of iron, with a non-conducting substance interposed between the several plates, substantially as described and for the purpose set forth.

76,899.—GEORGE FEIGHTNER, Wooster, Ohio.—*Machine for Forming Fifth Wheels.*—April 21, 1868.—The heated blank is clamped to the flat base plate and against the movable ring by the cam lever and the screws, and forced into shape by the key which takes over the ring and the blank.

Claim.—1. The removable rings D D, in combination with the platform A and adjustable cam lever E, substantially as and for the purpose set forth.

2. In combination with the above, the slotted brace F and screws G G, when used as set forth, for the purpose of retaining the fifth wheel in place while undergoing its formation.

76,900.—LEVI B. FISK, Lockport, N.Y.—*Wrench for Carriage Wheels.*—April 21, 1868.—The socket wrench has two pins which enter the hub and enable the screwing on of the nut by turning the wheel.

Claim.—A hand wrench, combining the forks C C and socket B in a single device, when employed in connection with the hub holes F F, the whole arranged and operating in the manner and for the purpose herein described.

76,901.—LEMUEL S. FITHIAN, East New York, N. Y.—*Multiplying Revolutions around an Axis.*—April 21, 1868.—The reversing wheel is fast upon a shaft upon which the inside geared cylinder is made to turn by an intermediate wheel upon a fixed axis. A lever turning upon the shaft has a side pin, forming the axis of a cog-wheel, receiving motion from the cylinder and communicating it to another wheel turning upon the shaft, and carrying at the end of a radial arm the axis of another wheel engaging the cylinder. This movement may be multiplied more or less to increase speed.

Claim.—1. The combination of the reversing wheel R, partitioned, revolving cylinder C, with one or more sets of multiplying and intermediate wheels D and P, with straps *g g*, when combined substantially as herein set forth.

2. The straps *g*, *g*, *g*, and *g*, and their equivalents, when employed to sustain and strengthen the ends of the axes on which the intermediate wheels P, P′, and P″ revolve.

3. The reversible hollow cylinder C, by means of one or more wheels R and *b*, one having an axis coincident with the axis of the shaft, and the other or others parallel therewith.

76,902.—LEMUEL S. FITHIAN, East New York, N. Y., assignor to himself, JAMES M. HOPKINS, and JEFFERSON W. SOUTHMAYD, New York, N. Y.—*Multiplying Motion on a Single Shaft.*—April 21, 1868.—The standard has a horizontal wheel at its upper end, which engages the side gears of a wheel outside the standard which is fast to the shaft, and a wheel inside the standard which turns on the shaft. An arm on the shaft has a wheel on an axis, extending in the direction of the arm, and which engages a side gear on the turning wheel, and a side gear on another wheel turning on the shaft. This second, loose wheel has a similar wheel to that upon the arm engaging the first loose wheel, and a similar wheel which carries another wheel engaging the first loose wheel and an outer one from which the accelerated speed may be taken.

Claim.—1. The stationary lever B, having slot and communicating wheel *b*, the wheel or disk A, and lever or wheel A′, carrying slot and communicating wheel *a*, and fast upon the shaft S S, the reverse revolving wheel or disk C, the revolving wheels or disks D, E, F, &c., carrying slotted lugs, and the communicating wheels horizontal to the shaft.

2. The stationary lever or slot B and communicating horizontal wheel *b*.

3. The combination of the wheel or disk A, and the slotted lever A′ with communicating wheel *d*.

4. The reverse revolving wheel or disk C, geared differentially.

5. The revolving wheels or disks D E F, and the slotted lugs carrying wheels *d e*, arranged horizontal to the shaft.

76,903.—F. G. and E. A. FLOYD, Macomb, Ill.—*Broadcast Seed Sower.*—April 21, 1868.—Improvement on their patent, April 2, 1867. The flanges are made to strike the grain in a different direction to those of the previous patent. The seed holes are bushed with perforated leather disks which may be changed to suit the kind of seed. The holes are so located that by opening the proper one the grain may be thrown to the right or left or may be thrown to both sides. The amount of seed is regulated by slides. The bag is confined upon the mouth of the hopper by an open ring and fixed and movable catches.

Claim.—1. The disk A, with flanges *a*, which flanges do not radiate in a direct line from the center, but whose inner ends are inclined forward in the direction of the revolution, as and for the purpose described.

2. The shaft B, with shoulder *b*, thread b^1, and nut b^2, in combination with disk A, as and for the purpose described.

3. The pointed arm C′, in combination with shaft B, as and for the purpose described.

4. The feeding holes D D′, when arranged in relation to each other and to the disk A, substantially as described.

5. The bushings *d*, in combination with holes D D′, as and for the purpose described.

6. The bag F, with open ring *f*, in combination with the hopper F′ and catches G G′.

76,904.—JAMES R. FLOYD and JOSEPH A. SABBATON, New York, N. Y., assignor to JAMES R. FLOYD.—*Hydraulic Mains for Gas Works.*—April 21, 1868.—The hydraulic main has a lateral opening that is closed by a plate having one or more ports to which the tubes are applied which conduct the gas from the retorts. The dip nozzles are preferably cast upon the inner side of the port plate, and the conducting tubes are bolted to its outside. The joints between the main pipe and the port plate and between that and the conducting tubes are made tight with cement.

Claim.—1. The combination of the main pipe, (constructed with a lateral opening,) with a lateral port plate, (formed separately, and applied to the lateral opening of the main pipe,) substantially as before set forth.

2. The combination of the said main pipe, lateral port plate, (formed separately, and applied to the lateral opening of the main pipe,) and dip nozzles for the ports in the lateral port plate, substantially as before set forth.

76,905.—JAMES H. FOOTE, Pittsfield, Mass.—*Dinner Pail.*—April 21, 1868.—The drawer is lifted out of the pail vertically and contains several trays and a drink vessel which are taken out of it horizontally.

Claim.—1. One or more trays *b b′*, in combination with the drawer *d* and pail *e*, as and for the purpose specified.

2. One or more drink cans *e e′*, in combination with the drawer *d* and pail *e*, as and for the purpose specified.

3. The drawer *d*, in combination with one or more trays *b b′*, one or more cans *e e′* and the pail *e*, as and for the purpose specified.

76,906.—FRANCIS FOWLER, West Haven, Conn.—*Convertible Carriage Pole.*—April 21, 1868.—The metallic cross bar of the tongue has sliding square-socketed coupling irons which slide on the cross bar and have sockets on the rear ends to receive the coupling bolts. The irons are prevented by set screws from slipping on the cross bar.

Claim.—The attachment of removable poles by means of the shifting rods D D, which slide either way along the metallic cross bar A A.

76,907.—Joshua Garsed, Frankford, Pa.—*Hand Truck.*—April 21, 1868.—The side wheels have flat faces and the end wheels rounded faces. The truck rests upon but three wheels at a time and may be swung around abruptly without defacing the floor.

Claim.—The within-described hand truck, constructed and operating substantially as specified.

76,908.—William Wallace Goodwin, Camden, N. J.—*Dry Gas Meter.*—April 21, 1868.—The spring keeps the orifice wide open when the passage of gas is in the legitimate direction, but when the current is reversed the arm on the rotating shaft abuts against the short end of the tilting stop lever (which it ordinarily passes over by tilting) and actuates the valve lever to close the valve. The shaft is also prevented from rotating.

Claim.—The application, to a dry gas meter, of a device or combination of devices whereby the orifice in the plate through which the current of gas passes to or from the valves, will be either entirely closed or fully opened thereby, in accordance with the relative positions of the meter between the supply and discharge pipes, as described, the said device or combination of devices being constructed and operated in the manner herein described, or in any other manner that will produce the same effect.

76,909.—Matthew Gordon, Washington, Iowa.—*Combined Cornstalk Cutter, Cultivator, &c.*—April 21, 1868.—The machine runs on two wheels and has a vertically adjustable frame which has a shaft on which are several toothed or bladed cylinders. These cylinders are removable and as many may be used at a time as necessary for the required width of tilth, the vertical adjustment determining the depth of tilth.

Claim.—The cylinders *o p q*, with cutters and teeth or hoes arranged upon the shaft, and operated substantially as and for the purposes herein recited.

76,910.—Chauncey O. Green and Robert Ham, Troy, N. Y.—*Boiler.*—April 21, 1868.—The boiler stands on a ridge concentric with the stove pipe and turns on the latter as a center so that it may be made to occupy a position at the rear, upon either side, or in front, in which latter case it covers the greater part of the rear pair of pot holes, and an inclined plate is arranged to close the remaining aperture.

Claim.—1. In combination with a cooking stove or range, a water reservoir or boiler B, when hinged or pivoted to or upon said stove or range top, in manner such that the said water reservoir or boiler may be turned, revolved, or shifted thereon about its pivot center, and thereby be made to rest upon or over the differently heated parts of said stove or range top, to thereby increase or decrease, or regulate the temperature of water within said reservoir or boiler, substantially in manner as hereinbefore described and shown for the aforesaid purpose.

2. In combination with a cooking stove or range, the arrangement of the exit passage or flue thereof, for the gases of combustion, and the said pivoted, turning, or shifting water reservoir, both at one and the same end of said stove or range, in manner substantially as described, so that the escaping gases of combustion thereout shall impart heat to said water reservoir, in any one of its shifted positions on and over the stove or range top, as set forth.

3. A cooking stove or range, having a top plate provided with pot holes E, and a water reservoir B, so mounted and pivoted thereon that it can be turned or shifted horizontally about its pivot center, as described, and placed over or partly over the said pot holes, so as to receive the greatest heat from the stove or range, and also be turned off horizontally, to leave the said pot holes exposed or open and free to place culinary vessels therein, as set forth.

4. In combination with a stove or range top, pot holes E and a water reservoir, turning or shifting about its pivot center thereon, as described, a loose and removable cover plate or hood I, substantially as and for the purpose set forth.

5. The manner of securing said pivoted and shifting reservoir to the stove or range top, by means of the collar *h*, with lug *a*, and flange ring *e*, with notch *b*, or any equivalent devices therefor, which shall hold the said reservoir upon the stove or range top so that it may turn about its pivot center, as described, and keep it securely thereon, in any one of its shifted positions on and about its pivot center, as set forth.

6. In combination with a stove or range, and a water reservoir moving or shifting about its pivot center thereon, as described, a friction flange or flanges *g*, or any equivalent devices therefor, formed on or attached to the reservoir bottom, or to the stove or range top, as and for the purpose set forth.

76,911.—William C. Grimes, Philadelphia, Pa.—*Fire Detector.*—April 21, 1868; antedated April 18, 1868.—A pipe leads from near the ceiling of each apartment to the watchman's room near the roof so as to give notice of a fire occurring in any part of the building.

Claim.—A series of tubes converging from several apartments of a house to one apartment, and adapted for the transmission of aeri-form fluids to this center, substantially as shown and described, and for the purposes set forth.

76,912.—John Heberling and William L. Heberling, Mount Pleasant, Ohio.—*Root Cutter.*—April 21, 1868.—The knife cylinder has upon its periphery gangs of cutters which slit the root followed by curved blades which have a "draw" cut and take slices from the roots as deep as the cutters have penetrated. The slips of root pass through the curved throats to the stationary interior knives and thence to the chute which passes into the open end of the cylinder and discharges the pieces.

Claim.—1. The knives H, or their equivalent, substantially as described and for the purpose set forth.

2. The oblique curved slots *e′*, having an offset directly beneath the forward part of the knives F, to prevent clogging, the concave and convex sides of which curves bend or turn toward the stationary cutting knives used in connection therewith, as seen at *e′*, Fig. 1, all strips or slices that pass through.

3. The projecting cutters G, or their equivalent, for the purpose specified.

4. The combination of the projecting cutters G knife F, curved slots *e′*, and knives H, as shown, and for the purpose specified.

5. Such a regular inclination of the surface of the knives and the periphery of the cylinder, from the edge of each knife to the one next in its rear, as to bring the said surface within the edge of it a sufficient distance to constitute the throat.

6. The hollow metallic cylinder E, having rimmed ends, one of which is open, inclined periphery, oblique curved slots *e′*, substantially as shown and described.

76,913.—Isaiah Herrick, Merrimack, N. H.—*Churning Butter.*—April 21, 1868.—The vertical dashers rotate in contrary directions, and have their relative positions so adjusted as to pass each other; the wings of one being transversely of the churn, while the others range longitudinally.

Claim.—The dashers E E′, constructed as described, in combination with springs O O′, steps F F′, cog-wheels B B′, pinion C, standards H H′, journal box G, shaft A, and crank V, arranged substantially as and for the purpose set forth.

76,914.—Joseph W. Hildreth, Boston, Mass.—*Leather Polishing Machine.*—April 21, 1868.—The leather is placed upon a table whose top is curved to agree with the arc of oscillation of the tool. The glassing-tool has an elastic bearing at its pivot, which enables it to yield to inequalities, and it is reciprocated by connection to a wrist on a hand wheel.

Claim.—In a machine such as described, the combination, with the yielding bed upon which the leather is placed, of the vibratory lever to which the glassing-tool holder is attached, provided at its point of suspension with an elastic and yielding bearing, substantially in the manner and for the purposes herein shown and set forth.

76,915.—Alexander J. H. Hilton, Boston, Mass.—*Fruit Jar and Clamp.*—April 21, 1868; antedated March 10, 1868.—The prongs of the yoke catch beneath the square lip of the jar. The yoke is twisted

round to tighten the lid, bearing upon inclines on its upper surface.

Claim.—The angular clamp G, with its jaws *a a*, in combination with the inclined planes F F of the cover C, the rubber packing ring, and the straight shoulder B of the jar A, all as specified.

76,916.—JOSEPH M. HOADLEY, Birmingham, Conn.—*Crochet Needle.*—April 21, 1868; antedated April 8, 1868.—The needle and its holder are each of wire. The former passes through loops in the ends of the latter and takes a coil round it, the elasticity of the handle holding the needle in its prolonged or protracted position.

Claim.—1. The holder B, for crochet needles, formed, with the needle A, from the same piece of tempered wire, as herein shown and described.

2. The holder B, for crochet needles, formed of tempered wire, upon which the needle is arranged to slide and be held in position by the elasticity of said holder, as herein shown and described.

76,917.—L. E. HOLDEN, Cleveland, Ohio.—*Fruit Can.*—April 21, 1868.—The stopper is held suspended in the neck, so that when the latter is connected to the air pump by a flexible tube the air can be exhausted from the can without dislodging the cork from its position. When the air is sufficiently exhausted the cork is grasped through the flexible pipe and inserted in the neck.

Claim.—The combination of the pipe B, tube D, and stopper C, as and for the purpose substantially as specified.

76,918.—GEORGE B. HOWLAND, Gardner, Ill.—*Gate Latch.*—April 21, 1868.—The two latches are pivoted to the piece which is driven into a mortised hole in the gate post, and one or the other is struck and lifted by the closing gate, according to the direction in which it is moving. The pivoted stop-piece is lifted above the latches when opening the gate.

Claim.—The peculiar construction of the drop-latches, and their attachment to the middle piece *b*, as shown in Fig. 2, thereby securing an unobstructed space immediately above the latches, so that the gate may be opened, as herein described, without necessarily involving a spring or unnecessary weight of iron, in connection with the bar or stop on the gate, either of which is more expensive and inconvenient to operate.

76,919.—JAMES H. HULSE, Baltimore, Md.—*Frame for Stretching Pants.*—April 21, 1868; antedated April 8, 1868.—The pants are stretched on a frame having one straight bar and a jointed bar adjustable thereto.

Claim.—The combination of the upright *a* with cross supporting piece *e*, with the hinged stretcher *b c*, and adjustable supporting cross pieces *f d*, the whole arranged as herein described, and for the purpose specified.

76,920.—H. HUNT, Delavan, Wis.—*Gate.*—April 21, 1868.—The roller on the middle post of the gate runs upon one curved track, while the roller on the inner post runs beneath the other track, being borne up by the weight of the outer end of the gate. The impulse is given by cords which are carried to stations up and down the road, so as to operate the gate without alighting.

Claim.—1. The concavo-convex track J, arranged for the rollers M L to run on its opposite sides, in combination with straps V and gate F, substantially as and for the purpose set forth.

2. The combination of track J, cords R, straps V, pulleys S T, box W, and gate F, substantially as set forth.

76,921.—SAMUEL W. HUNTINGTON, Augusta, Me.—*Lamp Shade.*—April 21, 1868.—The upper end of the clasp hooks over the rim of the glass shade, and its prong forms a strut to hold it in position. The upper edge of the shade is held by the spring tongue and the slotted piece.

Claim.—A lamp shade clasp or clamp, struck up from a single piece of sheet-metal, in the manner herein described, so that one end of the clasp shall be provided with a spring tongue or clamp, bent in the manner specified, for holding the shade, and the opposite end with a hook and arms for maintaining the clasp and shade in position upon the lamp chimney or globe, substantially as shown and set forth.

76,922.—FRANK H. HUSTED, Buffalo, N. Y.—*Base Burning Stove.*—April 21, 1868.—The magazine chamber in the middle is contracted at bottom by the semi-dome of the combustion chamber, so that its discharge aperture is semi-annular. The calorie current passes up in front and dives at the rear.

Claim.—1. Forming the central combustion space *f* by means of the passage *a* and deflecting plate *b*, or their equivalents, substantially in the manner and for the purposes shown and described.

2. Dividing the combustion chamber surrounding the magazine into vertical flues by the magazine itself, of the form described, or by the hinged plates *d d*, provided with operating rods *n*, or equivalent, substantially in the manner and for the purpose specified.

3. The magazine D, provided with deflecting plate *b*, and semi-annular discharge aperture *a*, or equivalent, and arranged so as to form an enlarged flue E in front, in combination with the oven F, arranged and operating substantially as set forth.

76,923.—RICHARD KERR, Boston, Mass.—*Fumigator.*—April 21, 1868; antedated April 14, 1868.—The tobacco chamber may be screwed on to a common garden syringe, and has a removable nozzle which is taken off to charge the chamber. The tobacco is lighted at the nozzle end. The rear end has a perforated plate which allows passage to the air.

Claim.—A fumigator arranged for employment with a piston syringe when provided with the grate *c* and the outer removable end *a*, substantially as and so as to operate in the manner described.

76,924.—GEORGE W. KINTZ, West Henrietta, N. Y.—*Washing and Wringing Machine.*—April 21, 1868.—The bed rollers are tapering and circumferentially ribbed. Strips are interposed between these rollers. The "rubber" has plain and tapering ribbed rollers standing in opposite directions to those on the bed. The rubber is connected by a link to an arm extending from the side of the box. For wringing, the clothes are drawn between a large caoutchouc roller at one end of the bed and two rollers upon the rubber which are pressed down thereon.

Claim.—The combined washing and wringing machine having the conical crimping rollers E E′ standing in opposite directions to produce a crimping of the cloth, and provided with the intermediate ribs and scoops *d*, *f*, and having the wringing rollers G, H H so arranged as to intermatch and graduate the pressure, the whole operating as described and for the purpose specified.

76,925.—CHARLES KIRCHHOF, Newark, N. J.—*Blast Gun.*—April 21, 1868.—A sheet of paper is confined between the parts of the pipe by means of a catch, and a pressure of air being brought upon the paper by means of the plunger, a disk is cut thereform, followed by an explosive noise.

Claim.—1. The combination of a sheet or plate *h*, made of the material as herein described, with an apparatus for compressing air or gas when said sheet or plate is secured hermetically to the latter, by means of an arrangement allowing a speedy removal and restoration of such sheets, in the manner and for the purpose specified.

2. The peculiar construction and connection of the parts *b f g* of the device for securing the sheet, as set forth.

3. The extension *p* and *o*, made in the manner and for the purpose specified.

76,926.—RICHARD KITSON, Lowell, Mass.—*Screen Cylinder for Cotton Pickers.*—April 21, 1868.—The surface of the screen cylinders is raised or depressed between the perforations to prevent the escape of short staple cotton with the dust.

Claim.—A cylinder surface, which is more or less raised or depressed between the perforations, substantially as shown and described and for the purpose or purposes specified.

76,927.—JOHN KOHLER, New York, N. Y.—*Lifting Jack.*—April 21, 1868.—The rack upon the lifting bar is engaged by a spur wheel upon the ratchet wheel shaft. The ratchet wheel is turned by a pawl upon a hand lever and held by a pawl which is pivoted to the standard. When the lever is raised to its extreme elevation a pin raises the lever pawl, and the latter pawl raises the catch pawl to allow the ratchet wheel to turn back, and the lifting bar to descend.

Claim.—1. The lever A, pawl C G, and pawl disengaging pin H in combination with the ratchet wheel D, pinion E, and rack F, substantially as and for the purposes set forth.

2. The slot I and pin *i*, all operating together, as shown and described, to form a new and improved carriage jack.

76,928.—JOSEPH LIEBHABER, Bless, Bavaria.—*Churn.*—April 21, 1868.—The beaters of different kinds have various action on the cream and give changing currents to it.

Claim.—The combination of four or more beaters of different construction, for the purpose above set forth and described.

76,929.—WILLIAM A. LIGHTHALL, New York, N. Y.—*Condenser.*—April 21, 1868.—The exhaust pipe has a series of openings through which the steam passes into the condenser, entering into a space between the two series of tubes so as not to directly impinge upon any of them. The object is to prevent their wearing away.

Claim.—Arranging the exhaust pipe from the engine with its series of openings, as shown, in relation to the vacant space between the series of tubes, as and for the purpose herein set forth.

76,930.—CHARLES F. LINSCOTT, Woburn, Mass.—*Frame for Window Screens.*—April 21, 1868.—Thin metallic clasps are made to fit over the inner edges of the frame at the corners. The side slats may be slipped into the clasps or removed therefrom for stowing away.

Claim.—The clasp B made of sheet or cast metal and attached to the inner corner of a frame for the purpose of securing the sides of the frame together, substantially as set forth.

76,931.—FRANK LIVINGSTON, Marathon, N. Y.—*Gate.*—April 21, 1868.—The gate hinges are arranged to slide vertically on the post, and the vertical adjustment of the gate is accomplished by a lever bar which is hinged to the gate post. A pin near the center of the gate traverses a slot in the lever, and the fore end of the lever slides in a vertical slot in the gate, and is sustained by spring catches therein.

Claim.—The bar F, hinged and pivoted as described, in combination with the gate and sliding hinges D D, for the uses and purposes set forth.

76,932.—SAMUEL P. MECAY, Killbourne, Ohio. *Horse Rake.*—April 21, 1868.—The "tumbling frame" of the rake has two sets of teeth, which are alternately presented. When a load is gathered or a windrow reached, the lifting of the lever engages the teeth with the ground, and the progression of the draught frame tumbles the rake, bringing another set of teeth into action.

Claim.—1. The handle H when pivoted to the frame and provided with an adjustable shoulder *j* and hook *l*, for the purpose of regulating the double rake head D, as and for the purpose specified.

2. The double rake head D provided with S-shaped slots *x x* in the cross heads thereof, and having spurs *m m* secured therein, in combination with handle H and frame A, as and for the purpose specified.

76,933.—F. P. MICHEL, Rochester, N. Y.—*Pump Piston.*—April 21, 1868; antedated April 14, 1868.—The water enters above and below the piston alternately, and passes through the piston and the hollow piston rod. The perforated disk valves are governed, as to the extent of their motion, by stops attached to the sides and to the bottom plate of the piston respectively.

Claim.—The construction of the hollow piston A, with the ribs *f f*, and hook *h*, for the ready insertion and removal of the valves, the whole arranged and operating in the manner and for the purpose specified.

76,934.—FREDERICK J. MILLER, Brooklyn, N.Y.—*Construction of Ice Pitchers.*—April 21, 1868; antedated April 10, 1868.—The inner bottom is dome-shaped and its margin rests upon the table and is soldered to the foot of the external shell. The inner shell is secured to the dome, which resists the blows of the ice without tearing loose from its connections.

Claim.—An ice pitcher having the walls *c a* and bottoms *d b*, and lower rim or base *e*, constructed substantially as shown and for the purpose set forth.

76,935.—EDWARD L. MOLINEUX, New York, N. Y.—*Preparing Laundry Blueing.*—April 21, 1868.—The blueing is mixed with glutinous or saccharine matter, and molded or pressed into sticks which are readily dissolved, but have sufficient tenacity to stand transportation.

Claim.—1. Forming the article called laundry blueing into sticks or fingers, and thus preparing it for sale and use, substantially as described.

2. Combining laundry blueing with starch, sugar, or other soluble glutinous or saccharine substance, thereby diluting it and improving it for use, whether the same be formed into sticks or fingers or not.

76,936.—JAMES H. MURRILL, Baltimore, Md., assignor to himself, LEWIS R. KEIZER, and JACOB SEEGER, same place.—*Machine for Cutting Bungs.*—April 21, 1868.—The squared stuff is forwarded into the square hollow of the rotating cylinder, and comes in contact with the rotary cutter, by which it is turned to a cylindrical form; it is then forwarded into the rotating feeding tube, where it is moved forward by the pawl arms actuated by a collar reciprocated by a forked lever. The cylindrical stuff comes next under the action of the cutter, which reduces the end to a fruste-conical form. It is then removed by the saw.

Claim.—1. The arrangement of the collar E' with its spring feeders G G that lie in the slots of the cylinder E, and are operated to carry the stick through the cylinder after being rounded by the cutters, substantially as specified.

2. The wheel K provided with the slides *a a*, and placed on the end of the cylinder E for gripping the stick while the bung is being formed, substantially as specified.

3. The arrangement of the sliding frame L, with shafts T and M placed opposite to each other, one provided with the cutters T and *u*, and the other with the saw N, whereby the bung is formed, cut from the stick, and dropped, in the manner substantially as specified.

4. The arrangement of the adjustable rod Q' in the sleeve Q, supported by the bars *f l*, and in combination with the inclined bar R on the end of frame L, whereby the bung is held and dropped, the whole arranged to operate substantially as specified.

76,937.—GEORGE H. NOBLE, Lowell, Mass., assignor to himself and BENJAMIN T. MILLS, same place.—*Spindle Bolster.*—April 21, 1868.—Conical linings fit a tapering hole in the outer shell of the spindle bolster, which has a cup rim to contain oil and passages to lead it to the space between the bushings, whence it reaches the spindle.

Claim.—The divided and tapering or conical bushings or linings, combined with a spindle bolster, as described, the said bolster being provided with one or more oil passages *c*, and a dishing top, to receive and convey the lubricating substance to the oil space *b* and the spindle, in the manner and for the purpose specified.

76,938.—JAMES NOBLE, Pittsburg, Pa.—*Locomotive Cow-Catcher.*—April 21, 1868.—The cow-catcher is a toothed cylinder, rotated by gear connection to the driver. The animal lifted by the teeth is received upon an apron.

Claim.—1. The construction of a locomotive cow-catcher, consisting of a revolving cylinder or cylinders with face or faces serrated or toothed, and so connected with the forward locomotive truck as to

receive the motions described, and operate substantially as and for the purposes hereinbefore set forth.

2. An apron *n*, extending from some fixed part of the locomotive forward over a revolving cylindrical cow-catcher *g*, substantially as and for the purposes hereinbefore set forth.

76,939.—JAMES OLIVER, South Bend, Ind.—*Casting Mold Boards.*—April 21, 1868.—The upper part of the flask has a "chill" with recesses for holding cores, which make the bolt-holes in the mold-board.

Claim.—1. A chill, provided with core-seats or recesses *e e e*, substantially as described and for the purpose set forth.

2. In combination with the core-seats *e e e*, the chamber-chill C, substantially as described.

76,940.—WILLIAM B. O. PEABODY, Boston, Mass.—*Scoring Games.*—April 21, 1868.—The sections of the box are duplicates, one for each player or party. Changeable disks are graduated for the different games. The interior of each box has the usual train of gearing actuating the pointers.

Claim.—1. The series of changeable, differently marked dials, in combination with the scoring and registering apparatus, as set forth.

2. The box A A, formed in two equal parts, and containing the duplicate sets of changeable dials and indicating apparatus, as and for the purpose specified.

76,941.—GEORGE H. PEACOCK, Fairport, N. Y.—*Bag Fastener.*—April 21, 1868.—The ends of the cord are firmly attached to the respective clasps, which are locked together by a turn button.

Claim.—The band A, composed of metallic cord, in connection with the clasps B B, and fastenings C D, arms E E, and ears or projections F F and G G, all arranged to operate as herein set forth.

76,942.—LYMAN B. PRINDLE, Litchfield, Conn.—*Railroad Rail.*—April 21, 1868.—The parts of the compound rail form a longitudinal joint, and are laid together to break joint. The junction is oblique, the sections reversible. The chair has a high outer-side and a groove corresponding to one in the waist of the rail; a key is driven into the grooves to form a fish-bar.

Claim.—A continuous reversible rail, with its accompanying chair and key, constructed substantially as herein set forth and described.

76,943.—EDMUND W. QUINCY and WILLIAM FISHER, Lacon, Ill.—*Operating Ferry Boats.*—April 21, 1868.—The rope reaches from shore to shore, and takes a coil round the central drum on board the boat. Auxiliary guide drums prevent the rubbing of the rope against itself where it is received by and delivered from the drum.

Claim.—A ferry or other boat, provided with flanged drums *a a' a''*, arranged with reference to the prevention of the abrasion of the parts of the draught-rope upon each other, in the manner described.

76,944.—FRANK W. REILLY, Chicago, Ill., assignor to himself, GEORGE F. ROOT, EBENEZER T. ROOT, and CHAUNCEY M. CADEY, same place.—*Lifting Apparatus.*—April 21, 1868.—The handles are vertically adjusted by the screw threads upon their shanks.

Claim.—A lifting apparatus, constructed substantially as described, consisting of two adjustable vertical rods, projecting above a table on which the patient stands, connected with suitable mechanism beneath the table for carrying the weights used.

76,945.—FAYETTE S. ROBINSON, Boston, Mass.—*Lamp Burner.*—April 21, 1868.—The deflector is held in its place in the chimney by spring pins, which enter grooves on the inside of the glass chimney. Hooks are drawn inward by springs, and catch upon the foot flange of the chimney. They are released by a slide, when the glass is to be removed.

Claim.—1. In combination with the deflector G, the spring points *e*, for the purpose of supporting the deflector by entering grooves or recesses in the chimney prepared to receive them, as described.

2. Confining the chimney and centering it by means of centripetal holders, constructed and operating as set forth.

3. The combination and arrangement of the slide J, levers K L, sliding holders M, and springs N, in the manner and for the purpose specified.

76,946.—ROBERT ROBSON, Buffalo, N. Y.—*Brick Kiln.*—April 21, 1868.—The polygonal building has divisional kilns, together with entry and delivery vestibules and a central area, whence access is had to the kilns. The furnaces are in the inclosing walls, and are fed from the outside. The caloric current enters the kiln above the bridge wall, dives through the kiln, passes into the inner flue, and thence into the next kiln, where it is used to dry the charge of bricks, and whence it is discharged into the chimneys above the arched roof.

Claim.—1. The combination and arrangement of a series of kilns, A, B, C, &c., with a central area, G, and passage way or ways H, I, for supplying and removing the bricks and tile, substantially in the manner set forth.

2. The furnaces *n*, bridge wall *p*, and connecting flue J and chimneys S, arranged substantially as herein described.

76,947.—GEORGE H. SANBORN, Boston, Mass.—*Circular Saw Table.*—April 21, 1868.—The table is used for sawing the grooves in the backs of books, for holding the threads, and those for the catch stitch. The slats in the opening of the table fill the spaces between the saws. Their dovetailed ends set beneath the edge of the table at one side of the opening, and their other ends are grooved to receive a spring bar, which holds them in position.

Claim.—The spring bar L, in combination with the grooved slats K, arranged and operating as described.

76,948.—RUFUS S. SANBORN, Ripon, Wis.—*Water Vessel for Fire-Proof Safes.*—April 21, 1868.—The water vessels are designed to give off steam, when the safe is subjected to a charring heat. To keep the valve in the upper part of the water vessel, even though the safe be dislodged, the vessels are hung, valve upward, from points of suspension above their centers of gravity, and are allowed freedom of motion upon this point.

Claim.—A water vessel for steam fire-proof safes, suspended to the wall of the safe, substantially in the manner and for the purpose specified.

76,949.—D. B. SANDERSON, Lewiston, Me.—*Peg Cutter.*—April 21, 1868.—The "float" is pivoted in the stock and has a flange beneath, in one of whose notches the spring dog is engaged to maintain the "float" in the required angular position.

Claim.—The arrangement of the tongue *f*, plate *d*, arm *h*, and helix *k*, in the manner herein illustrated and described, upon and in combination with the curved stock *a*, as and for the purposes set forth.

76,950.—ARTHUR HAMILTON, Sherwood, Conn.—*Sewing Machine.*—April 21, 1868; antedated April 16, 1868.—The revolving disk beneath the table has a single wrist pin, which traverses slots of peculiar conformation in the arm which drives the shuttle, and in the arm which reciprocates the needle bar.

Claim.—The combination of disk J, pin L, with the shuttle-carrying arm D' and rocking arm B, provided with curved slots N M, the whole operating substantially as and for the purpose set forth.

76,951.—EDWARD SNYDER, Slatington, Pa., assignor to himself and MORGAN JONES, same place.—*Machine for Rounding the Corners of Slate Frames.*—April 21, 1868.—The cutter revolves in fixed bearings. The slate frame has rectangular corners which are successively introduced into a slide and presented to and moved past the cutter wheel. The curved guides cause the slide to recede from and then approach the cutter, so as to give the rotundity to the corner as it passes the cutter. A spring returns the slide to its initial position.

Claim.—The curved guides d^1 d^2 and pins a^1 a^2, or

their equivalent, arranged and operating, relatively to the cutter C and carrier D, substantially as and for the purposes herein set forth.

76,952.—GEORGE A. SQUIER, Syracuse, N. Y.—*Teeth for Hay Spreaders.*—April 21, 1868.—Improvement on patent No. 32,350. A metallic ear is bolted to each side of the fork handle. Each ear is made in two parts which are fitted together with a serrated joint. To each ear a spring tine is secured by an axial bolt fastening.

Claim.—The fork head A, made in sections A *a*, for securing the tines, and having serrated joints *f*, as herein shown, and for the purpose described.

76,953.—O. S. and T. C. ST. JOHN, Willoughby, Ohio.—*Machine for Harvesting Potatoes.*—April 21, 1868.—A plow runs on each side of the row and throws a furrow outward. The broad, horizontal blade, running beneath the hill lifts it and the earth, to a given width and depth. The pronged drag bars follow at the same depth as the knife and agitate the soil loosened by the latter, so as to collect the potatoes on the surface.

Claim.—1. The use of the elongated flat knife or blade J and straps R R, constructed substantially as described, located and operating in the especial manner herein set forth and for the purpose stated.

2. The employment of the detachable drag separator herein described, having the two outer arms rigid and the intermediate ones vibratory, so as to operate in the manner described, and in connection with the said knife J, as and for the purpose set forth.

3. The special use and employment of the extra attachment herein described, constructed and operating substantially as and for the purpose stated.

4. The combination of the said drag separator and the said extra attachment, operating in the manner and for the purposes set forth.

5. The ploughs K and K′, in combination with the broad knife J, operating as and for the purpose herein stated.

6. The levers A A′, connecting rods B B′, forked rods C C′, plow standards D D′, rods E E′, guide plates F F′, provided with catch holes G G′, swing bar H, and pawls I I′, in combination with the knife J, or with the extra attachment, drag separator, and plows K K′, all constructed, arranged, and operating substantially in the manner and for the purposes herein set forth.

76,954.—HENRY STRICKLER, Borough of Carlisle, Pa.—*Hay Hoisting Drum and Grain Fork.*—April 21, 1868.—Grain sheaves are pitched onto the fork, which elevates them by means of the connecting rod and wrist upon the gear wheel which is driven by connection to the drum shaft. The level pinion is disconnected from its main wheel, when the fork is disused and hay is to be lifted. The horse is attached to a lever on the drum shaft and walks continuously around. The rope winds on the drum and is attached to the ordinary horse hay fork. The drum is unshipped to allow the empty fork to return.

Claim.—1. The extension *f* of the lower ratchet *f′*, operating with the arm *h* and the pulley *w*, and the rope *w′*, for the purpose of enabling the person working the hook or fork on the loaded wagon therefrom to unshift the drum.

2. The beveled cog wheel *m*, fastened on the upper outer face of the drum *g*, the beveled cog wheel *n*, the arm *o*, the spur cog wheel *p*, the spur cog wheel *q*, the arm *r*, the arm *s*, the fork *u*, and the inclined plane *v*, all combined and operating in the manner and for the purpose herein set forth.

76,955.—JAMES SWAN, Seymour, Conn.—*Machine for making Auger Bits.*—April 21, 1868.—For forming the auger bits on a previously twisted blank. The heated blank is grasped between jaws which conform to its spiral form and is advanced to be acted upon by three pairs of dies acting in pairs successively. The first pair has three recesses which form three straight spurs on the end of the blank. The next pair cut off the burr around and between the spurs. The next pair bend outward the outer spurs, to form cutting lips. The blank is advanced by successive impulses to bring it opposite the sets of dies, in turn.

Claim.—1. The holding jaws J J′, attached to the sliding plate I, in combination with the slides G G′ G″, provided with the dies *c f h*, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

2. The combination of the holder J J′, constructed as described, in combination with the operating parts thereof, as herein shown and described.

76,956.—JAMES SWAN, Seymour, Conn.—*Auger Handle.*—April 21, 1868.—One section of the handle screws into the other and the square shank of the auger being passed through the outer tubular portion is jammed by a block, forced in by the entering portion of the handle. A V-face on the block straddles one angle of the shank and prevents turning, while its pressure prevents longitudinal slipping of the shank.

Claim.—The cylindrical key C, within the handle A B, provided at its front end with the V-shaped groove *g*, and upon its under side with the longitudinal groove *e′*, fitting over the lug *f* in the socket *a*, and having at its rear end the circumferential groove *d*, fitting over the lugs *b* upon the part B of the handle, all constructed and operating as described, whereby, as the parts A B are screwed together, the key C is operated longitudinally to clamp the shank of the auger, as herein set forth and represented.

76,957.—DEXTER SYMONDS, Marlow, N. H.—*Process for Tanning.*—April 21, 1868.—The bark is consumed by regulated combustion and the vaporized products condensed and collected. The chimney is surrounded by a condensing chamber of cold water, and the liquid flows into a vessel, and is used for tanning leather.

Claim.—1. The process, substantially as described, of producing or obtaining from bark or other substances liquid for tanning hides and skins.

2. The application of such liquid to hides or skins to be tanned.

3. The liquid herein described as a new production for tanning purposes, when produced or obtained by the process described.

76,958.—HIRAM C. THOMPSON, Bristol, Conn., assignor to himself, and NOAH POMEROY.—*Die for Making Clock Collets.*—April 21, 1868.—The two punches are attached to the stem and work simultaneously. In each descent one punch makes the opening and the other cuts out the disk. The next descent the disk punch descends upon the piece whose center was punched out by the previous blow.

Claim.—The combination and arrangement of the dies E *e*, gauge pin F, and back gauge G, arranged and operating on the base plate, substantially as described.

76,959.—SAMUEL TOOMEY, Wilmot, Ohio.—*Shifting Rail for Carriage Seats.*—April 21, 1868.—The shifting rail is secured in the rear brackets by hook tenons and shoulders; and in the front brackets by gibs and wedge keys.

Claim.—1. The projection G, on the under side of the bracket *a*, at the inner edge of the mortise, in combination with the gib C and wedge *d*, substantially as and for the purpose herein specified.

2. In combination with the gib and wedge fastening at the front, the square hook tenons *g g*, and shoulder *f*, bearing with a spring pressure upon the brackets *b b*, substantially as and for the purpose herein set forth.

76,960.—CROMWELL FLEETWOOD VARLEY, New York, N. Y.—*Insulator for Telegraphs.*—April 21, 1868.—Insulators are immersed or washed with hot or cold coal tar, naptha, petroleum, paraffine oil or wax, (the latter hot.) The object is to increase the insulating properties.

Claim.—1. The use of petroleum or paraffine oil, coal tar, naptha, or paraffine wax, for renovating the insulating power of surfaces rendered defective by age, exposure, or other cause, as set forth.

2. The use of the above-named materials for increasing the insulating power of porous or otherwise imperfect insulators, as set forth.

76,961.—Charles Webster, New Haven, Vt.—*Feed Water Heaters for Boilers.*—April 21, 1868.—The water tank communicates through elastic pipes from its upper and lower part with a pipe recessed between two flanges extending from the side of the fire chamber. The heater pipe is connected to bell cranks which are operated by levers to move it more or less into the fire. The water circulation is induced by the heat.

Claim.—An apparatus for heating the feed water of a steam generator, combining the following elements, viz., a tank B, and a system of pipes, connecting it with a heater G, so arranged that the latter may be adjusted in its position in the fire box, substantially as set forth.

76,962.—Charles A. Wellington, East Lexington, Mass.—*Traveling Bag.*—April 21, 1868.—For keeping the mouth from gaping when the bag is distended. Hooks are arranged near the bends of the bag frame, being hinged to one jaw; the toothed ends snapping into perforations in plates attached to the other jaw.

Claim.—1. In combination with the jaws *b c*, the hooks *d*, each hinged at one end to the jaw *b*, and having at its opposite end the bend *f*, and tooth *g*, the tooth entering the socket or recess in the jaw *c*, to confine the jaws together, substantially as described.

2. The stationary staples or eyes *l*, riveted to the metal jaw frame, substantially as described.

76,963.—George W. Winterringer, Fredericktown, Ohio.—*Gate.*—April 21, 1868.—Designed to be opened by the rider without dismounting. The traveler reaches up and grasps the lever whose depression brings the beveled sufaces into operation and unlatches the gate. Pushing open the gate he does not release the lever until the hind wheels have passed, when he allows the gate to close by the action of the weight.

Claim.—1. The combination and arrangement of the beveled angles E and F of the box C^1, and slotted shaft D, operated by the forked or straight lever G′, substantially as and for the purposes herein described and set forth.

2. In combination with the above, the springs *m*, or their equivalent, the flattened and oblong head of the bolt *h*, the operating lever G′, all arranged and operated substantially as and for the purposes herein described and set forth.

3. In combination with the above, the weight H, arranged and operating as described, for the purpose of closing the gate, as specified.

76,964.—Joseph Wolf, Young America, Ill.—*Corn Plow.*—April 21, 1868.—Each double shovel plow is attached by a loop to the axle, so that their relative positions and distances may be adjusted. The axle is arched in the center to span high corn and the tongue is stayed by draft bars to the axle.

Claim.—1. Connecting the forward ends of the beams C C to the axle A, by means of metallic loops, so that the said ends can be shifted, while the rear ends can be adjusted, substantially as and for the purpose set forth.

2. The arrangement of the axle A with the beams C C, which are loose at their rear ends, and with the tongue F, as and for the purpose set forth.

3. The arrangement of the draught bars H H with the axle A and tongue F, as and for the purpose set forth.

76,965.—Edwin A. Wood, Utica, N. Y.—*Electro-Magnetic Valve Gear.*—April 21, 1868.—An electro-magnet connects or detaches the valve or valve stem with or from the eccentric rod or other part of the engine which operates the valve. The valve stem has an iron arm which forms an armature for the magnet. A sliding frame of two bars connects the two armatures, and the two bars are connected near their center by cross bars. The magnets are placed in the frame facing their armatures while their opposite ends are united by a bar. Extending between the cross bars is a vertical support of non-conducting material faced with metallic plates. While the knob on the lower end of the governor spindle touches the plates, the circuit is complete and is broken when the knob is in the space between the plates.

Claim.—1. The use of the electro-magnet, one or more, for connecting and detaching the cut-off or governor valve or valves of a steam engine, with and from the power which operates such valve or valves, as described.

2. The use of the governor and electro-magnet, one or more, in combination with the inlet cut-off or governor valve or valves of an engine, for the uses and purposes mentioned.

76,966.—John R. Ackerman, Edward B. Campbell, and Niram O. Golden, Dobb's Ferry, N. Y.—*Lamp Burner.*—April 21, 1868.—The wick tube is surrounded by a cone and a foraminous cylinder surmounted by a conical deflector. The air is thus supplied to the flame to dispense with the necessity of a chimney in burning coal oil products.

Claim—The arrangement of the perforated cylinder D with relation to the open bottomed cone C, conical top E, and wick tube A, as herein described, for the purpose specified.

76,967.—G. H. Alger, Ames, N. Y.—*Lifting Jack.*—April 21, 1868.—The lever is suspended by a link from the standard and its end catches beneath the teeth of the rack which is sustained by a lever catch in its elevated position.

Claim.—The combination of the uprights C, rack B, base D, cross pieces G G, lever A, link *g e*, lever catch *b*, and lifting toe E, all constructed and operating together substantially as and for the purpose shown and described.

76,968.—John Allen, Poughtown, Pa.—*Bed Bottom.*—April 21, 1868.—Each side band is connected by oblique pieces to two opposite bands so that the weight is distributed and horizontal deflection is prevented; the end connections at head and foot act as auxiliary stays.

Claim.—The bed bottom constructed of inelastic bands or strips, joined together in lines, crossing each other in the middle, as shown, being supported by rings upon the rails of the bedstead, and stretched sidewise by the bands 1 2, 3 4, and 7, the whole constructed in the manner and for the purpose above set forth and described.

76,969.—Emanuel Andrews, Williamsport, Pa.—*Hanging Reciprocating Saws in Saw Mills.*—April 21, 1868.—Strips of steel are riveted on each side at each end of the saw and their dovetailed edges. Hooks with curved and correspondingly dovetailed lips engage the steel strips and form a means of adjusting the strain at any part of the saw nearer or further from the edge.

Claim.—Hanging reciprocating saws, so that the strain may be adjusted to any desired part, by hooks and stirrups, with circular lips, when made and arranged substantially as and for the purpose set forth.

76,970.—William N. Angus, Morristown, N. J.—*Egg Beater.*—April 21, 1868.—The collar is reciprocated vertically by one hand while the other hand grasps the handle. The collar has studs which follow the threads of the spirals and rotate the wire frame.

Claim.—The screw or spiral-threaded shafts A and L, cog wheels *i* and *j*, and the nut D, in combination with an egg beater, constructed, arranged, and operating substantially as described and for the purpose set forth.

76,971.—Aaron Armstrong, Gillespie, Ill.—*Corn Planter.*—April 21, 1868.—The machine has the usual furrowers, seed boxes, and covering rollers. The front and rear sections are jointed together, and by depression of the lever the furrowed portion is raised to clear the ground in turning.

Claim.—The foot lever F, connected or applied to the draught pole D, to operate in the manner substantially as and for the purpose set forth.

76,972.—David Baird, Bloody Run, Pa.—*Millstone Exhaust.*—April 21, 1868.—Improvement on his patent, December 3, 1867. The object is to save flour which may pass off with the exhaust air from the

millstone and to collect and carry off condensed moisture. The exhaust air is drawn through a sinuous passage to precipitate the flour, and the moisture is caught in cups.

Claim.—1. In an exhaust for millstones, the separator I, when constructed with horizontal interlocking shelves *i i''*, arranged substantially as and for the purpose set forth.

2. Collecting the condensed moisture that may be deposited in the exhaust, or in any of the air chambers or passages, by means of a set of cups or receivers *m m, n n*.

76,973.—ADOLPH F. BALLAS, Pottstown, Pa.—*Railway Switch.*—April 21, 1868.—The ends of the switch rails lie in the recess beneath the tread, so that the flange of the wheel does not come in contact therewith. The counter weight restores the switch to position after movement. The switch-lever shaft is connected by cog gearing with the turning signal shaft.

Claim.—1. The switch tongues, constructed as described, with their points lower than the tread of the rails A B, and adapted to fit against the web, and below the tread of said rails, free from contact with the tread of the car wheels, as herein described, for the purpose specified.

2. In combination with the above, the counter weight, constructed and arranged to operate as herein described, for the purpose specified.

3. In combination with the tongues C and counter weight F, the revolving target P and gearing O, operating substantially as described, for the purpose specified.

76,974.—RICHARD C. BARTON, Brooklyn, N. Y.—*Purifying Oils and Fats.*—April 21, 1868.—The oil or fat is placed in the inner tank, which has a vertical shaft having radial stirrers, and a discharge pipe at its lower conical end. It is surrounded by a water or steam chamber, by which the oil or fat is heated to 90° or 100° Fahr., respectively, and yeast, 3 parts, added to each 40 parts of the grease. The whole is stirred while warm and then left to ferment, when sediment is drawn off at the bottom. The tank may be used in the manufacture of stearine.

Claim.—1. Purifying fats and oils, and decomposing them, to separate them from impurities and from gelatinous matter by means of ferment or protein, as set forth.

2. The process, herein shown and described, of treating oils and fats for purification, and for separating impurities.

3. The process, herein shown and described, of treating stearic acids.

4. The apparatus, herein shown and described, consisting of the tanks A and B, and of the agitator C, all made as set forth, for the purpose of treating fats and oils in the manner specified.

76,975.—HAZEN J. BACHELDER and GEORGE E. WOODS, Marlboro, Mass.—*Horseshoe Machine.*—April 21, 1868.—The bar is fed in between the shears until it butts against the adjustable gauge plate. Being severed by the shears the bender advances and drives it between a pair of rollers, giving it a proximate horseshoe shape. The heels of the shoe fall into a depression, and as the bender retires the shoe is drawn from it. The creasing and nail punch are on an oscillating lever, and the latter acts upon and in conjunction with a lower lever, which perfects the perforation.

Claim.—1. The combination and arrangement of the recess *b* with the carriage B, bender A, and rollers E E, formed and arranged substantially in manner and so as to operate as described.

2. The combination and arrangement of the cutting shears *n o*, the stop gauge *p*, the bender A, the rollers E E, and the discharging recess *b*, the whole being to operate as set forth.

3. The combination, as well as the arrangement, of the auxiliary nail hole punch *u*, and its operative lever *v*, with the bed *s*, and the main nail hole punch *r*, and its operative lever G.

4. The combination of the gauge *t*, the bed *s*, the creasing punch, and the lever G.

5. The combination of the cammed lever *w* with the operative cam *m* of the lever G, and with such lever G provided with one or more punches, arranged to operate with a bed *s*, in manner as described.

76,976.—EDGAR B. BEACH, West Meriden, Conn.—*Bee Hive.*—April 21, 1868.—The frame case may be slipped from the hive, and the latter has an outer case to cover it in winter.

Claim.—The combination of the outer case C with the inner case A, when the inner case is provided with a frame case E, and so as to be removed from the case A, and so as to be closed by the outer case C, substantially as and for the purpose specified.

76,977.—SEWEL G. THAYER, administrator of the estate of DANIEL N. BEARD, deceased, Cleveland, Ohio.—*Suspender for Stove Handles, &c.*—April 21, 1868.—An article of occasional use is suspended on a cord wound upon a spring pulley, so that it can be drawn down and applied, and will be automatically carried back to its position.

Claim.—The wheel B, when provided with guide *g*, the swivel screw C, spring D, and cord E, as and for the purposes specified.

76,978.—FRANCIS W. BECKWITH, Westmoreland, N. Y., assignor to himself and SMITH, CLARK & Co., same place.—*Whiffletree Hook.*—April 21, 1868.—The hook is cast upon the ferrule, and its beveled end receives the beveled end of the spring tongue.

Claim.—The circular spring band *a*, held against the end of the thimble by the head *g* and the tongue *h*, having the projection *i* pivoted between the lugs *m*, all constructed, arranged, and operating as described, whereby the spring is compressed at each outward and inward movement of the tongue, and the latter held either open or closed by the outward expansion of said spring, as herein described, for the purpose specified.

76,979.—G. A. BEIDLER, Philadelphia, Pa.—*Lamp Burner.*—April 21, 1868.—Within the outer deflector or cone is an inner one whose lower portion is cut into a number of vertical strips, which are turned into radial direction.

Claim.—1. The rarefying conductor B, made substantially as shown and described.

2. In combination with the rarefying conductor B, the conical deflector A, substantially as shown and described.

76,980.—HENRY F. BEMENDEFER and DWIGHT H. FINCH, Attica, Ohio.—*Hay Fork.*—April 21, 1868.—The turning head is held by the spring catch bar as either a fork or grapnel.

Claim.—The fork A, with its shank B, arranged with the catch bar D and handle E, the parts being constructed and operating as and for the purpose set forth.

76,981.—WILLIAM H. BETTS, Brooklyn, N. Y.—*Window Sash Lock.*—April 21, 1868.—The fastener is made in form of dovetail or under cut grooved blocks, which are secured to the respective meeting rails of the sashes. Upon these a locking piece is made to slide and engage both dovetail grooves to fasten the sash.

Claim.—The divided under cut or dovetail slide *b c*, in combination with the sliding locking piece *h*, the parts being constructed and applied substantially as set forth to form a sash fastener.

76,982.—SAMUEL W. BEVANS, Plymouth, Conn., assignor to himself and GEORGE A. MUNSON, same place.—*Feather Dressing Machine.*—April 21, 1868.—The prismatic or cylindrical receptacle is traversed axially by a pipe, which is perforated on its upper side and bulged on its lower side, and from the bulged part descends a drain pipe. This axial pipe is traversed by a steam pipe which has similar perforations and closely fits its upper side, so that by turning the inner pipe the steam may be let on or cut off from the inside of the feather receptacle.

Claim.—In a feather dressing machine, attaching a discharge tube in or near the center of the bilge or cylinder, substantially as and for the purpose described.

76,983.—Byron Boardman, Norwich, Conn., sssignor to himself and Frank Douglas, same place.—*Device for Turning Nuts.*—April 21, 1868.—The nut is screwed on the arbor and comes in contact with the ring, which has projections on both sides so as to adjnst itself to the untrue side of the nut.

Claim.—1. The adjustable ring A, with its projections B B B B, when nsed for the purpose specified.

2. The combination of arbor C with ring A, substantially as herein specified.

76,984.—Charles S. Bonney, Penn Yan, N. Y.—*Thill Coupling.*—April 21, 1868.—The pin is bushed with leather or rnbber, and is held between the fixed and sliding jonrnal boxes. The latter is adjusted by a temper screw, which is prevented from turning when in working position by the contact of the thill iron with the screw head.

Claim.—1. The construction and arrangement of the parts A D and screw E, when made and used as and for the purpose set forth.

2. The part B, with the channel H, to prevent the screw E from turning, when made and applied to the part A, snbstantially as herein specified.

76,985.—Adam S. Brown, Lebanon, Pa.—*Tube Well.*—April 21, 1868.—The tube has annular projections which snpport the outer casing (of wire rope) upon the inner side of the said casing, and bands encircle the casing to support its onter side. The projections have water holes leading from the annular spaces between the pipe and casing to the inside of the pipe.

Claim.—1. The outer wall or casing C of a tnbe well, constructed of twisted wire cables *g*, arranged, secured, and braced substantially as described.

2. One or more annular perforated and flaring enlargements upon the inner tnbe A, substantially as described.

3. The rings or shields *h*, in combination with a tube A, which is constrncted with annular perforated enlargements, and with an onter perforated or openwork casing C, substantially as described.

76,986.—Charles E. Brown, East Randolph, Mass.—*Sewing Machine.*—April 21, 1868.—The gnide bar is raised with the needle bar by a cross pin which passes through a slot in the said needle bar. The guide bar is depressed by a spring. An adjustable collar is arranged to compensate for wear in the guide bar.

Claim.—The guide bar F, provided with a slot *g*, and pin *h*, in combination with the collar K, bolt *d*, and the spring R, when constructed and used snbstantially as and for the purpose herein set forth.

76,987.—Smith M. Brown and Harvey J. Brown, Holly, Mich.—*Ticket Holder.*—April 21, 1868.—The ticket is held between the overturned sides of the plates which are bent around the loops for attachment to the hat band.

Claim.—The ticket holder, constructed as described, consisting of the plate A, having its sides *a a*, and lower end *b*, bent in toward and parallel with the face of the plate, whereby a channel is formed between said sides and plate for the passage of the ticket, which is clamped therein by the lip *c*, said holder adapted to be secured to the ends of a hat band by means of the rings C C, held in the plate A by the bent slides *a*, all arranged as herein described, for the purpose specified.

76,988.—Otto Brück, New York, N. Y.—*Pocket Book and Fan Combined.*—April 21, 1868.—The fan is of that kind folded by drawing into a cylindrical case and is associated with a pocket book.

Claim.—A fan and pocket book combined, as a new article of mannfactnre.

76,989.—Andrew Buchanan, Brooklyn, N. Y. *Quartz Crusher.*—April 21, 1868.—Two or more jaws have diverging crushing faces and are connected by links in such manner that the links sustain the whole strain produced by the operation of crushing; an oscillatory motion is communicated from one jaw to the others. The motion of one jaw is produced by a crank which imparts a rising and falling as well as an oscillating motion to the same. The other jaws are supported by rockers which are adjustable to or from the center of motion. The weight of the jaws is counterbalanced by springs.

Claim.—1. The connecting straps F, in combination with the crushing jaws E G, substantially as and for the purpose described.

2. The rockers H, in combination with the jaws E G, constrncted and operating substantially as and for the purpose described.

3. The balance springs J, in combination with the jaws G, constructed and operating substantially as and for the purpose set forth.

76,990.—David M. Buckley, Athens, Ohio.—*Clothes Drier.*—April 21, 1868.—The cords wind upon the roller and when suspended support rounds for hanging clothes; lateral rounds are supported by side cords and are held out laterally by braces.

Claim.—A clothes drier, constructed with a shaft B, cords D and E, and parallel bars F F′, arranged snbstantially as described.

76,991.—W. G. Busey, Georgetown, D. C.—*Fertilizer.*—April 21, 1868.—Composed of solnble super-phosphate of lime, (made of bones treated with one-fourth their weight of snlphnric acid,) 1.300 lbs.; Peruvian guano, 600 lbs.; common salt, 100 lbs. Mix.

Claim.—The fertilizer, formed by the combination and manner of combination of several specific materials, substantially as herein set forth.

76,992.—Albert G. Buzby, Philadelphia, Pa.—*Steam Safety Valve.*—April 21, 1868.—The pair of valves are placed in the same casing but on separate seats. The loaded lever acts to depress one and lift the other, but the latter is held down by a bar and a pair of coiled springs.

Claim.—The two valves B and B′, the former being connected to but loaded independently of the valve B′, when said valves are contained within a casing, snbstantially as and for the purpose herein set forth.

76,993.—Edward A. Calahan, Brooklyn, N. Y., assignor to The Gold and Stock Telegraph Company, New York City.—*Printing Telegraph.*—April 21, 1868.—A single wire communicates a current through all the machines to set the printing wheel to the proper letter or figure and another wire acts to cause the impression to be made. Both actions are performed by electro-magnets.

Claim.—1. A magnet, for giving or controlling the impression, placed in a main electrical circuit, that is separated from the circuit that controls the type wheel or denoting device, so that the impression can be made independently of any other operation, when the type wheel or denoting device has been properly moved, substantially as set forth.

2. Two or more type wheels, separately controlled by magnetism, and arranged side by side, or with their axes on the same line, so as to be impressed jointly or separately, on one strip of paper, snbstantially as and for the purposes set forth.

3. The combination of the type wheels *k* and *l*, magnets *f* and *i*, with the magnet *c* and impression roller *u*, or its equivalent, substantially as and for the purposes set forth.

4. The reverse ratchet wheel *q* and pawl arm *r*, in combination with the ratchet wheel *p* and pawl 5, for moving and holding the type or character wheel, snbstantially as set forth.

76,994.—Sheldon and Spencer C. Cary, New York, N. Y.—*Bottle Stopper.*—April 21, 1868.—The large end of the cork has a flanged metallic cap.

Claim.—As a new article of manufacture, a bottle stopper, provided with a cap B, of metallic foil, and a flat plate C, which projects over the edges of the stopper, whereby said stopper is prevented from being forced too far into the neck of the bottle, as described.

76,995.—James Christy, Philadelphia, Pa.—*Nut Fastener.*—April 21, 1868; antedated April 14, 1868.—The bent wire is hinged at one end and secured by a screw at the other. It embraces an angular nut or screw head and prevents turning.

Claim.—The wire D, bent, secured, and applied

to a nut, or to a bolt or screw head, substantially as and for the purpose described.

76,996.—ELIJAH J. CLARK, Kalamazoo, Mich.—*Automatic Fly Brush and Fan.*—April 21, 1868.—The fan arms are upon a rock shaft actuated by an eccentric, connecting rod, and arm.

Claim.—The arrangement of the shaft *h*, cam *l*, and looped rod F, in combination with the shaft *j*, rods *f f*, and fans H H, all constructed and operated as and for the purposes set forth.

76,997.—NICHOLAS P. CLARKE, Central Falls, R. I., assignor to himself and CHARLES E. GRIFFIN, same place.—*Spool Stand.*—April 21, 1868.—The spools are placed on vertical spindles on a rotating stand and each thread is passed through an eye. The shear plate has a number of sharp-sided recesses into which the thread is passed and is severed by a pivoted knife.

Claim.—The spool stand, constructed as described, consisting of the revolving spool-carrying plate C, provided with upturned radial arms *a b*, having tubes *c*, the fixed right-angular plate F Fx, pivoted knife G, and operating spring arm H, all arranged and operating as described for the purpose specified

76,998.—GEORGE CLUMP, Hamden, assignor to himself and WILLIAM ENERLE, New Haven, Conn.—*Apparatus for Relieving Choked Animals.*—April 21, 1868.—The perforated bar is forced into the mouth and held by a strap passing over the poll. The tube is introduced through the hole in the bar and the air being exhausted from the bulb the cup is thrust over the turnip. The bulb is then allowed to expand and the turnip drawn out by atmospheric pressure.

Claim.—The herein-described apparatus, consisting of the tube A, provided at one end with the mouth B or bulb C, or with one at each end of the tube, so as to operate substantially in the manner and for the purpose herein described.

76,999.—A. F. COBB, Chapel Hill, Mo.—*Bee-Hive.*—April 21, 1868.—The metallic hive is of cylindrical form and is coated inside with a composition of beeswax and plaster of Paris. The top is bolted on.

Claim.—A bee-hive, constructed of metal, and having its inner surface coated with plaster of Paris and beeswax, substantially in the manner as and for the purpose set forth.

77,000.—CHARLES H. COLBY, Lynn, Mass.—*Tube Well.*—April 21, 1868.—The perforations are made to flare inwardly to prevent clogging, and are within removable plugs which can be extracted to give opportunity to cleanse the pipe.

Claim.—A tubular well, with strainers set in screw disks or plugs, the perforations flaring inwardly, all constructed and applied as herein set forth.

77,001.—HUGH W. COLLENDER, New York, N. Y.—*Billiard and Dining Table.*—April 21, 1868.—The table top is invertible, and the upper portion of the frame is vertically adjusted by inclined slides which are moved longitudinally by a screw, turned by a hand crank.

Claim.—1. The elevating mechanism, substantially such as herein described, in combination with a billiard-table bed which is convertible, so that it can be used for playing billiards, or for dining or other uses, as described.

2. The combination of the elevating mechanism, the movable or outer bed frame *d*, and the reversible bed *m*, substantially as and for the purpose described.

3. The combination of the elevating mechanism, the outer or bed frame *d*, the bed *m*, or the equivalent thereof, and the adjustable base pieces *c* of the legs, substantially as and for the purpose described.

4. The combination of the spirit levels with the angle-sight plates, substantially as and for the purpose described.

77,002.—S. W. CORBIN, Vallonia Springs, N. Y., assignor to himself and J. B. SANDS, same place.—*Method of Tightening Tires.*—April 21, 1868.—A block attached to one end of the tire projects through an opening in the felloe and has a threaded portion which enters a slotted plate attached to the other portion of the tire. The parts are drawn together as tightly as is necessary to hold the felloes firmly, and the position is secured by a nut.

Claim.—1. Tightening the tire, having one end secured in the felloes by means of the block C formed upon the opposite end of the tire having an inclined side J, the rebated slot E in the felloe, the T-shaped block F, block G, and plate D, all constructed, arranged, and operating as herein shown and described.

2. The slot E and blocks F and G, and plate or strap D, substantially as and for the purposes set forth.

77,003.—W. O. CRAWFORD, North Star, Pa.—*Ventilator.*—April 21, 1868.—The bellows are placed opposite to each other, and operated by clock work through toggle levers.

Claim.—The arrangement within the portable case A of the bellows C C, being opposite to each other within said case, and surrounded by the pipes D F, said bellows being operated from the central clock work by means of the pitmen *f f*, as herein described for the purpose specified.

77,004.—Q. C. CULLEY, Ashtabula, Ohio.—*Cheese Turning Cover.*—April 21, 1868.—The central disk has a marginal rim on each side. The inner faces of the rim are beveled and one rim raises the disk from the shelf while the other holds the cheese in place.

Claim.—The cover A, provided with a rim or flange B, projecting from each side, in the manner as and for the purpose specified.

77,005.—AMOS CUTTER, Chelsea, Mass.—*Shutter Fastening.*—April 21, 1868.—The pivoted spring jaws are connected by a staple to the lower bar of the blind and shut over notched pins on the window frame and the wall, in the closed and open positions respectively of the shutter. The jaws are released from the pin by pressing the tail pieces together.

Claim.—The arrangement, upon the side of the lower bar of a blind, of arms *a a'*, jaws *m m*, spring *d*, pivot *b*, staple *g*, and hole *f* for a blind-catch, in combination with the two horizontal spikes *c*, one driven into the wall of the house, and the other into the window sill, so that said catch shall operate to hold the blind, when either open or closed, by one set of jaws, in the manner herein set forth.

77,006.—S. A. DARRACH, Newburg, N. Y.—*Tender for Heating and Delivering Metal Bars.*—April 21, 1868.—The bars are contained in a shaking box, and fed consecutively by a sliding pusher which advances and pushes a bar into one of the peripheral holes in the revolving cylindrical furnace. The end of the bar is thus thrust among the coals and heated. Being carried round with the furnace the bars reach in turn the point of discharge, where automatic tongs withdraw them and drop them on a chute which delivers them at the desired spot.

Claim.—1. The arrangement of a revolving furnace A, provided with holes *h*, in its sides, and covered with a bonnet D, in combination with the mechanism described for introducing and removing the bars, substantially as and for the purpose described.

2. The devices herein described for giving to the feed box I, containing the blanks, a transverse shaking motion, substantially as and for the purpose set forth.

3. The latches *s t* and pins *s' t'*, in combination with the jaws *o*, wedge *r'*, slides *p r*, and revolving fire pot C, all constructed and operating in the manner and for the purpose herein shown and described.

77,007.—GEORGE DEAS, New York, N. Y.—*Ventilator for Hats.*—April 21, 1868.—The outer band being fitted into the hat and the inner one adjusted to the size of the head, the intervening space affords room for circulation of air to ventilate the interior.

Claim.—A ventilator for hats, formed of the elastic adjustable bands B and E, connected together by springs, with an open space between them, each being adjustable, the outer one to the size and shape of the hat, and the inner one to the size and shape of the head, substantially as herein shown and described.

77,008.—David Wm. De Forest, Brooklyn, N. Y.—*Mucilage Bottle.*—April 21, 1868.—The flaring mouth admits the brush without daubing the edge and the bulge below the neck affords a shoulder on its upper internal edge, against which to draw the brush to remove superfluous mucilage.

Claim.—The shape of the mouth and neck of the bottle, in combination with the bulge forming the shoulder, substantially in the manner and for the purposes as herein described.

77,009.—C. Deis, Canal Dover, Ohio.—*Seeding Machine.*—April 21, 1868.—The seed cavities are in the bottom of the box and are closed by the slides alternately at the upper and under sides. The clods are crushed by rollers in advance of the openers.

Claim.—1. The combination and arrangement of the rollers B, foot A′, and share B′, in the manner as and for the purpose specified.

2. The slides H H′, in combination with the box C, when operated in the manner and for the purpose substantially as set forth.

77,010.—David C. Delinger, Russellville, Ohio.—*Tobacco Hand Tying Machine.*—April 21, 1868.—The bunch of tobacco is thrust into the expanded end of the cylinder and is held by the fork while the cylinder is revolving, a tying leaf being held by the block. Pressure on the treadle rotates the cylinder twice and winds the tobacco in the wrapper which is tied by a subsequent action of the machine.

Claim.—1. The cylinder A, having the slot *s*, and the expanded end, in combination with the bed E and the guard T, substantially as and for the purpose specified.

2. The fork B, when used in connection with a rotating cylinder A, substantially as and for the purposes set forth.

3. The block G, when used in combination with a revolving cylinder and when provided with a lever and spring, or their equivalents, by which it can be raised or lowered, substantially as and for the purposes set forth.

4. The combination of the cylinder A, gear wheels *a* I, cord *u*, weight U, and treadle M, substantially as and for the purposes specified.

5. The hook Q, in combination with the cylinder A, substantially as and for the purposes specified.

77,011.—Alexander Joseph Deru, Heusy, Belgium, assignor to Simon Delize, Providence, R. I.—*Machine for Preparing Wool, Cotton, &c.*—April 21, 1868.—The material is placed in the feed box and carried forward by the endless apron on one side thereof to the toothed cylinder at the bottom of the box. It is taken from the cylinder by the toothed beaters, and deposited upon the endless apron by which it is carried to a second beating cylinder which throws it upon an apron by which it is carried to the pressure rolls. The sheet is then coiled upon a cylinder, the layers being separated by a cloth, and is retained thereon until fed to the carding machine.

Claim.—1. The combination of the case or hopper A with endless apron C and adjustable partition *x*, as and for the purpose set forth.

2. The combination of the two cylinders D and B, with the case and endless apron C, arranged substantially as herein described, and for the purpose set forth.

3. The combination of the two brush cylinders 1 and 2, the two reservoirs O and *c*, and plate Q, substantially as described, and for the purpose set forth.

4. The combination of the oiling apparatus, constructed as described, with the cylinders D and B, substantially as specified.

5. In combination, the wool delivering or feeding mechanism, the oiling mechanism, the pressing and the bat or lap forming mechanism, substantially as described, and for the purpose set forth.

77,012.—Patrick S. Devlan, Hudson City, N. J.—*Material for Journal Boxes.*—April 21, 1868.—The box has recesses to contain blocks of the anti-friction material, which is made of fiber pulp impregnated with plumbago, steatite, &c., and fixed by silicate of soda or other strong size.

Claim.—1. Forming the anti-friction material for lining journal boxes of the ingredients, in the manner and by the means herein described, and cutting the same by dies or with punches into the required shape, as set forth.

2. The lining for journal boxes, composed of fibrous material impregnated with pulverized plumbago, soapstone, or other earthy matter fixed with a strong size, and rolled and cut by dies or punching into the required shape, substantially as herein shown and described.

77,013.—Frank Douglas, Norwich, Conn.—*Wood Planing Machine.*—April 21, 1868.—The upper feed rolls receive motion through movable wheels, which are so connected by links as to allow the said rollers to adjust themselves to the various thicknesses of stuff.

Claim.—1 Supporting the feed rollers C C′, upon a librating beam D, which itself is supported by a sliding standard, that permits it to be adjusted higher or lower, when constructed to operate substantially as and for the purpose described.

2. The combination, with the sliding standard E, of the screw shaft H, having the collar, or its equivalent J, and operating in connection with the ring K, lever L, or its equivalent, and bevel gear *h*, all constructed to operate substantially as and for the purpose specified.

3. The pivoted arm o^4, when applied to the spur gearing $n\,n^1$, $m\,m'$ and operating in connection with said gearing, and with the arms $o\,o^1\,o^2\,o^3$, constructed to operate substantially as and for the purpose described.

4. The removable bearing *r*, when used in connection with the arms $o\,o^1$, in an adjustable gear, substantially as and for the purpose specified.

77,014.—Alfonzo J. Eddy, New Britain, Conn.—*Meat Cutter*—April 21, 1868.—The two sections of the shell have smooth surfaces and are hinged together. The cutters are interchangeable and are placed in spiral relation upon the shaft and with intervening washers which regulate their distance apart.

Claim.—The shape and spiral arrangement of the shear cutters *q*, arranged interchangeably upon the shafts *k*, in combination with the feeders *n n*, arranged within a smooth inner surface case, with the gears o'', substantially as and for the purpose described.

77,015.—Rollin S. Eddy, La Crosse, Wis., assignor to himself, W. H. Smith, Seth Dean, and Henry Merrill.—*Horse Power.*—April 21, 1868.—The tumbler shaft has a cross journal pin carrying two bevel wheels turning loosely on the pin and engaging two bevel wheels turning freely upon the shaft, but receiving rotation in the same direction by the motive gear.

Claim.—1. In a horse-power, the bevel wheels *h h′* and *n n′*, or their equivalents, when constructed and arranged as described, for the purpose of distributing and equalizing the strain throughout the gearing.

2. The pin *m*, and collars *i*, or their equivalents, when constructed and arranged substantially as herein described, and for the purpose set forth.

3. The wheels *h h′* and *n n′*, arranged as herein described, on a shaft H, and held in place by a collar on the shaft, in combination with the shaft or with a master wheel, N, in a horse-power, substantially as described, and for the purpose set forth.

4. The use of a device for equalizing the strain in horse-powers, consisting of two bevel wheels *h h′*, or their equivalents, arranged to run loose on a shaft H, and in the same direction, and to mesh into two other corresponding bevel wheels *n n′*, or their equivalent, running loose on a pin M, at right angles with the shaft H, and attached to it, as shown in Figs. 2, 3, and 6, or to bearings on a wheel N, turning about a shaft, L, as shown in Figs. 4 and 5, the whole being held in place by collars on said shafts, or their equivalents, and constructed and arranged to operate substantially as described.

77,016.—John Elbertson, Kirksville, Mo.—*Cartridge Box.*—April 21, 1868.—The disk has pockets parallel to the axis which are reached by a

door on the side. On the edge of the disk are rows of spring nipples to hold caps, and these are reached by opening a shutter on the periphery of the case.

Claim.—1. The self-adjusting disk E, for holding the cartridges or caps, when used in combination with an enclosing case, substantially as and for the purpose specified.

2. The split nipples *n n*, having their sides springing slightly apart, for the purpose of holding the caps, in the manner described.

77,017.—Walter Elmenhorst and Franz O. Matthiessen, Jersey City, N. J.—*Centrifugal Machine for Draining Sugar.*—April 21, 1868.—The rotating cylinder is stepped below, and its shaft has a bearing in the frame. The upper stay is hinged to a post and is brought over the upper end of the shaft to steady the same during revolution.

Claim.—In a centrifugal machine of the character described, and having no upper fixed bearing, the combination, with the purging cylinder A and rubber or elastic bearing to the shaft B, of a removable or adjustable bearing brace or tie to said shaft, so hung or arranged as that it may readily be thrown in or out of steadying support to the cylinder while the machine is in motion, essentially as and for the purpose or purposes herein set forth.

77,018.—John Evans, Philadelphia, Pa., assignor to himself and Thomas H. Smith, same place.—*Dove-Tail Marker.*—April 21, 1868.—The instrument is adapted for marking the dove-tail tenons or mortises on the respective boards. The two plates of the frame are set at right angles to each other, and each has a scribing edge adapted to mark its side of the dovetail; one plate is adjustable to regulate the widths and distances, the adjustable gauge plate affording a guide in setting the marker for the next scribe.

Claim.—1. The within-described instrument, consisting of the frame A, with its marking edges *x* and *x'*, and the slide B, with its marking edges *y* and *y'*, the whole being constructed, arranged, and operating substantially as and for the purpose herein set forth.

2. The combination of the above with the adjustable plate *d*.

77,019.—John A. Evarts, West Meriden, Conn., assignor to Bradley & Hubbard, same place.—*Extension Fixture for Chandeliers.*—April 21, 1868.—The socket is permanently attached at the proper distance from the ceiling and the rod or tube slips through it. The lever clamp permits free motion upward, but resists accidental, downward motion by applying a pressure more than sufficient to counterbalance the weight of the chandelier.

Claim.—1. The socket B, combined with the lever E and shoe C, and constructed so as to operate substantially in the manner herein set forth.

2. In combination with the above, the adjusting block F, to adjust the friction, substantially as and for the purpose set forth.

77,020.—John Fandel, Boston, Mass.—*Milk Can Cover.*—April 21, 1868.—The spring holds the cover in open or closed position and the packing inside the lid shuts down upon the lip of the can.

Claim.—The combination, with a milk or other can, of the hinged cover B, the spring S, and packing *b*, substantially as and for the purpose specified.

77,021.—Samuel M. Farnham, Tully, N. Y.—*Oil or Polish for Leather.*—April 21, 1868.—Composed of alcohol, 1 gall.; Venice turpentine, 1 lb.; shellac, 1 lb.; glycerine, 1 lb; myrtle wax, ¼ lb.; and lamp-black to color.

Claim.—A composition compounded from glycerine, resinous and other substances, substantially as and for the purpose set forth.

77,022.—Charles E. Finkle, New York, N. Y., assignor to himself and R. O. Glover, same place.—*Metallic Base and Molding for Heating Purposes.*—April 21, 1868.—The metallic plate is attached to the floor and to the wall in the place of a base board and is perforated above. It covers the steam or hot air pipes which warm the apartment, or by a duplication of the plate may be made the medium of conveying the heated fluid.

Claim.—A metallic base or metallic molding for dwellings or public buildings, when constructed and used substantially as herein shown and described for the purposes specified.

77,023.—H. H. Forbes and H. C. Sears, New Bedford, Mass.—*Carriage Seat.*—April 21, 1868.—The carriage seat is supported by a pair of X frames, the lower, forward ends of which are pivoted so that the seat may be rocked forward when required. By taking out the pin at the intersection of the cross frames the legs may spread and the seat be lowered.

Claim.—In combination with the seat of a carriage, the pivoted, crossed, and clamped legs, arranged to operate substantially as and for the purpose described.

77,024.—E. L. Foreman, Rantoul, Ill.—*Ditching Machine.*—April 21, 1868.—The boards are set at an angle to each other, the rear of one being adjustable as to divergence. The platform is for the driver to stand upon, and the lever assists in regulating the machine as it is drawn along in the ditch.

Claim.—The platform C, in combination with the lever F and sides A and B, when arranged and used as and for the purpose specified.

77,025.—Lawrence B. Fox, Williamsport, Pa.—*Method of Finishing Leather.*—April 21, 1868; antedated April 7, 1868.—The leather is placed on the table, which has horizontal and rotary movement, and the plane stock has reciprocation upon it. A rotary knife is associated with the plane stock.

Claim.—1. The plane stock for finishing leather, with its two slecks and circular knife, as described and shown.

2. In combination with the plane stock, as described, the adjustable table, constructed and operated as shown, and for the purposes set forth.

3. The combination and arrangement of the several parts composing my finisher, when used for the purposes already stated.

77,026.—James D. Frary, New Britain, Conn.—*Manufacture of Table Forks.*—April 21, 1868.—The fork is punched out of an annealed sheet of steel. The fork is then hardened and finished.

Claim.—The fork A, punched or cut entire from sheet steel, substantially as described, as an article of manufacture.

77,027.—Benjamin G. Fuller, Baltimore, Md.—*Hydrant.*—April 21, 1868.—The air chamber surrounds the valve tube and communicates with it through the perforated walls of a chamber beneath the valve. The piston head may be raised off the valve stem and the valve tube unscrewed from the top air chamber by a socket wrench. The whole valve mechanism may then be withdrawn.

Claim.—The combination with the air chamber and the piston cylinder of the hydrant, of the valve and herein-described valve mechanism, operated by, but not attached to, the piston head, and held within a tube or case constructed and connected with the said air and piston cylinders or chambers, in the manner and for the purposes shown and specified.

77,028.—Henry Ganney, Louisville, Ky.—*Watch Key.*—April 21, 1868.—The spindle turns in the head and has a cross pin, which impinges against the spring. The spring gives way to a slight pressure when turning backward, and also gives way when a sufficient forward pressure is applied to endanger the works by overwinding.

Claim.—The combination of the head piece D with its spring E, spindle A, having one or more studs C, substantially as and for the purpose described.

77,029.—D. A. Gilbert, Morrisville, Vt.—*Shoe Lacer.*—April 21, 1868.—The recurved end of the hooks prevents the accidental disengagement of the cord.

Claim.—The lacer A, as an article of manufacture, when made with the end of its hook turned under, in the form shown and described, and used as and for the purpose herein specified.

77,030.—D. A. GILBERT, Morristown, Vt.—*Butter Tub.*—April 21, 1868.—Ears are attached to the side of the bucket and the lid has a notched edge, which enables it to pass the ears. The lid is then partially rotated and is clamped tight by wedges between the upper flange of the ears and the top of the lid.

Claim.—The bars B B, constructed as described, and used in combination with the cover C, packing *a*, and wedges *e e*, as and for the purpose set forth.

77,031.—N. A. GRAY, Cleveland, Ohio.—*Steam Plow.*—April 21, 1868.—Improvement on his patent October 27, 1863. The excavators are supported on a carriage which has separate wheels from the locomotive, and is jointed thereto so as to allow its accommodation to the surface of the ground. The spades are adjustable in inclination and are operated by a compound crank shaft, turned by chain gearing, the motion tending to move the machine forward.

Claim.—1. So hanging or jointing the digging apparatus to the locomotive that the said apparatus will have an independent adjustment, whereby it is rendered adjustable according to the unevenness of the ground, in the manner and by the means substantially as set forth.

2. The stay I, rod H, and arm J, arranged in relation to the digging apparatus, as and for the purpose set forth.

3. The arm J, cross head K, spades or picks L M, and keys R, arranged in the manner and for the purpose substantially as specified.

4. The construction and arrangement of the spades and picks, when combined with the compound crank and operated in the manner and for the purpose substantially as set forth.

77,032.—C. B. GREGORY, Beverly, N. J.—*Coal Stove.*—April 21, 1868.—The caloric current passes laterally and sweeps around the chamber, which receives air from the external pipe and delivers it in a heated condition at the openings in the stove top. This heated current warms the air in the internal drum. A damper in the vertical, external pipe, determines the amount of air having access to the annular heating chamber.

Claim.—1. The combination of the outer casing A, inner casing C, drum D, and the within-described openings for admitting cold air to and discharging it from the space between the casings C and D and to and from the space within the drum, all as set forth.

2. The vertical pipe B, having a damper *g*, situated between the opening *e* (for admitting cold air to the space between the casings C and D) and the branch *f*, through which the products of combustion pass to the said vertical pipe, as specified.

77,033.—HENRY C. GRIGGS, Waterbury, Conn., assignor to HOLMES, GRIGGS, and SMITH, same place.—*Buckle.*—April 21, 1868.—The bar of the buckle has openings through which pass the ends of the tongue plate and loop, which are hinged to portions of the bar.

Claim.—A buckle frame, constructed with the bar B, when the said bar B is perforated, as at *a a* and E, so as to form hinging points *f f* and *d*, and the connections *n n*, so as to receive and support the tongue F and loop I, in the manner substantially as herein set forth.

77,034.—JOHN P. GRUGER and CHARLES MAKINSON, Lancaster, Pa.—*Cord Holder.*—April 21, 1868.—The tail piece of one jaw forms a hook, and the cord passes over the other jaw. Strain on the cord draws the jaws closer together and binds the cord tightly.

Claim.—The hook A, with its jaw *a*, in combination with the lever B, with its rounded and eared head *b*, both parts A and B connected by a pivot joint with each other, in the manner shown and for the purpose set forth.

77,035.—V. A. HACKER, Knoxville, Tenn.—*Scrubber.*—April 21, 1868.—The brush is pivoted in the bifurcated end of the handle, and has holes in the back to allow access of water from the sponge above when the latter is pressed by the lever.

Claim.—1. The combination of the brush B, block C, and sponge D with each other, and with the arms a^2 of the handle A, substantially as herein shown and described, and for the purpose set forth.

2. The perforated concave plate E and pivoted lever F, in combination with the slotted handle A, substantially as herein shown and described, and for the purpose set forth.

77,036.—JOSEPH HALE, Somerville, Mass.—*Machine for Bending Wood.*—April 21, 1868.—For winding helices with their coils in contact with each other, in the manufacture of bent wooden washers. The wooden strip is associated with a metallic band, and coiled upon the mandrel while the feeding cross-head retreats as it is pressed back by the coils. The tube and coils are then removed to an oven to dry, and the operation repeated, the cross-head being moved back by a screw.

Claim.—1. In combination with the tube *d* and with the mandrel *c*, when the arrangement is such that the action of the incline of said tube and the rotation of the mandrel cause a relative movement between the said parts, the entering trough, made adjustable to the diameter of the tube, and to the width of the strip being wound.

2. The adjustable friction device, combined with the cross-head carrying the inclined-faced tube.

77,037.—HARVEY D. HARADEN, Hartford, Vt.—*Clothes Pin.*—April 21, 1868.—The hole and slit at one end of the clothes pin form the jaws. The other end has a wedge removed, and a spring assists in keeping the jaws closed. The thin connecting piece forms the hinge.

Claim.—Improved clothes pin, consisting not only of the piece of wood A, having the slit *a*, the angular opening *c*, and the hole *b*, formed and arranged in it as described, but of the spring *d* arranged in said slit, the whole being substantially as described.

77,038.—ANDREW HARTUPEE, Pittsburg, Pa.—*Grate Bar.*—April 21, 1868.—The grate bar is of a T-shape, and has circular apertures near its ends. The cross bearers are notched to receive the depending webs of the grate bars.

Claim.—1. The notched cross bearers *b* of a furnace, in combination with the rib *d'* of a T-shaped grate bar, of either cast or wrought iron, constructed and used substantially as and for the purpose above set forth.

2. A T-shaped grate bar, having a series of circular apertures near to each end, substantially as hereinbefore described.

3. A T-iron grate bar, constructed with or without apertures through it, substantially as above described, as a new article of manufacture.

77,039.—J. HENRY HERMAN, Boston, Mass.—*Railroad Rail.*—April 21, 1868.—As a means of restoring the wheel to the track, an occasional inclined plane is afforded on the side of the rail. A groove is cut through the track flange to allow passage to the flange of the wheel.

Claim.—A railroad rail, having an inclined projection on one or both sides, provided with a groove, for the purpose of guiding the car wheel up into its proper position upon the track, substantially as set forth.

77,040.—CHARLES C. HOLCOMB, Madison, Wis.—*Gate and Door Latch.*—April 21, 1868.—A coiled spring around the pivot forces the two latches apart, each engaging with its own catch upon the post.

Claim.—Constructing the pivoted ends of each latch with a shell or cup, which, when put together, inclose a coil spring operating upon the latches all together, being suspended by a screw or other device, passing through the center of the cup and spring and into the gate or door, operating and constructed substantially as described.

77,041.—GEORGE G. HOOD and JOHN D. KELLY, Providence, R. I.—*Washing Machine.*—April 21, 1868.—The corrugated roller is journaled on the sides of the tub and rests on a concave bed of corrugated rollers which are journaled in a spring frame. The frame has a downwardly-projecting pin at each cor-

ner which sets in a spiral spring, whose lower end is planted on the floor of the tub.

Claim.—The curved frame C, carrying the corrugated rollers G, when provided with the guide pins, fitting into the spiral springs D, in the four corners of the box, in combination with the tub A, tapering block I, plate H, drum E, and shaft F, as herein shown and described.

77,042.—Léon V. Hue and Charles Rozière, Paris, France.—*Molding Designs.*—April 21, 1868.—The design is impressed upon the glass while nearly fused, and it is then covered by another piece of glass also in a nearly fused state.

Claim.—The method of forming or impressing internal ornamentations or designs in glassware or crystal, in the manner herein shown and specified.

77,043.—H. C. Hunt, Amboy, Ill.—*Head Rest.*—April 21, 1868; antedated April 10, 1868.—The standard is attached to the back by the adjustable hooks. Its upper end has a pivoted pad, and its lower end rests against the back.

Claim.—The passenger or invalid head rest, herein shown and described, composed of the pad A, perforated standard B, inclined fork C, and hooks *d* and *e*, when constructed and arranged in the manner shown and described.

77,044.—Edwin F. Hutchinson, Auburn, Me.—*Land Roller.*—April 21, 1868.—The heads have projecting hubs and journals, and the salient rims give space for the bolts and nuts which attach the staves forming the surface of the roller.

Claim.—The metallic heads B B, consisting of solid metallic plates, with exterior flanges and journals, as specified, and used in combination with staves C, connected by the bolts *x*, in the manner as set forth.

77,045.—Allen Ingalls, Hartwick Township, N. Y.—*Sleigh Brake.*—April 21, 1868.—The dog brake is connected by a lever and connecting rods to the lever, which is operated by foot or hand.

Claim.—The brake irons B, combined with levers D and E, rods F and G, and sleigh A, arranged as described and set forth, for the purpose specified.

77,046.—Eli H. Janney, Alexandria, Va.—*Car Coupling.*—April 21, 1868.—The link engages over the upper ends of the oscillating catches, and is prevented from being thrown off by the gravitating latches. In coupling, the free end of the link is thrown up against the draw head, and the concussion of the cars in meeting brings it down upon the catch of the other car.

Claim.—1. The combination of the oscillating catch E, mounted upon a pivot E′, in the mouth of a draw head B, the movable bar F, lever I, and latch D, when constructed and arranged substantially as and for the purpose set forth.

2. The support or rest H, when used as and for the purpose set forth.

77,047.—David F. Jauss, Harrisburg, Pa.—*Chimney Cowl.*—April 21, 1868.—The inner tube is surrounded by two outer tubes of about double the height. The air passes down between the outer two tubes, and upward between the inner two, mingling at top of the inner one with the gases ascending from the chimney.

Claim.—1. The combination and arrangement of the case S with the two inner cases herein shown, so as to effect the communication of exterior air with the products of combustion, in the manner as herein set forth.

2. The case S and the tubes *n* and R, constructed and arranged substantially as herein shown and described.

3. The construction of the deflectors B, *m*, and L, in relation to each other and the hats H and W, as herein shown.

77,048.—Elijah O. Jones, Brandon, Mich.—*Land Roller.*—April 21, 1868.—The rear roller is journaled in a frame which is hinged to the main frame, and may be raised from the ground by a lever, to bring its weight upon the other rollers. The rear roller tracks in the space left between the other two.

Claim.—1. Constructing a sectional roller in such manner that the weight of the rear section or sections may be transferred, when desired, to the front and outward sections, substantially as and for the purpose described.

2. The frame A, rollers B B C, frame C′, lever D, standard a^2, and seat E, the whole being combined and operated substantially as described.

77,049.—J. W. Kelley, Cleveland, Ohio.—*Mode of Attaching Whip Sockets.*—April 21, 1868.—One or both hooks have inturned tops, which serve to prevent the rise of the loops when the wedge-keys are driven in between the hook and the socket.

Claim.—The hooks C, loops D, key *b*, as arranged, in combination with the socket A, for the purpose and in the manner substantially as set forth.

77,050.—D. A. Kershner, Elliottstown, Ill.—*Corn Planter.*—April 21, 1868.—The furrow is opened and the corn automatically dropped and covered. The planter is followed by a roller frame, which is hinged to it and compacts the earth upon the seed. The faces of the rollers are scraped to remove adhering earth.

Claim.—1. The combination of the bed plate F, sliding dropping-plate H, hoppers G, leather conducting spouts J, projection *h′*, pivoted lever I, and arms e^1 e^2, with each other and with the axle E and frame A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the lever M, cross bars L and P, and leather straps K and Q, with each other and with the bed plate F and plow-beams R, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the frame W, concave rollers X, scraping device Y Z A′, and lever B′, with each other and with the frame A, substantially as herein shown and described, and for the purpose set forth.

77,051.—M. A. King, New York, N. Y.—*Muff.*—April 21, 1868.—Improvement on his patent, December 10, 1867.—The sliding strip acts as a guide in opening and shutting the lid, and prevents straining of the hinges.

Claim.—The spring strip *a*, in combination with the other parts of the frame and muff, substantially as and for the purposes set forth.

77,052.—Daniel Kint, Hasleton, Iowa.—*Combined Seeder, Cultivator, and Harrow.*—April 21, 1868.—The rim of the rear wheel has transverse, zigzag curves, which act upon the anti-friction rollers upon a sliding frame, and through medium of a lever cause the reciprocation of the agitator within the seed hopper. A harrow is suspended beneath the frame.

Claim.—1. The agitator E′, lever F′, link H′, and friction rollers I′, constructed and arranged to operate in the manner and for the purpose specified.

2. The cultivator D and harrow K, as constructed and arranged in relation to each other, and operated by the wheel C, arms H *a*, and lever J, in the manner and for the purpose substantially as set forth.

3. The combination of the seeder A′, cultivator D, and vibratory harrow K, when constructed and arranged to operate conjointly in the manner and for the purpose set forth.

77,053.—George W. La Baw and Ira W. Fleming, Jersey City, N. J., and Aaron T. Hutchinson, Harlem, N. Y.—*Miter Gauge.*—April 21, 1868.—The pair of arms is hinged to a stock, on which is a sliding clamp that carries the saw guide, and is connected by links with the said arms, so as to allow them to be placed within, and conform to any angle, and insure at the same time the proper position of the stock midway between the said arms.

Claim.—The arms *d*, jointed to the stock *a*, and connected by the links *g* to the clamp *e*, that slides upon the stock *a*, in combination with the saw guides *k*, at the joint *i*, and the saw guide *h*, on the clamp *e*, substantially as and for the purposes set forth.

77,054.—Hugh W. and Robert Lafferty, Gloucester, N. J.—*Centrifugal Hydro-Ejector.*—April 21, 1868.—The shaft is suspended by its upper end, a steel collar upon the shaft having a bearing in a brass sleeve, at whose upper end is an oil cup. The bearings are supported on a side hanger or bracket, and covered by the conical driving pulley. The machine is brought to a stop by a treadle brake beneath the shaft.

Claim.—1. The combination of oil cup C, sleeve S L, hollow shaft H S, and India-rubber piece I D, with the shaft S of a centrifugal ejector, the whole constructed and operated in the manner and for the purpose above set forth and described.

2. The combination of inverted conical lug with hollow cone C′ *o*′, and nut H N with shaft S, in the manner and for the purpose above set forth and described.

3. The combination of bearing boxes B and B′ and their braces B *d*, ribs R B, and bolts *b b* and *b*′ *b*′ with India-rubber I D, hollow shaft H S, oil cup C′, sleeve S L, and shaft S, the whole constructed and operated in the manner and for the purpose above set forth and described.

4. The combination of waste-oil cup C′ with the shaft of a centrifugal ejector, in the manner and for the purpose above set forth and described.

77,055.—George Lane, Hamilton, Ohio.—*Boot Heel.*—April 21, 1868.—The flanged metallic plate has upper and under recesses for receiving the boot heel and a metallic plate.

Claim.—The metallic plate A, having flanges B D, in combination with the heel E, and the central screw for attaching said heel to the plate, as herein shown and described.

77,056.—Dennis G. Littlefield, Albany, N. Y.—*Coal Stove.*—April 21, 1868.—The magazine is removable, and is suspended by its top, so that its expansion and contraction shall not influence the shell. The feed opening of the magazine is closed by a damper, whose handle is detachable therefrom when the hopper is removed preparatory to removal of the reservoir.

Claim.—1. The complete separation of the covered magazine from the sides of the surrounding case, and the devices described whereby it is suspended and securely held in its proper position for use, while it may at pleasure be taken out of the case and again restored to its place, without injury or disturbance to the case.

2. The adjustment, in the manner described, of the handle of the cover of the magazine.

3. The reciprocal adaptation of the magazine cover, the flue-plate, and the hopper to each other, and of the hopper to the cover of the burner, in the manner and for the purposes specified.

77,057.—H. C. Locke, Somerville, Tenn.—*Corn Planter.*—April 21, 1868.—The plows are reversible from side to side, to cast the earth to or from the corn row. The seed slide is operated by a wiper on the wheel, and a return spring.

Claim.—1. The reversible plows C C, mounted on the standards *a*, constructed and arranged substantially as described, in combination with the drill tooth E and the seed hopper F, as and for the purpose set forth.

2. The seed hopper F, provided with the gate *b*, operated by the spring *c* and cam *e*, or the wheel G, as and for the purpose described.

3. The combination of the reversible plows C C, drill tooth E, and seed hopper F, with its automatic discharging mechanism, and the dragging coverer H, arranged and operating as described.

4. The standard *a*, constructed with two upright bars and a horizontal connection bar at the bottom, substantially as shown and for the purpose described.

77,058.—George G. Lyman, Independence, Iowa, assignor to himself and George P. Ladd, Milwaukee, Wis.—*Harvester.*—April 21, 1868.—Upon each side of the broad ground wheel is a circular series of anti-friction rollers, which act as cams on the ends of levers by which the cutter bar is actuated.

Claim.—1. The combination of the driving wheel A, friction rollers *a*, in the rim *b* of said wheel, vibrating levers *c*, sickle bar *e*, and link *g*, as herein described, for the purpose specified.

2. The vibrating levers *c c*, in combination with the sickle bars *e e*, and the link *g*, arranged and operating substantially as and for the purpose specified.

77,059.—James W. Lyon, Brooklyn, N. Y.—*Lamp Shade Supporter.*—April 21, 1868.—The shade is intended for application to a lamp whether with or without a chimney, and its collar is clamped by a set screw to the burner.

Claim.—1. Grooving the clamping ring center of the shade holder on the inside, correspondingly with the bead on the lower corner of the chimney gallery of a kerosene lamp burner, substantially as described, whereby the clamping ring center is held securely in place, and enabled to gripe the strongest part of the gallery, substantially as set forth.

2. Adapting the clamping ring center of the shade holder to burners which have chimney screws, by removing a portion of the metal of the clamping ring center, which would otherwise interfere with the screw, substantially as described.

3. Adapting the clamping ring center shade holder to burners which have chimney springs, by the relative arrangement of the radial arms with the clamping ring center, and its ears, and a clamping screw of sufficient length, so that the spring can play freely between the ears when thrown down to release the chimney, substantially as set forth.

4. In combination with radial supporting arms, a clamping ring center, constructed substantially as herein described, so that it may be applied either to a burner having a chimney thumb-screw, or to burners having chimney springs, at pleasure, and without change.

5. In combination with a clamping ring center, extensible supporting arms, whether sliding or hinged, substantially as described.

77,060.—Truman Mabbett, Sr., Vineland, N. J.—*Fruit Crate.*—April 21, 1868.—On both sides of the upright corner pieces are attached slats, which form an open-sided double crate, the wire bottom of which has a certain elasticity to preserve the fruit from bruising. The perforated bottom and the foot pieces assist the access of air.

Claim.—1. A double crate, composed of the slats *a a a* and *b b b*, corner uprights *d e*, perforated bottom A, all substantially as shown and described and for the purpose set forth.

2. The spring bottom, substantially as shown and described, in combination with the double crate, all as and for the purpose set forth.

77,061.—Charles B. Maedel and Jacob Wolfe, Chicago, Ill.—*Skate Fastening.*—April 21, 1868.—The heel calk passes through that end of the L-shaped bar which is beneath the foot block, and the other end is traversed by a thumb screw passing horizontally into the heel.

Claim.—The bar A, L-shaped, provided with a loop at one end, and having a shoulder at its other, when connected to the skate by the heel calk E, and to the boot or shoe heel by the eyelet screw B, in the manner substantially as and for the purposes set forth.

77,062.—William Maginn, New York, N. Y.—*Pencil Case.*—April 21, 1868.—The tubular portion, or body of the case, is a cylinder of whalebone, to which the cap and pencil end are attached.

Claim.—An article of manufacture, consisting of a pencil case, having whalebone cylinders *a*, substantially as shown and described and for the purposes set forth.

77,063.—Horace B. Marshall, Waldoboro, Me., assignor to himself and William W. Lummus, Lynn, Mass.—*Boot and Shoe.*—April 21, 1868.—The edges of the instep opening have an interclosing series of loops of elastic material, through which passes a single lacing cord.

Claim.—1. Making or forming loops *a a*, of flexible material, alternately on each side of the openings for the string or lacing.

2. In combination with the loops above claimed, a flexible string or lacing to draw the loops together.

3. In combination with the loops or lacing, one or more eyelet holes *d d*, to facilitate the fastening of the lacing.

4. Making or forming the loops for the string or lacing alternately on the edges of the openings of the various kinds of boots and shoes by perforating or cutting out the binding or edge facing of said openings.

77,064.—JOHN A. MASHMEYER, Beardstown, Ill.—*Buckle.*—April 21, 1868.—This has two frames. The sewed strap is attached to a bar of the tongue frame, whose other end has the pin which enters the hole in the strap that passes through the main frame.

Claim.—A buckle, composed of the two parts A B, fitted together or arranged substantially as shown and described, and with the pin or tongue *f* applied to the part B, as set forth.

77,065.—FRANZ O. MATTHIESSEN, Jersey City, N. J.—*Vacuum Pan Apparatus.*—April 21, 1868.—The connection being open between the pan and the tank the same range of vacuum is maintained in both, and any part of the contents of the former can be run into the latter without impairing the action on that which remains in the pan. Communication being then closed the removed sirup can be treated as desired.

Claim.—The combination, with the vacuum pan, of an auxiliary air-tight tank or vessel, provided with suitable air and discharge cocks or valves, and having connections under the control of appropriate cocks or valves with an air pump, or its equivalent, and with the vacuum pan, both above and below, for operation in the manner described, and whereby a boiling, or any portion of a boiling, may be run off without destroying the vacuum in the pan, and a continuous boiling therein be kept up, substantially as specified.

77,066.—P. MCDUFF, Atchison, Kansas.—*Fence Post.*—April 21, 1868.—The triangular frame has an upright with cleats to hold the boards, a brace to sustain it, and a cross piece with stay wires.

Claim.—The triangular fence post, constructed as described, consisting of the upright A, having cleats B, the inclined brace D, short cross piece E, and wire *m*, as shown and described, for the purpose specified.

77,067.—HORACE G. MCDUFFE, Bradford, Vt.—*Planing Machine.*—April 21, 1868; antedated April 18, 1868.—The shingle blank is placed in one of the wedge-shaped pockets on the outer surface of the endless carrier, and passes beneath the rotary cutter, which removes the portion above the carrier.

Claim.—In a planing machine, as above described, a carrier, having its upper or outer surface formed into a series of beds or depressions O, P, R, in shape the same as the shingle or clapboard to be planed, when constructed and operating in combination with the planer X, substantially as and for the purpose set forth.

77,068.—AARON MCNEILL, Cincinnati, Ohio.—*Safety Attachment for Pocket Books.*—April 21, 1868.—The chain is secured by a loop to a button, and has a spring catch which engages in a socket fastened to the pocket book.

Claim.—The flat spring catch C, in combination with the socket A, B, *b*, and ligament D, E, all constructed as herein represented and described, to prevent the abstraction of the pocket book without the knowledge of the owner, but permit him to readily detach it within the pocket when desired.

77,069.—ITHAMAR B. MERRILL, Dexter, Me.—*Blacking for Leather, &c.*—April 21, 1868.—Composed of beefs' tallow, 82 lbs.; castor oil, 6 quarts; whale oil, 4 quarts; rosin, 3 lbs.; beeswax, 9 lbs; lampblack, 1 lb.; ivory black, 1 lb.; and pulverized pine coal, 2 lbs.

Claim.—A blacking and polishing compound, composed of the above named ingredients, in the manner and about the proportions substantially as described.

77,070.—JAMES MILLER, Allegheny City, Pa.—*Apparatus for Distilling Petroleum.*—April 21, 1868.—The crude petroleum has the benzine removed in the vacuum still, and the residuum is passed to the second still, where distillation is effected by the use of vacuum and a small degree of heat, by feeding the oil while yet heated through a coil of pipe arranged in the still, and discharging the oil through small perforations near the bottom, from whence it rises to the surface and passes off.

Claim.—1. The combination of two or more vacuum stills, one, A, for heating the oil and driving off its more volatile ingredients, and the other, B, for carrying on a continuous distillation, by feeding therein the heated oil from still A through a coiled or zigzag pipe *m'*, with apertures *n*, substantially as and for the purposes hereinbefore set forth.

2. The use, in the discharging end of the condensing pipe of oil distilling apparatus, of a glass section *g g'*, and cock *f* or *f'*, in connection with a vacuum still, for ascertaining the rapidity of the condensation and the quality of the product, substantially as above set forth.

3. A coiled or zigzag pipe *m'*, with perforations *n*, arranged in a vacuum still B, with a continuous feed, either separately or in combination with gauge cocks *n''*, constructed and used substantially as and for the purposes hereinbefore set forth.

4. Utilizing the uncondensed gases and vapors which are passed over in the process of distillation, by feeding them from the receiving tanks, through perforated pipes *l'*, into the furnace, substantially as hereinbefore set forth.

77,071.—SIMEON MILLS, Madison, Wis.—*Car Coupling.*—April 21, 1868.—A gravitating, hooked draw bar is pivoted in the draw head and engages the coupling link, which raises it as it enters. The engagement, when made with the larger hook, is permanent until the draw bar is removed. Each head carries a link, and the disused one lies on the floor of the draw head.

Claim.—The draw bar B, secured in the draw head A in the manner specified, and provided with the hooks C and D, and lug E, as and for the purpose specified.

77,072.—JOHN A. MINOR, Middletown, Conn.—*Illusion Toy.*—April 21, 1868.—On the principle of the thaumatrope, and like it depending for its action upon the persistence of visual impressions. The wheel with the horse thereon is rotated by a cord wound around its spindle, and the animal has different colors on its respective sides. By rapid rotation the eye appreciates both colors, and the retina receives the impression of a pair of horses upon the rotary wheel.

Claim.—The toy, constructed substantially as herein set forth, so as to produce the illusion as described.

77,073.—JAMES MONACH, Philadelphia, Pa., assignor to himself, JOHN HUTCHINSON, and JEFFREY HART, same place.—*Preparing Jute Yarn.*—April 21, 1868.—The jute yarn is boiled with caustic alkali at a strength of 40° to 80° "Twaddell." After boiling two hours it is washed and then steeped in a weak solution of sulphuric acid, again washed, and then dried.

Claim.—As a new manufacture, jute yarn treated with caustic alkali of from 40° to 80° Twaddell's hydrometer, substantially as described, for the purpose specified.

77,074.—JOHN H. MOORE, Binghamton, N. Y.—*Moving Buildings.*—April 21, 1868.—The building rests on a cross bolster, which is supported by two trucks with three rollers each. In turning, rollers journaled beneath the bolster traverse ways upon the trucks.

Claim.—The frames A A, having three trucks each, and constructed as described, with transverse pieces C, I, and J, and springs E, all in combination with the cross piece G, resting on springs and rollers, substantially as described, and for the purpose set forth.

77,075.—JAMES C. MOOREHEAD and WILLIAM W. ELLIOTT, New Madrid, Mo.—*Feather Renovator.*—April 21, 1868.—Steam is conducted from the medi-

cated and the clear water through the hollow trunnions and perforated pipes in the revolving cylinder. The latter has slats which beat and loosen the feathers. To dry the feathers the access of steam to the interior space of the cylinder is shut off, and the feathers in the said space are dried by the presence of the hot pipes.

Claim.—1. In a machine for renovating feathers, the combination of the water boiler B with the chemical boiler D and the pipes G G′, for the purpose of generating, conveying, and uniting the two kinds of steam, preparatory to subjecting the feathers to their joint action.

2. The cylinder I, when constructed of slats *i i i*, slightly separated, in the manner and for the purpose set forth.

3. The combination, within a revolving cylinder, of the tubular shaft J with the pipes K K′, the latter being provided with valves *o o o*, substantially as and for the purpose set forth.

4. The combination of the boilers D D, pipes G G′, cylinder I, shaft J, pipes K K′, valves *o o o*, and stop cocks *r r*, substantially as and for the purpose set forth.

5. The method of purifying and renovating feathers, substantially as herein described.

77,076.—Ira Morse, Danbury, Conn.—*Wrench.*—April 21, 1868.—The upper hook jaw is attached to the shank, and the other jaw is hinged to a sleeve which slips on the shank and is held by a screw collar.

Claim.—A wrench, having the bar A, serrated rigid jaw B, and hinge serrated jaw D, attached to the sleeve C, both jaws being divergent outward, and all constructed and arranged substantially as described.

77,077.—Ira Morse, West Franklin, Pa.—*Machine for Operating Churns, &c.*—April 21, 1868.—The rocking chair is placed within a frame and its rocker connects by a pitman with the walking beam to which the dasher shaft is attached.

Claim.—The within-described machine for operating churns, composed of the rockers *a*, cross bars B, platform C, frame D and E, forked post F, lever G, box H, bar I, lever K, and block L, for the purpose and substantially as herein described.

77,078.—Charles S. Moseley, Elgin, Ill.—*Watch.*—April 21, 1868.—The outer end of the hair spring is fastened in one end of a stud in the extension arm of the bridge plate. A set screw holds the stud in place.

Claim.—The combination of a stud and set screw or screws, for holding and fastening the outer end of a hair or balance spring to a watch movement, with a bridge plate, or any equivalent therefor, substantially as described.

77,079.—J. W. Moyer, Cherry Valley, N. Y.—*Saw Mill.*—April 21, 1868.—The saw frame has springs above and below the saw, which operate to give it the necessary tension. One leaf in each spring has a bearing on a permanent bar and a bearing on one of the saw levers, and their power is regulated by adjusting them toward or from the centers of oscillation of the levers.

Claim.—1. The combination, with a gig saw S, of two springs *s s′* of equal power, the former at the upper end of the saw and acting upward upon it, and the latter at its lower end and acting downward upon it, all the parts being constructed and combined, and operating together substantially in the manner and for the purposes set forth.

2. The combination of the gig saw S with the notched levers C E and equal springs *s s′*, all the parts being constructed and combined substantially as and for the purposes specified.

77,080.—N. E. Mulford, Madison, N. J.—*Striking Attachment to Clocks.*—April 21, 1868.—A heart-shaped cam is mounted on the spindle of the hour wheel; seven pins are arranged in a spiral line around the center of the hammer wheel. A lever, hinged at its opposite end, rests upon the heart-shaped cam, reaches with its free end toward the hammer wheel, and, as its end is moved by the cam, it is brought against the pins to arrest the hammer wheel at the expiration of a certain number of strokes. The pins stand at different distances from the center of the wheel, and the lever is brought to the proper place for each hour by the motion of the cam. A half-hour striking apparatus is set by the rod to which the regular striking apparatus is attached.

Claim.—1. The arrangement of the seven detent pins *u*, *u*^{1}, *u*^{2}, &c., on the face of the hammer wheel E, the said pins being set in a spiral line, as described, and at such distances apart that the required number of pins *i i* will be between every two adjacent pins *u*, substantially as and for the purpose herein shown and described.

2. The heart-shaped cam O, when mounted on or connected by gear or otherwise with the tube H, to which the hour hand is fastened, and when combined with a lever N, which is gradually raised or lowered by the rotation of the cam, so that its end will be brought into a different plane, substantially as and for the purpose herein shown and described.

3. The lever N, when arranged substantially as herein shown and described, in combination with the heart-shaped cam O, turning with the tube H, and with the seven pins *u*, *u*^{1}, &c., arranged spirally on the face of the wheel E, which carries the thirteen pins *i i*, substantially as herein shown and described.

4. The lever M, when connected with the bar *o*, and when raised and lowered by means of the cam L, in combination with the stops *p* on the fly F, all made and operating substantially as herein shown and described.

5. Connecting the detent lever N with the retaining lever M, and with the releasing lever *o*, substantially as and for the purpose set forth.

6. The arrangement and combination with each other of the heart-shaped cam O, lever N, wheel E, having the seven pins *u*, *u*^{1}, &c., cam L, levers *o* and M, and stops *p* on fly F, all made and operating substantially as herein shown and described.

7. The half-hour striking apparatus, when consisting of the hammer P, rods *w* and *y*, the latter being held by means of a spring catch *z*, substantially as herein shown and described.

8. Connecting the lever M with the catch *z* of the half-hour striking apparatus, so as to release the same, substantially as herein shown and described.

9. The arrangement, herein shown and described, of setting the half-hour striking apparatus, by means of the arm *l* of the main hammer, which catches the rod *y* of the half-hour hammer, locking it with its catch *z*, when the main striking device is in operation.

10. The cam L, when mounted on the staff G, as herein shown and described, and when provided with a recess *s*, and with an elevation *b′*, opposite to the same, substantially as and for the purpose herein specified.

11. Pivoting the arm *o* to the lever M, and combining it with the spring *r*, for the purpose of allowing the hands to be turned backward, substantially as herein shown and described.

12. Setting the half-hour striking apparatus by means of the main striking apparatus, when the same is in motion, substantially as set forth.

77,081.—James F. Neall and William Myers, Philadelphia, Pa.—*Furnace Draught Regulator.*—April 21, 1868.—The damper is operated by a piston through means of the weighted lever. The piston is prevented from blowing out by a guard bar passing over the lever.

Claim.—The arrangement of the piston A, cylinder B, packing ring C, and weighted lever E, substantially as described.

77,082.—Jacob Noepel and Bernhard Assman, Newark, N. J.—*Saw Set.*—April 21, 1868.—The tool has a rotary head with four radial arms having variously-formed faces for different saws. The tool is upon the head of a spring lever which is operated by a cam at the end of the short handle.

Claim.—The short lower handle B, pivoted in the slotted long handle A, and provided with a cam *f*, which works upward through the slotted handle against the lever C, whereby the short handle is operated by the fingers of the hand while the long handle is held comparatively stationary, as set forth.

77,083.—G. H. Owens, Maysville, Ky.—*Hoe.*—April 21, 1868.—The tang and the stud at its end rest in recesses in the handle, and the tapering ferrule is driven upon it.

Claim.—The ferrule D, the shank B with the teat *e*, and the handle C, constructed, arranged, and combined substantially as and for the purposes described.

77,084.—Ralph G. Packard and Michael Hastings, Brooklyn, N. Y.—*Lock-up Safety Valve.*—April 21, 1868.—The annular weights, which are imposed upon the rods connected to the ends of the levers, are made in sections dovetailed together, but detachable so as to be removed at openings in the side of the casing, when the doors closing the same are removed.

Claim.—1. In lock-up safety valves, forming the weights in sections adapted to be inserted and removed through openings *a* in the exterior or lock-up casing, substantially as and for the purpose herein specified.

2. In connection with the above, dovetailing together the several pieces, substantially as and for the purpose herein set forth.

77,085.—G. W. and W. F. Parker, Kalamazoo, Mich.—*Fur Muffler.*—April 21, 1868.—The fur is lined with silk, and covers the sides and back of the head. It is supported by a band which goes over the head from ear to ear, and meets a band which comes over the crown.

Claim.—As a new article of manufacture, the fur muffler A and lining B, when the same are constructed in the form shown, and provided with head bands D D′, and the whole is so constructed and arranged as to operate substantially as described for the purpose specified.

77,086.—S. J. Patterson, Bridgeport, Conn.—*Knife for Removing the Skins from Animals.*—April 21, 1868.—The blade is secured between two guard plates to prevent injury to the hide.

Claim.—As a new article of manufacture, a knife for removing skins from animals, constructed as described, consisting of the curved blade A, having a back of irregular form, adjustably secured between the two sides B C, having their edges beveled at different angles, and forming the outer portion of the handle E, said blade and sides being pointed at one end in the form of a knife, as herein shown and described.

77,087.—Lewis P. Pease, McCordsville, Ind.—*Portable Fence.*—April 21, 1868.—The brace lies over a short panel, and extends from one long panel to another, and is secured to each.

Claim.—The alternate long and short panels, so arranged that the adjustable brace *g* will bind two long and one short panel together, in combination with the long bars *e e*, as and for the purpose set forth and described.

77,088.—John J. Pellett, Oconomowoc, Wis.—*Gate.*—April 21, 1868.—The sliding rails are moved endwise by a cord from each end which runs around a reel, and the inclined pivoted slats fold together on the principle of a lazy tongs. The reel shaft is carried up and down the road a short distance, and is operated by levers.

Claim.—1. The combination of the pivoted bars *a a* with the enclosing frame S S′ T T^1 T^2, when operating substantially as and for the purpose set forth.

2. The combination of the arms H H, connecting rod *h*, and locking pin *h′*, when used in connection with a sliding gate, as above described, and with the wheel and cord for opening and shutting it, as a device for securely locking said gate, in the manner described.

77,089.—Richard Pohl, Port Huron, Mich., assignor to Oswald Unger, same place.—*Skate.*—April 21, 1868.—Levers cross each other beneath a plate under the ball of the foot and their claw ends grasp the sole when they are drawn forward by their adjustable bar pivoted to their fore ends, in which position they are fastened by a set screw. The heel is engaged by the back-turned spurs of a flange in front of the heel plate.

Claim.—1. The construction of a skate, in substantially the form as described, that the spring of the skate will cause it to be firmly attached to the boot of the wearer.

2. The slides H and M, provided with set screws J and N, the levers G and F, and plate L, when arranged and operating substantially as and for the purposes set forth.

3. The combination of the above-named parts with the runner A, the heel plate C, provided with the flange P and points R, and the bar E, when constructed and operating substantially as and for the purposes described.

77,090.—William E. Prall, Washington, D. C.—*Hot Water Elevator.*—April 21, 1868.—A heating chamber is placed within a furnace and connected by a pipe to a well or cistern. The pipe has a valve and cold water chamber above and adjacent to the heating chamber. A valved, boiler-supply pipe extends from the heating chamber to the boiler. Steam generated in the heating chamber forces the contents into the boiler until the level of the water supply is reached. Entering water condenses the steam and the partial vacuum refills the cold water chamber with water from the well.

Claim.—In connection with a stove or like heater, and for domestic purposes, an automatic water elevator, constructed and operating substantially and for the purpose set forth.

77,091.—John Rankin, Taunton, Mass.—*Harrow.*—April 21, 1868.—The frame is trapezoidal. The toothed bars are pivoted to the front and rear bars. A fast and a loose wheel rotate by contact with the soil, and when the clutch is engaged the outer toothed bars are oscillated so as to stir the ground by a positive motion additional to that incident to their being dragged through it.

Claim.—The harrow constructed as described, and consisting of the bars *a*^{1} *a*^{2} *a*^{3} *a*^{4}, toothed rock shafts D E F, having standards G H I, crank shaft P, bearing loose wheel R, and fixed wheel Q, clutch S, lever T, three-armed pivoted lever K, and pitmen J M N O, all arranged and operating in the manner and for the purpose herein set forth.

77,092.—Charles A. Reight, Middletown, N. Y., assignor to himself, Henry B. Dill, and George A. Swalm, same place.—*Milk Can.*—April 21, 1868.—The junction of the cylindrical portion with the bottom and breast is strengthened by certain double-seamed and riveted bands.

Claim.—The combination of the tin band B, double seamed, with the tin top or bottom of a milk can, and soldered or riveted to the iron cylinder A, of greater thickness than the said bands, or top or bottom, all substantially as and for the purpose shown and described.

77,093.—Arthur Dallison Renshaw, London, England.—*Apparatus for Clipping the Hair of Animals.*—April 21, 1868.—The sliding cutter plates are operated by a lever and spring. The lever is operated by a cord.

Claim.—1. The cutters *a* and *b*, constructed, combined, and operating substantially as and for the purpose set forth.

2. The combination of the said cutters with the adjustable presser bar *g* and lever *k*, and with or without the spring *m*, for the purposes and substantially as set forth.

3. Operating the lever *k* by means of a cord or wire passed through the handle *p*, or over a rotating cam or disk, and connected with any suitable driving mechanism, substantially as set forth.

77,094.—Charles W. Requa, Albany, N. Y.—*Still for Distilling Hydrocarbon.*—April 21, 1868.—The lower part of the exterior of the still is exposed to the action of the fire, and steam is introduced from above and discharged through the perforated bottom of a chamber near the lower interior surface of the still. This keeps the lower stratum of oil in upward motion continuously. The air chamber above the upper part of the still keeps an equable temperature.

Claim.—1. The use of steam in the distillation of

liquid hydrocarbons in stills heated by external fire, when the steam is introduced into the still in such a manner that the lowest stratum of liquid therein will be continually removed from contact with the bottom of the still by the action of the steam, and its place supplied with fresh liquid from above, substantially as and for the purpose above described.

2. Constructing stills heated by an external fire, and in which steam is used, as and for the purpose above described, with an air chamber over them, constructed and operating substantially as and for the purpose above described.

77,095.—C. T. RIDEOUT, Boothbay Harbor, Me.—*Rudder Gear.*—April 21, 1868.—A segmental rack on the tiller engages a similar rack upon a disk at the head of the rudder post. An arm of the disk is vertically perforated to receive a pin which enters one of a series of holes in a plate beneath to fix the rudder when desired.

Claim.—The combination and arrangement of the toothed sector C, having the tiller and socket T T′, the toothed disk C′, having projection D with hole *h*, and the perforated arc D′, as herein described for the purpose specified.

77,096.—HENRY R. ROBBINS, Baltimore, Md., assignor to himself and W. H. GREEN, same place.—*Tobacco Pipe.*—April 21, 1868.—A tube descends from the bowl into a water chamber beneath. The stem communicates with the upper and empty part of the chamber. The chamber unscrews at mid-height, and has a horizontal, perforated diaphragm at that point.

Claim.—In a smoking pipe, composed of the stem A, bowl B, tube D, and vessel C, the minutely-foraminated screen *c*, operating in connection with the tube D and vessel C, substantially as and for the purpose specified.

77,097.—WILLIAM ROBBINS, Hinsdale, Ill., and EDWARD SWASEY, Bucksport, Me.—*Amalgamator.*—April 21, 1868.—The slime is passed down a rotating tube to the bottom of the cylindrical vessel containing mercury. The slime runs from the lower end of the tube beneath a perforated disk upon the tube, and an annular plate on the side of the vessel. The tube has radial agitators. A vertically reciprocating rod prevents clogging of the tube.

Claim.—1. The agitator *f*, arranged to operate in connection with the tube B, substantially as described.

2. An amalgamator, consisting of a tub for holding the mercury, and a rotating tube provided with arms for stirring and mixing the gold, or other material, with the mercury, and having its lower open end arranged to feed the material into the mercury near the bottom of the tub, with the agitator *f* for preventing the tube from becoming clogged or choked, all constructed and arranged to operate substantially as shown and described.

77,098.—HENRY A. ROBERTS, Boston, Mass.—*Refrigerator.*—April 21, 1868.—The refrigerator consists of a vertical series of detachable sections which may be removed to lessen the capacity.

Claim.—1. A refrigerator, constructed of metal, or other suitable material, of two or more sections, substantially as and for the purpose described.

2. Diminishing the interior capacity of a refrigerator chamber, by dividing, cutting off, or removing a portion thereof, for the purpose of economizing in the use of the cooling agent, substantially as described.

3. The movable and adjustable frame *d′*, conforming to the interior shape of the refrigerator, with the receptacles *e*, so formed that they fully utilize the interior capacity thereof, substantially as and for the purpose described.

4. An ice box, having a close bottom, perforated sides, covered with absorbing fibrous material, whereby the box is rendered air-tight, substantially as described.

5. An ice box, as above described, provided with a flue or series of flues, with or without radial divisions for the circulation and condensation of air, substantially as described.

6. An ice box, as above described, provided with a flue or series of flues, with or without perforated sides or evaporating surface, substantially as described.

77,099.—L. F. ROBERTSON, West Farms, N. Y.—*Compound for Treating Hides and Skins.*—April 21, 1868.—The compound is used to unhair hides and to assist in the subsequent operations of tanning. Composed of lime 6, carbonate of soda ½, coal tar 1, and molasses 2 parts. The lime is first mixed with water.

Claim.—A compound for treating hides and skins, made of the materials herein specified.

77,100.—JAMES ROBINSON, Funkville, Pa., assignor to himself and WILLIAM ROBINSON, Brooklyn, N. Y.—*Lamp Chimney.*—April 21, 1868; antedated April 9, 1868.—The foot flange of the glass is notched and the lip turned up to form a stop in rotating the glass beneath the catch pin.

Claim.—The lip *b*, formed of the partially severed material of the flanch *c*, in the formation of the notch or recess *a′*, substantially as and for the purposes set forth.

77,101.—HENRY W. RUTT, Reedsburg, assignor to himself and JONATHAN M. RHOADS, Wayne County, Ohio.—*Fence for Poultry Yard.*—April 21, 1868.—Above the picket fence are tilting frames which tip when a fowl alights upon them and allow it to fall back into the yard.

Claim.—The reel C C, composed of two semicircular disks, connected together by a narrow slat at each side, and one at the bottom, and pivoted between the vertical fence posts B B, directly above the fence, all constructed, arranged, and operating as specified.

77,102.—CHRISTOPHER E. RYMES, Somerville, Mass., assignor to ROBINSON & HEARN, New York, N. Y.—*Machine for Cutting Tobacco.*—April 21, 1868.—The continuous band of tobacco is passed between endless chains, one of which carries a series of knives, and the other a series of pads against which the knives cut.

Claim.—1. A tobacco-cutting machine, in which the bar of tobacco to be divided is passed between the rectilinear surfaces of two traveling and converging endless chains or belts, one of which serves to support the bar, while to the other are attached the severing knives, substantially as described.

2. Attaching the knives of a tobacco-cutting machine to one of two traveling and converging planes, so that the plane of the knife, while passing through the tobacco, shall, in every position, be parallel to its plane in every other position while so passing, and thus a square and smooth cut be secured, as specified.

3. The links *l*, constructed, arranged, and operating as described and shown.

4. The combination of a knife with one or more of the links of an endless chain, as specified.

77,103.—JOHN SANDERSON, Fredericksburg, Ohio.—*Bridge.*—April 21, 1868.—Each section of the bridge has a transverse tie with side wings. The wings of the separate sections are fitted together, and are clamped by screw bolts.

Claim.—The bridge herein described, composed of sections, consisting of cross-ties or ribs B B and wings A A, provided with lugs and recesses, as described, the several sections being bolted together as and for the purpose set forth.

77,104.—JOSEPH F. SARGENT, Boston, Mass.—*Nailing or Pegging Machine.*—April 21, 1868.—The head may be mounted on a fixed frame, and feed machinery may be applied to feed the shoe; or the shoe may be fixed, and the head steadied by one hand of the operator, who with the other hand turns the operative crank. The cutter and carrier operate to cut from a continuous piece short sections, which are then carried under the driver. The nail carrier forms one-half of the upper part of the nail tube in which the driver works. The wire is fed to the cutter by wheels operated by ratchet wheels, pawl, lever, and ratchet shield. The devices are arranged to adjust the nails to the length required.

Claim.—1. A pegging or nailing machine, con-

structed substantially as described, so as to operate to automatically cut, at one location, short pieces from a long or wire-like formation of material, and to convey them, when so cut, to another location, where they receive the action of the driver.

2. The tube, or a part thereof, through which the nails or pegs are to be forced into or toward the material to be united, made in two parts capable of being closed and separated on a longitudinal plane passing through the tube, substantially as and for the purpose specified.

3. The tube through which the nails or pegs are forced by the driver, made in two or more parts, of which one division is made substantially at right angles to the axis of the tube, so as to enable one part of the divided tube to be moved with respect to the other part or parts, substantially as and for the purpose described.

4. The combination of the tube or groove, through which the wire is thrust to be subjected to the action of a cutter, with a cutter, for severing a nail or peg from the wire or wire-like material.

5. The combination of intermittently-operating feed rolls or wheels, for feeding material of a wire-like form, with cutters, for cutting off the material so fed, to form nails or pegs, substantially as described.

6. In combination with feed wheels, for supplying lengths of wire like material to the cutters, the ratchet wheel and pawl, and the adjustable shell or shield *v*.

7. A pegging or nailing machine, constructed substantially as described, so as to operate in producing correct register of the awl hole beneath the driver, by first transferring the contact of the sole from the nail tube to the feed foot, then causing the awl to enter and withdraw from the sole, then giving the feeding movement, to bring the awl and driver holes in register, and keeping the contact of the feed foot with the stock till the driver has made its driving stroke, after which, by vertical movement of the feed foot, contact of the sole is transferred to the driver tube.

77,105.—D. R. Satterlee, New Haven, Conn.—*Machine for the Manufacture of Slate Pencils.*—April 21, 1868.—The slate is fed in at one side of the machine and subjected to the cutters which operate upon opposite sides of the slab. First the slab, and afterward the pencils, are supported by grooved plates. The pencils are delivered completely formed.

Claim.—1. The combination of the two series of cutters, each series formed so that the first half forms the pencil, and while the second completes the pencil, and combined with the grooved plate F and correspondingly grooved bed I, in relative position to each other, and to the two series of cutters described, so as to form guides from the first series of cutters to the second, and from the second to the discharge, substantially in the manner herein set forth.

2. In combination with the above, the feed rolls D and *k*, arranged and operating in the manner substantially as described.

3. The arrangement of the cutters between the heads L, so as to be set and adjusted, substantially in the manner described.

77,106.—Charles C. Savery, Philadelphia, Pa.—*Enameled Water Cooler.*—April 21, 1868.—The chambers are enameled on the inside, and the upper one on the outside so far as it is liable to drop condensed moisture into the chamber below. The object is to avoid rust and the vitiation of the water; either that to be withdrawn for use or that which condenses and drops upon the provisions in the lower chamber.

Claim.—1. The mode of enameling the inside and outside of the water and ice tank (or both, if used separately) of a water cooler and refrigerator, in the manner and for the purpose above set forth and described.

2. The combination of a water and ice tank or water and ice tanks, enameled inside and outside, with a water cooler and refrigerator, for the purpose and in the manner above set forth and described.

3. The combination of vitiated air discharge-tube or pipe M T with the provision chamber of a water cooler and refrigerator, in the manner and for the purpose above set forth and described.

77,107.—Thomas A. Searle, Providence, R. I.—*Wrench.*—April 21, 1868.—The segment of a cogged pinion, attached to the shank, works in a cog rack on one of the jaws of the wrench. When the required adjustment is attained, the spring collar is advanced to maintain the jaws at their "set."

Claim.—The sliding collar D and spring S, in combination with the handle H, shank H′, toothed segment B, stationary jaw A, slotted movable jaw *a*, and pivots a^1 a^2, all constructed, arranged, and operating as and for the purpose described.

77,108.—George W. Serrin, Memphis, Tenn.—*Baling Press.*—April 21, 1868.—The press is double ended, each follower forming an abutment for the other as they are forced together by the toggle levers.

Claim.—1. The toggle levers, when suspended upon the cords or chains F H, forming flexible suspension points, whereby bales of unequal size are pressed with equal force by the platens C, substantially as herein set forth.

2. The arrangement of the cords F H, pulleys *c c′*, and windlass G, as herein described, for the purpose specified.

77,109.—N. Lawrence Shaw, Wilson, N. Y.—*Fence.*—April 21, 1868.—The rails run past the uprights and the ends are half cut away and lapped together. The fence is held together by a wire which runs past the outside of the salient corners.

Claim.—The combination of the fence panels A A with the wire or wires *c*, applied substantially in the manner and for the purpose specified.

77,110.—Samuel S. Shaw, Newport, N. J.—*Oyster Winder.*—April 21, 1868.—The crank shafts have sliding drums and there is a device for throwing them into gear; the device is disengaged when the dredge fouls on a fixed obstruction. The object is to prevent injury to the operator by the reversal of the crank.

Claim.—1. An oyster-winding apparatus consisting of the shaft B, sliding drum C, gear wheels *b*, *e*, and *d*, and pivoted segment F, all made and operating substantially as and for the purpose herein shown and described.

2. The drum C, when arranged so that it can turn and slide on the shaft B, and when combined with the gears *b c*, and with the lever D, all made and operating substantially as set forth.

3. The block F, when pivoted to the frame A, and when provided with the friction roller *g*, as set forth.

4. The slotted bar *e*, for elevating the block F, in combination with the same and with the drum C, all made and operating as set forth.

77,111.—Thomas Shaw, Philadelphia, Pa.—*Surfacing Sheet Iron and Metal Plates.*—April 21, 1868.—Composed of plumbago, animal fat, soda, and water.

Claim.—The application of carbonaceous material to the heated surfaces of iron and steel, while being rolled or otherwise manipulated upon, substantially as and for the purpose set forth.

77,112.—P. E. Shear, Saugerties, N. Y.—*Furnace Door Fastening.*—April 21, 1868.—A hinged bar folds before the door, and its free end is slotted to receive the hinged link which carries an eccentric lever. The latter is turned up to lighten the said bar.

Claim.—The hinged or jointed bar E, in combination with the hinged link *e* and the eccentric F, all constructed, arranged, and applied to the frame or mouth piece of a furnace, substantially as and for the purpose set forth.

77,113.—Philander P. Simmons, Davenport, Iowa.—*Bed Bottom.*—April 21, 1868.—The bed bottom has a warp of cords and a filling or weft of fine slats. It rests upon an open, slatted frame, supported by springs from bars beneath.

Claim.—A spring bed bottom, consisting of a web made of slats *d* woven together with wire, in combination with the wooden strips *c* and the spiral springs *f*, or their equivalents, when constructed and arranged substantially as described.

77,114.—Thomas J. Sloan, New York, N. Y.—*Operating Window Shutters.*—April 21, 1868.—The retaining pendant is hinged so that its end may be brought down on the blind hinge, and prevent its being raised; or the pendant may be turned up to allow the removal of the blind. The hinge has a segmental bevel-gear which engages a similar gear, turning on the operative shaft passing through the casing. The gear on the shaft is held by a drop catch which is raised by a cam turned by the shaft, and a lug on the shaft enters a slot in the gear hub to cause its rotation and operate the blind.

Claim.—1. The employment, in combination with the gears K, *f*, and shaft H, of the retaining catch bar *n*, and a cam O, for lifting the same, the whole arranged to operate substantially as described for the purpose set forth.

2. The employment, in combination with the hinge sector *f* and stand D, of a swinging or movable retaining pendent F, arranged to operate as described for the purpose set forth.

77,115.—Austin A. Smith, Seneca Falls, N. Y.—*Lamp Shade.*—April 21, 1868; antedated April 11, 1868.—The shade has a number of panels which turn horizontally, vertically, or angularly, to allow passage to the light through any part.

Claim.—1. As a new article of manufacture, a lamp or gas light shade of usual form, composed of numerous upright panels or sections C C C, situated closely together to form a screen, and turning horizontally or angularly on suitable joints, the whole arranged and operating so that any number of said panels may be opened at any desired position, and the passage of light may be graduated, as herein set forth.

2. Forming one or both of the joints of the panels of spring wires *f f*, resting in the square or oblong slots *d*, operating as and for the purpose specified.

77,116.—Calvin D. Smith, Baldwinsville, Mass.—*Tilting Chair.*—April 21, 1868.—From the back and front of the seat, pieces are carried down which meet together and are pivoted to the base frame. Between the sides of the base is a roller connected to the seat by bands attached to it and winding in contrary directions. The roller is held by a curved spring to limit its oscillation.

Claim.—1. The arrangement and combination of the spring, the bands, and the barrel or roller, as applied to the chair and its stand.

2. Their arrangement with and application to the stand and chair, substantially in manner as specified.

77,117.—Calvin D. Smith, Baldwinsville, Mass.—*Tilting Chair.*—April 21, 1868.—The chair is pivoted to the lower part of the stand, and a stud upon the under side of the seat rests between the levers, which are connected by springs and meet against a stop bar, which is beneath the stud when the chair is upright and at rest.

Claim.—1. The combination as well as the arrangement of the stud *a*, the stop bar *d'*, the two arms *b b*, and the spring *e*, as applied to the chair and its supporting frame D, and connected together substantially as specified.

2. The arrangement of the stud *a*, the stop bar *d'*, the two arms *b b*, and the spring *e*, with the chair and its supporting frame D.

77,118.—John H. Smith and Charles H. Florence, Richview, Ill., assignors to themselves, F. P. Seawell, and H. G. Whittenburg.—*Brick Machine.*—April 21, 1868.—The molds are slid beneath the mud box and the clay forced into them by a block in form of the sector of a cylinder. The block is reciprocated on an axis concentric with the curved side, and is turned 90° so as to carry it alternately through the side of the box and down upon the bottom above the molds.

Claim.—1. The combination of the pivoted frame I, bearing the rollers J, mold holder K, hopper plate H, inclined pawls M upon shaft N, the segment P, and straps U, all arranged and operating as described for the purpose specified.

2. The mold L, the sides l^1 and ends l^2, of which are connected to the bottom l^3, and to each other by inclined prongs T, arranged substantially in the manner herein shown and described and for the purpose set forth.

77,119.—Jasper Snell, Pottsville, Pa.—*Railroad Sill and Chair.*—April 21, 1868.—The base plate has inclined walls forming a trough in the bottom, and near each end of which is a mortise containing a spring. A plate, having two lugs on its under side, dovetails into the trough, the lugs setting into the mortises and resting upon the springs. A T-shaped chair, having jaws at one end to fit the shape of the base of the rail, dovetails into the trough and sits upon one-half of the plate. One side of the base of the rail is inserted between the jaws of the chair, and the other side rests in a corresponding chair.

Claim.—1. The base plate A, walls B, and springs G, all substantially as and for the purpose set forth and described.

2. The plate C, dovetailing between the walls B, and provided with the lugs *c*, substantially as above set forth and described.

3. The chairs D, dovetailing between the walls B, and provided with the jaws *d d*, in manner substantially as above set forth and described.

4. The railroad sill and chair, consisting of a base plate A, walls B, and plate C, resting on springs G, in combination with chairs D, furnished with the jaws *d d*, in manner and for the purposes substantially as above set forth and described.

77,120.—Nicholas Starr, Jr., Homer, N. Y.—*Horse Hay Fork.*—April 21, 1868.—The pivoted cutters at the lower end of the stock have spurs which project outward to engage the hay, and are connected by links to the sliding bar by whose elevation they may be drawn in to release the hay.

Claim.—The two spurs *a* pivoted at their lower ends to the stock A, in combination with the shifting bar *c* and toggle braces *b*, substantially as herein set forth for the purpose specified.

77,121.—Oliver B. Steele, Franklin, Pa.—*Combined Rule and Pocket Knife.*—April 21, 1868.—The jointed rule opens out of the handle similarly to a knife blade.

Claim.—Combining a jointed rule with the handle of a pocket knife, substantially as and for the purpose shown and described.

77,122.—A. G. Stephens, Manchester, N. H.—*Door Stop.*—April 21, 1868.—The rubber-cushioned stop is pivoted to the door by its lower end, and stands vertically against the door when closed. When the door is opened the toe of the stop strikes a stud in the floor which throws the stop into a horizontal position, so that the rubber pad strikes the base board. The stop is raised by a spring when the door is closed.

Claim.—1. A door stop, constructed as described, consisting of the pivoted lever G formed at the lower end into a toe F, spring L, cushion K, and case E J.

2. The combination of pivoted lever G, spring L, and cushion K, with the case E J attached to the lower part of the door A, substantially as described.

3. Operating the door stop by means of the trip pin N, substantially as described and for the purpose specified.

77,123.—Hugh Stewart, Clinton, Mass., assignor to George F. Wright and William Orr, Jr., same place.—*Compass.*—April 21, 1868.—The points are removable and reversible, so as to act as compasses or calipers, and to admit renewal when worn out.

Claim.—The combination in one instrument of dividers and inside and outside calipers, by use of the adjustable combination points, used in the manner and for the purpose herein described and set forth.

77,124.—Frederick T. Suhr, Titusville, Pa.—*Apparatus for Burning Hydrocarbon.*—April 21, 1868; antedated April 7, 1868.—The frame forms the top of a perforated box through whose sides and bottom the air passes to the pipes, and a central aperture leading through the oil pan and furnishing

air to the hydrocarbon contained therein. The furnace has an adjustable cap by which the flame is concentrated more or less.

Claim.—1. The cap or cover C, together with the inside partitions *m m* and the reducer P, for the purpose of confining and directing the currents of air upon the flame before they can pass out of the opening at the top.

2. The combination of the frame, draught pan, oil dish, and covers, as above described, all so placed, air-tight, in the fire box or chamber that no air can pass into the said fire box, except such as passes through the draught pan aforesaid, for the purpose of producing heat from crude petroleum or other combustible fluids.

77,125.—J. B. Sweetland, Pontiac, Mich.—*Horse Hay Fork.*—April 21, 1868.—The two pairs of jaws are brought together by forcing the tines into the material, and are secured by a catch. When the fork is raised and the latch freed, the jaws are opened by weight of the hay and pressure of the hoisting ropes.

Claim.—1. The arms A and A′, constructed substantially as represented, and provided with two sets of tines, G G and H H, as and for the purpose set forth.

2. The cross head J provided with two or more tines, and adjustably or rigidly connected to the arms A A′, as and for the purpose set forth.

77,126.—James H. Swindell, Camden, N. J.—*Indexing Books and Ledgers.*—April 21, 1868.—Pages which are formed by a primary notch index, denoting hundreds, thousands, capital letters, &c., are subdivided by notches to indicate secondary divisions.

Claim.—Arranging an alphabetical or numerical index for books, by cutting two or more sets of notches in the margins of such books, and by making appropriate marks to each of the said notches, substantially as and for the purpose herein shown and described.

77,127.—Charles A. Taylor, Chicago, Ill.—*Trunk.*—April 21, 1868.—Each section of the bent brace has a hook which engages an eye in the front of the trunk, and its bow rests upon a stud projecting from the lid. The meeting ends of the brace bars enter a hole in the lock plate, and are secured by the hasp.

Claim.—The method of securing trunks, as herein described, by means of the braces D and studs I, or their equivalents, arranged to operate substantially as herein set forth.

77,128.—Albert Thompson, Ridgway, Pa.—*Shingle Machine.*—April 21, 1868.—Two bolts on separate carriages are fed to the same circular saw, the feeding being faster and slower on the ends alternately so as give the butt and point to the shingles at alternate ends. This is effected by irregularly toothed feed wheels. Each carriage is locked in effective position by a barbed head which is grasped by spring dogs, and the carriages are independent of each other.

Claim.—1. The combination of the carriages I I^1, having the barbed coupling bolt m^3, with the barbed dogs *m m*, spring m^1, and cord and pulley m^2, by which either of the carriages can, independently of the other, be instantly attached to or detached from the sliding beam L which operates them.

2. The combination of the cam wheels S, having the cams *s s s s* formed and operating in the manner described, with the shaft N, having the spur wheels *n′ n′*, the spurs of which are at different distances apart, the whole operating together in the manner and for the purposes set forth.

77,129.—Charles R. Tompkins and John Wright, Rochester, N. Y.—*Saw Mill.*—April 21, 1868.—Upon one of the sliding pieces is a hub upon which fits the movable saddle carrying the adjustable rollers which swing upon it as a center. Thumb screws press upon the sides of the saddle and enable it to be moved to adjust the rollers so as to present the board properly to the saw.

Claim.—The movable saddle *d* turning on the hub *l*, and adjusted by the set screws H H and the slots J J with their confining screws, all adjusted to operate substantially as described.

77,130.—Edwin J. Toof, Fort Madison, Iowa. *Try Square.*—April 21, 1868; antedated April 11, 1868.—A saw blade is so attached to the metallic arm of the square as to be slipped forward into operative position to make a shallow kerf. Oblique slots in the blade are traversed by guide pins in the arm of the square as the blade is pushed forward by the thumb piece.

Claim.—In combination with a try square A, an adjustable cutter B, arranged and operating substantially in the manner and for the purposes set forth.

77,131.—Edwin J. Toof, Fort Madison, Iowa. —*Paper Clamp and Inkstand Combined.*—April 21, 1868.—Improvement on his patent Jan. 30, 1866, in respect of the addition thereto of an inkstand with a sliding cover, sponge pen wiper, and pen rack, and in the addition of springs for pressing a bar against the paper to secure it.

Claim.—The combination of the paper holder A with the inkstand E, provided with a cover F, with or without the sponge arm G, shaft I, whether extensible or not, and the crank J, or its equivalent, arranged and operating substantially as and for the purposes herein described.

77,132.—Ira Van Pelt and John S. Van Pelt, Petersburg, Va.—*Carriage Coupling.*—April 21, 1868.—Coupling bars are dispensed with. The doubletree is connected by stay chains to the king bolt and to the axle. The bolt of the double tree slides in a slot of the tongue.

Claim.—The combination of the sliding pivoted swingletree E with the chains I, J J, axle C, and bolster G, substantially as and for the purposes specified.

77,133.—Samuel D. Van Pelt, Anderson, Ind. —*Scaffold Bracket.*—April 21, 1868.—The tang of the lower plate is pushed up beneath the course of shingles, and its claws engage the rafter. The upper pivoted claw plate is brought down upon the shingles by the vibration of the lever.

Claim.—The plate A with claws B and upright H, the dog lever I with dogs E E pivoted to the upright H of the plate A, and the upright D pivoted to the dog lever I, all constructed and operating substantially as shown and described and for the purpose specified.

77,134.—Edward L. Walker, Benford's Store, Pa.—*Horse Hay Fork.*—April 21, 1868.—The prong is pivoted to the end of the staff and is governed in its positions by the lever which actuates it through the medium of the link and slide bar.

Claim.—1. A prong at the lower end of a hay elevating fork in combination with the sliding bar *e*, or equivalent mechanism, that acts to turn said prong up below the hay, substantially as set forth.

2. The link *k* and lever *h* in combination with the bars *e* and *a*, and prong *l*, substantially as specified.

77,135.—Emory P. Walker, Belchertown, Mass.—*Butter Worker.*—April 21, 1868.—The butter in the tray is worked by the pressure of the passing roller, the round at the end of the moving frame traversing in the slots of the sides. The oblique pieces keep the butter on the tray and conduct the buttermilk to the discharge hole.

Claim.—The diagonal flanges D D placed at the mouth or front end of the bottom A of the box with a hole *x*, as described, the various parts being constructed and operating as specified.

77,136.—Joseph H. Walker, Grand Rapids, Mich.—*Horse Hay Fork.*—April 21, 1868.—The prong is held in effective position by a curved bar when a cam in the stock occupies a notch in the upper portion of the said bar. When the tripping cord pulls the cam out of the notch, the bar is free to slip, and the weight of the hay causes the prong to oscillate and discharge its load.

Claim.—The cam lever D pivoted between the upper ends of the bars C C, and arranged to operate

in combination with the curved bar B when said bar is provided with a stop at its end, and a recess, as described, all constructed and operating substantially as specified.

77,137.—JOHN W. WALTERS, Riceville, Iowa.—*Machine for Boring Hubs.*—April 21, 1868.—Clamps at each end of the hub form guides for the central shaft, which has a box to carry the cutter, whose progression is obtained by the thread on the shaft. The cutter has a threaded shank, and is fed outward to enlarge the diameter of the bore by the rotation of the tube, which has a crown wheel engaging a pinion nut on the tool shank.

Claim.—The combination of the two shafts A K, the latter having the crown gear wheel G, tubular shaft H, box B, adjustable cutter E having the pinion F, all operating as described for the purpose specified.

77,138.—GARDNER WARREN, Roxbury, assignor to himself and HEZEKIAH H. BRYANT, Boston, Mass.—*Treating Woolen and Silk Goods.*—April 21, 1868.—A composition is formed of glycerine, 1, and water, 18 parts. The fabric is saturated in the liquid and then passed between rollers and dried. Other ingredients may be added, such as borax, alum, &c.

Claim.—The process of treating fabrics, made of wool, silk, or other animal fibers, with a solution of glycerine, substantially as described.

77,139.—JAMES WASH, Mount Sterling, Ill.—*Beehive.*—April 21, 1868.—The brood and honey boxes are inclosed in an outer shell, but are not in contact therewith except at the feet, which have cups to prevent the access of millers and grubs. The boxes are separable and removable, and have apertures for ventilation and for access of the bees, and slides by which they may be isolated when required.

Claim.—1. The combination of the box C, provided with partitions having spaces E, and passages *h i*, with the hives C′, substantially as and for the purpose described.

2. The combination, with the box C and hives C′, of the perforated passage D and outer housing A, substantially as and for the purpose described.

3. The combination, with the box C and hives C′, of the perforated passage D and outer housing A, and the self-adjusting guard H, substantially as and for the purpose described.

4. The combination, with the hives C′ and long perforated passage D of an outer housing, provided with the odor passages F, substantially as and for the purposes described.

77,140.—C. D. P. WATTERS, New York, N. Y.—*Egg Cup.*—April 21, 1868.—Pressure on the levers opens the jaws to receive the egg, which is grasped when the levers are freed. The cup is then brought to a vertical position, standing upon the foot.

Claim.—An egg cup, consisting of the base A, spring jaws B, levers D, and handle E, all made and operating substantially as herein shown and described.

77,141.—J. B. WEBSTER, Stockton, Cal.—*Seed Sower and Harrow Attachment to Gang Plow.*—April 21, 1868.—The plows are arranged in the usual oblique order in the frame, which has a caster wheel in front and supporting wheels behind. The seed box may be placed to drop the seed in front of the plows, to be covered thereby or behind the plows, in which latter case a harrow is trailed in the rear.

Claim.—1. The plow frame *a a′ b*, provided with means for attaching a seeder to its front end, and provided also with the frame *d d′*, at its rear end, for the attachment of a seeder, substantially as described.

2. The bracket *e*, in combination with the plow frame *a a′ b*, as and for the purpose described.

77,142.—B. WEIRICH and JOHN SMITH, Middlebury, Ind.—*Farm Gate.*—April 21, 1868.—The gate is in two longitudinal sections, of which the lower one may be raised and slipped alongside of the upper to make an opening beneath for small stock, or raise the lower portion out of the way of snow. A lever pivoted to the heel post is the means of lifting.

Claim.—1. The sections C C′, lever *h*, and brace *k*, combined and operated as and for the purpose set forth.

2. The swinging bars *b b*, sections C C′, lever *h*, and brace *k*, all arranged as specified.

77,143.—CHARLES WELTE, Frankford, Pa.—*Meat Cutter.*—April 21, 1868.—The gang of knives at the lower end of the vertical shaft is reciprocated by a crank wheel, connecting rod, and balanced lever, while the meat box is revolved beneath so as to expose each part consecutively to the knives. A scraper turns the meat from the edges and places it in the track of the knives.

Claim.—The combination of the revolving meat box B, gear wheels I and H, vertical shaft G, bevel-gear wheels F and E, horizontal shaft C, crank wheel D, gear wheels J and K, short horizontal shaft L, crank or crank wheel M, connecting rod N, pivoted and balanced lever O, and slide R, to which the cutter T U V is attached, substantially as herein shown and described, and for the purpose set forth.

77,144.—AMOS WESTCOTT, Syracuse, N. Y.—*Churn.*—April 21, 1868.—The churn stands on three legs, one of which is adjustable to vary the position of the conical body. The arrangement of the oblique dashers drives the cream toward the small end of the body, from whence it returns down the inclined bottom. A fan drives a blast of air through the churn.

Claim.—The combination of the conical body, adjustable leg, horizontal dasher shaft, and alternately oblique dashers, and fan wheel, substantially as described, for the purposes set forth.

77,145.—CYRENUS WHEELER, Jr., Auburn, N.Y.—*Harvester.*—Division A.—April 21, 1868.—The axle of the ground wheel is cast upon one side of the frame, and the tubular box which receives the bevel-wheel shaft is cast upon the other side. The tongue and crank frame are hinged to the main frame at the axis of the bevel-wheel shaft. A sliding block upon the tongue receives the draught, which is communicated to a standard upon the crank frame. The cutting apparatus is raised by a lever upon a wheel connected with the shoe.

Claim.—1. A main frame, having an axle for the drive wheel, formed or cast on one side, and a hollow cylindrical arm on the other side, for supporting the shaft of the bevel wheel.

2. The main frame, as described, in combination with a tongue frame, hinged to the hollow cylindrical arm of the main frame.

3. The combination of a main frame, having an axle for the driving wheel on one side, and a hollow cylindrical arm on the other side, with a crank frame hinged to said arm, so as to vibrate independently of the main frame in following the undulations in the surface of the ground over which it is drawn, substantially as described.

4. The combination of a main frame, constructed as described, with a tubular box for holding the bevel-wheel shaft.

5. The crank frame, arranged and vibrating as described, in combination with a stop on the main frame, and a wheel and lever mounted on the shoe, for raising the cutting apparatus.

6. The driver's seat, mounted on the main frame in a position behind the main drive wheel, in combination with a crank frame so hinged to said main frame as to vibrate independently of said frame and seat.

7. Connecting the draught to a standard on the crank frame, in combination with hinging said crank frame to the main frame, on an axis coincident with the axis of the bevel wheel, but independent of the main axle.

77,146.—CYRENUS WHEELER, Jr., Auburn, N.Y.—*Harvester Rake.*—Division B.—April 21, 1868.—The machine is convertible as a reaper or mower, the parts in common being similar to the foregoing, (No. 77,145.) The rake and reel arms are guided in their irregular rotation by a cam track, each of the two rake and two reel arms having adjustable connection to its fellow. The said arms are actuated by chain gear. The rake heads on descending to the platform come in contact with the ridge board on the grain divider. The cutter is driven by a gear on the

ground wheel, which engages a pinion turning upon the bevel-wheel shaft, but forced by a spring to engage a cross-pin of the said shaft. The pinion may be slid out of engagement with the cross-pin to stop the cutter.

Claim.—1. In a combined reel and rake, the arms of which are hinged, independently of each other, to and travel around an axis perpendicular, or nearly so, to the platform, arranging said axis on the vibrating crank frame in front of a line drawn along the front edge of the finger bar.

2. Mounting the axis of a combined reel and rake on a vibrating crank frame, which can rise and fall independently of the main or gear frame.

3. The location of the axis of a combined reel and rake, upon a vibrating crank frame, behind the axis of the main wheel, in front of the finger bar, and outside of a line drawn across it at right angles, and touching the outside of the shoe.

4. In a combined reel and rake, the arms of which are hinged to and move around an axis perpendicular, or nearly so, to the platform, hinging the rake heads to the arms, and so combining them with mechanism, under the control of the driver, that the teeth of the rake shall, in reeling, retain a vertical position until they reach the finger beam, and then roll back to pass over the platform, and in raking retain a vertical position in their passage over the platform for the discharge of the gavels.

5. Driving a combined reel and rake, located on one side of and below the highest point of the drive wheel, by mechanism connecting it with the hub of the wheel on the other side, substantially as described.

6. Adjusting and supporting the crank frame and inner end of the cutting apparatus, in reaping, by a chain, connected with a lifting wheel and lever, mounted on the main frame, substantially as described.

7. Changing the angle of cut and the inclination of the platform by means of a pinion in the draught-frame, combined with a sector gear on the main frame.

8. The ridge board or inclined track on the grain divider, in combination with the overhanging ends of the rake heads.

9. The employment of set-screws, in combination with the rake and reel arms, and the revolving head, to which the arms are pivoted, for adjusting the height or angle of the rakes.

10. A combined rake and reel, the arms or rake heads of which rotate about a shaft or pivot in advance of the finger bar, and are of sufficient length to reach the point of the divider in reeling in the grain, in combination with an inclined track or ridge board for raising the rake heads to pass the cutters.

11. Automatically retracting the rake head, to cause the rake teeth to resume their vertical position by means of the lower heel end of the camway acting upon the inner or heel end of the rake head, substantially as described.

77,147.—Martin Wheeler, New Haven, Conn. —*Carriage Hub.*—April 21, 1868.—The spokes are first fixed in the wooden hub and then supported between two bands, one of which has side projections extending between the spokes and to the other band, and dowel pins passing through the latter.

Claim.—The plate C, provided with the arms or lugs *a*, combined with the hub A and spokes B and the plate D, when the whole is constructed and united, substantially in the manner herein set forth.

77,148.—Thayer D. White, Cincinnati, Ohio. —*Dovetail Machine.*—April 21, 1868.—The gang of circular saws is placed upon a mandrel separated by washers and clamped by a nut screw threaded on the mandrel. The saws have a gradually-decreasing diameter from end to end, so as to cut a like distance into the end of the board and in an inclined direction. The stuff is inclined by the adjustment of the fences and of the bed.

Claim.—The combined arrangement of a series of saws of unequal diameters, and an oblique table for feeding planks thereto, as and for the purposes herein specified.

77,149.—Thayer D. White, Cincinnati, Ohio. —*Machine for Making Dovetail Mortises.*—April 21, 1868.—The bed may be inclined, and the lower end of the gang of chisels has a like inclination, to cut out one side of a whole set of mortises at one operation.

Claim.—The removable block B, having two oppositely-inclined planes B′ B″, and employed in conjunction with the sliding gate D and chisels *d d*, substantially in the manner and for the purpose set forth.

77,150.—W. F. Wickersham and Elisha Roush, Springfield, Ill.—*Car Coupling.*—April 21, 1868.—The coupling bar trips the slotted link in entering, and the latter falls behind the projection on the link. A coupling pin falls into the slot of the bar and its rectangular arm rests on the gravitating link.

Claim.—The combination of the rod or pin D, gate C, link B, buffer A, pivot *a′*, and arm *a*, substantially as shown and described, and for the purpose set forth.

77,151.—Hiram S. Wiley, Madison, Ind.—*Machine for Jointing Staves.*—April 21, 1868.—The saw carriage traverses guides which are curved concentrically with the countershaft, from which the saw has motion. The staves are clamped in a curved form concentric with the course of the saw. The saw carriage is moved by a spur wheel, which is turned by a hand crank, and engages racks upon the frame.

Claim.—1. The curved guides B B, carrying the movable saw frame G, said guides being concentric with the driving shaft placed above the frame, whereby the tension of the belt from said driving shaft to the pulley H on the saw carriage is regulated, as herein shown and described, for the purpose specified.

2. The combination of the movable curved racks C C with the pinion M and the movable saw bed G, substantially in the manner herein shown and described.

3. The devices m^2 m^2, *m m*, *h h′*, *g g*, *n*, and the treadle *k*, for operating the curved racks C C, working together substantially as herein shown.

4. The clamps *c c′ c*, *r r′*, and their connections *m m*, m^1 m^1, for operating the same, as substantially set forth.

5. The combination of the catch *e* and its wiper *f* with the saw bed and lifting devices, substantially as herein shown and described.

77,152.—William Wilson, Galesburg, Ill.—*Slide Valve.*—April 21, 1868.—The valve seat has two exhaust ports and two cylinder ports. The valve has two exhaust chambers, two passages for exhaust steam and one for supply. The steam is taken and exhausted by double openings, and the valve serves as a cut-off.

Claim.—1. A steam sliding valve, provided with two exhaust chambers C, and the two exhaust steam passages a^2, and the steam passage a^1, whereby the steam is both admitted to and exhausted from a steam cylinder by double openings, substantially as shown and described.

2. A steam valve, provided with the steam passage a^1, and the exhaust steam passages a^2, and the chambers C, in combination with the steam and exhaust ports of any valve seat, A, substantially as shown and described, and for the purposes set forth.

77,153.—J. H. Wirt, Delphi, Ind.—*Concrete Brick Press.*—April 21, 1868.—The molds being charged with concrete and the cover fastened down, the followers are raised from below by the compound lever arrangement shown in the illustration. The cover is then withdrawn by one lever and the blocks raised by a third one to clear them from the mold.

Claim.—1. The compound toggle joint, consisting of the toggle bar *k*, link rod *e*, step lever *h*, and lever *a*, substantially as shown and described, in combination with the uprights *d* and bottoms *u*, for the purpose of compressing concrete blocks, all arranged as set forth.

2. The press, constructed as described, and consisting of the molds *b*, cover C, link E, lever D *p*, bottoms *u*, uprights *d q*, guide *m*, lever G *r s*, toggle bar *k f l*, step lever *h i*, link *e*, and lever *a*, all arranged within the frame A, and operating in the manner and for the purpose set forth.

77,154.—William W. Woodruff, New Britain, Conn.—*Fermentation Bung.*—April 21, 1868.—The hollow bung is surmounted by a tubular stem and a cup. A cap rests on the stem, and its rim is submerged in the contents of the cup. Carbonic acid generated by fermentation may pass from the barrel, but the cup and cap form a trap which prevents reflux of air.

Claim.—The bung *a*, cup *a'*, tube *a''*, and cap *b*, constructed and arranged substantially as and for the purpose described.

77,155.—James Wool, Boston, Mass., assignor to himself and F. Hunnewell, same place.—*Drop Hammer.*—April 21, 1868.—The lifter has a core of wood which maintains its density, and is faced on each side with leather which maintains the proper surface without growing so smooth or abraded as to impair its action.

Claim.—In combination with the weight and lifting rollers of a drop hammer, a lifter, having a stiff central body of wood, or its equivalent, faced on both sides with leather, or other equivalent yielding material, substantially as and for the reasons set forth.

77,156.—William H. Laubach, Philadelphia, Pa.—*Apparatus for Carbonizing Gas.*—April 21, 1868.—The chamber has a number of partial partitions extending from alternate sides, and which compel the liquid to follow a sinuous course in connection with the hydro-carbon liquid and saturated fiber. The gauge tube shows the height of the liquid, and is held between the caps by the straps and set screw.

Claim.—The hollow glass gauge tube C, caps *f f*, straps *d d*, set screw *e*, and tubes *g g*, in combination, made in the manner and for the purpose described.

77,157.—A. J. Adams, Portland, Oregon, assignor to himself and Boyd P. Quincy, same place.—*Animal Trap.*—April 28, 1868.—The two jaws are connected to a single spring beneath, and are held apart by a tripping platform. The animal steps on the platform, which falls and allows the impaling teeth to advance.

Claim.—The spring C and claws K, in combination with the hinged treadles and the base A E, all constructed, arranged, and operating substantially as described.

77,158.—Peleg Barker, Battle Creek, Mich.—*Lathe for Cutting Irregular Forms.*—April 28, 1868.—The material is clamped in the adjustable frame and is then fed beneath the rotating curved bit, which makes a groove in the blank. The article being then rotated another cut is made, and by a succession of operations it becomes fluted.

Claim.—The sliding adjustable frame G, containing the holding devices for the uncut timber, arranged relatively with the curved knife C, when constructed and operating as described.

77,159.—William T. Batty, Canton, Ohio, assignor to himself and Griffith Deshart, same place.—*Car Brake.*—April 28, 1868.—When the bunter bars of the cars come in collision, as in slacking up the train, the rear projection comes in contact with the brake lever and puts on the brakes. By rotating the knuckle-joint support the contact of the bar with the brake lever is avoided, and the brakes are operatable by the usual hand devices.

Claim.—1. The supporter P, with axes *b* and *c*, and crank R, when used in connection with knuckle joint O, substantially as and for the purpose herein shown.

2. The peculiar arrangement and combination of the crank R, chain S, pulley T, iron W, iron V, and car body X, the several parts being arranged as and for the purposes herein specified.

3. The peculiar arrangement and combination of the draw bar K, knuckle joint O, supporter P, and brake lever H, the several parts being arranged and combined substantially as and for the purpose specified.

77,160.—William T. Best, Scranton, Pa., assignor to himself and Daniel Vaughan, same place. *Churn.*—April 28, 1868.—The cream is subjected to a double process, being first acted upon gradually by breakers in a small vessel, and flowing thence into the main body of the churn, in which it is beaten by dashers on a vertical revolving shaft. A pan-shaped lower portion collects the butter.

Claim.—1. The supplementary box B, having a converging bottom, and being provided with the slotted and perforated cylinder C, and used with the staff E and its breakers, as and for the purpose set forth.

2. The frame N, constructed substantially as described, and provided with a rim around its lower end for collecting the butter, said frame being used in the churn A and with the staff L and its dashers, as and for the purpose specified.

3. The gate *d*, surrounding the slotted portion of cylinder C, for regulating the flow of cream to said cylinder, substantially as herein specified.

77,161.—A. Milton Blake, Canton, Ohio.—*Spring for Chairs.*—April 28, 1868.—The front legs have conical coils which form spring feet. They are attached by metallic sockets to the legs, and have sole plates which rest on the floor.

Claim.—The use of the conical spiral spring F, in combination with the foot plate G, plate E, socket or spindle D, and chair leg C, in the manner and for the purpose herein specified.

77,162.—John A. Bower, Middlefield, Ohio.—*Carriage Lock.*—April 28, 1868.—The hold-back straps are attached to loops on sliding bars beneath the thills, and the bar vibrates the brakes on the pivots in the cross bar of the thills, bringing them against the wheels.

Claim.—In the brakes for carriages, the levers B B, hinged heads E E, springs J J, and rods G G, as arranged in combination with the thills A A, in the manner and for the purpose substantially as set forth.

77,163.—Silas H. Bowman, Half Moon Bay, Cal.—*Manufacture of Brick.*—April 28, 1868.—With the loamy clay for 1,000 bricks is mixed peat, 200 lbs.; and crude petroleum, 3 galls. The bricks should be well dried, and, when igniting the kiln, the flame should be driven through all parts at once to prevent the collection of vapor in any part.

Claim.—The use of petroleum and peat in the manufacture of bricks, by mixing both, or either one of them, with the clay of which bricks are to be made, substantially in the manner and for the purposes herein set forth.

77,164.—Joshua Briggs, Peterboro, N. H.—*Piano Forte Stool.*—April 28, 1868.—The stool has metallic legs, wooden feet and an ordinary seat. The slotted flanges of the legs slip over and are fastened by screws beneath the seat.

Claim.—1. Constructing the stool with metal legs *c*, each having a flange, *d*, containing a socket, *e*, to enable the leg to be fastened by and slid from the screw *f*, which connects it to the seat, and pins *g*, to keep the leg in position, substantially as set forth.

2. Combining with each leg, as described, the toe piece *i*, of wood, driven into a socket, *h*, in the leg, substantially as and for the purpose set forth.

77,165.—Asa T. Brooks, New Britain, Conn., assignor to Russell and Erwin Manufacturing Company, same place.—*Key-Hole Guard for Door Locks.*—April 28, 1868.—When the key is inserted and turned, the first rotary motion brings the cut-off in front of the key-hole, closing all but that portion occupied by the band of the key, while the bit of the key moves the bar and by the intervention of the connecting parts throws the bolt. Unless the key corresponds to its duty it is powerless to act upon the bolt, and the key-hole is guarded to prevent the introduction of implements.

Claim.—The combination and arrangement of the oscillating spring guard or ward bar A, with the latch and tumblers, substantially as and for the purpose described.

77,166.—Lorin Brooks, New York, N. Y.—*Boot and Shoe Conformateur.*—April 28, 1868.—The "size-stick" has the usual heel-piece and a sliding toe-

piece to measure the length; a sliding standard has means upon it for measuring the height of the instep and the height of the shank or "hollow" of the foot.

Claim.—The combination, with the horizontal scale or size-stick A, of the vertical sliding standard B, provided with the scale *d*, adjustable arm C, and spring table D, arranged and operating substantially as and for the purposes set forth.

77,167.—CHARLES P. CARTER, Poughkeepsie, N. Y., assignor to himself and NORRIS M. CARTER, same place.—*Mechanical Power.*—April 28, 1868.—The motion of the pendulous weight is communicated to the gearing and to the walking beam, to whose outer end the churn dasher is attached.

Claim.—1. The wheel *d*, with teeth, formed as shown and described, in combination with pawls E E, for imparting motion to flange *f* and arm J, in the manner shown and described.

2. The ball *h*, when arranged and combined with shaft *g* and flange *f* and pawls E E, substantially the same as shown, and for the purpose set forth.

77,168.—WILLIAM Z. W. CHAPMAN, New York, N. Y.—*Inhaling Gases.*—April 28, 1868.—A flexible pipe conveys the gas to the inhaler, and the claims cite a number of specific features for adapting it to be readily accessible to exhaust the effete air into the atmosphere and to indicate the quantity of gas at command.

Claim.—1. Placing the gas pipe *a* in said apparatus at an angle with the pipe *b*, for inhaling through, to obviate the necessity of a valve to prevent the return of the exhaled gases into the gas pipe, substantially as herein described.

2. The expanding mouth-piece, constructed and arranged substantially as and for the purposes set forth.

3. A suspending device, employed in combination with the breathing apparatus, by which the same is drawn out of the way, and supported when released by the operator, substantially as and for the purposes set forth.

4. The formation of the joints of the apparatus by compressing the elastic tube between the surfaces of two rigid tubes, as above specified.

5. The construction and operation of the breathing apparatus, substantially as herein described, so as to administer the gas; if required, during an operation, or while the month is open and free therefor, as well as before the patient is rendered insensible, substantially as above specified.

6. Affixing a gas inhaler to the nose of a patient by the employment of an apparatus, substantially as herein described, in combination with said inhaler, so as to administer gas while the operator is free to operate upon the patient without the aid of assistant, as would otherwise be required.

7. Affixing the apparatus either to the operating chair or other suitable permanent fixture, so as to relieve the operator or patient of the weight and annoyance of the apparatus, while it is at all times ready for use without other aid, substantially as herein described.

8. The devices illustrated in Figs. 3 and 5, adjustable or otherwise, substantially as there represented, for opening the jaws of the patient, as herein set forth.

9. The employment of an indicator in combination with a respirator and gas receptacle, presenting to the eye of the operator at all times the state of the apparatus and the supply and quantity of gas taken, substantially as and for the purposes set forth.

10. The diaphragm, substantially as described, to be placed in the mouth, to cut off communication between the lungs and the external air through the mouth when the mouth is open.

77,169.—GEORGE CLIFF, Memphis, Mich.—*Loom.*—April 28, 1868.—The whole mechanism of the loom is operated by movement of the lathe.

Claim.—The combination of the top beam A, the lathe B, the breast beam C, the cloth beam D, the frame E, the treadle wheel F, the shuttle thrower G, the latch H, the treadles I, the pulley J, the yard beam K, the pins L, the spring bar M, the standard N, the frame O, the button P, the cords Q, the transverse tie R, the standard S, the oscillating frame T, the connection U, the spring V, the hangers W, the geared wheel X, the dog and spring Y, the geared wheel Z, the bed 2, and the cord 3, when constructed, arranged, and operating substantially as and for the purposes hereinbefore described and shown.

77,170.—J. H. COLE, Milbury, Mass.—*Die for Making Thimbles and Ferrules.*—April 28, 1868.—The die has a circular vertical-sided portion which just receives the blank disk, and from this part the die gradually decreases in diameter so as to cause the contraction of the edge of the metal without buckling.

Claim.—Jointly, the die and plunger A and B, the co-acting surfaces of which have the configuration herein described and shown, for the manufacture of ferrules and thimbles from disks of cold wrought iron, in the manner hereinbefore set forth.

77,171.—THOMAS B. CONKLIN, Rockford, Ill.—*Drive Well.*—April 28, 1868.—The tube has a detachable head, longitudinal slits, and a foraminous case.

Claim.—The pipe A, with slits *a*, and lips *a'* in combination with bands B and screen C, arranged as described.

77,172.—GEORGE W. CORBIT, JAMES M. ORPUT, and GEORGE M. CASE, Malta, Ill.—*Churn.*—April 28, 1868.—The semi-cylindrical churn has an oscillating dasher, whose arms interlap with arms projecting radially inward from the sides of the tub. The dasher is reciprocated by a train of gearing through the intervention of a cam, ratchet bar, and segment gear.

Claim.—1. The combination of the cam *e f g*, bar *f h*, and wheel 1 2 3 4, substantially as described.

2. The method of connecting and detaching the cog-wheel P with the other parts by the device substantially as described.

3. The combination of the cam *e f g* and wheel 1 2 3 4, substantially as described.

77,173.—FRANCIS and GEORGE G. CRAGUE, Lewiston, Me., assignors to WILLIAM N. HIGGINS, and said HIGGINS assignor to himself, F. O. SANDS, W. M. EMERSON, and W. T. MCNALLY.—*Roller for Drawing Machines.*—April 28, 1868.—The core of the upper roller in machines for treating cotton or wool is covered with thick woolen cloth, glued on, and the cloth is covered with layers of twine saturated with varnish, which receives a "surface."

Claim.—The within described roll for machines for treating cotton and wool, when constructed and operating as and for the purposes set forth.

77,174.—JOHN CURTIS, Truro, Ill.—*Farm Gate.*—April 28, 1868.—The gate is suspended by its middle bar from a crane hinged to the post. The latch is automatic, and consists of an angular slotted bar on the post, on which is pivoted a horizontal, segmental plate, into whose notch the gate shuts. A lever latch falls into an opening in the plate and fastens it and the gate.

Claim.—1. The combination of the gate P, with the crane *z*, link or hinge *g*, and screw-rod E, substantially as, in the manner, and for the purpose as herein shown and described.

2. The construction and arrangement of the slotted angular bar R, metallic plate D, and lever *h*, when used in combination with a farm gate, and operating substantially in the manner and for the purpose as herein set forth.

77,175.—R. E. CURTIS, Great Bend, Pa.—*Cutlery.*—April 28, 1868.—The tang runs through the handle. The bolster is in two portions, riveted to the tang, and forms sockets for the scales, which are also riveted to the tang.

Claim.—As a new article of manufacture, knives or forks constructed substantially as described.

77,176.—MARTIN DARLING and HALA GRAY, Marathon, N. Y.—*Cultivator and Potato Digger Combined.*—April 28, 1868.—The earth is thrown outward from each side of the potato row, and the potatoes raised by the inclined rake.

Claim.—The frame A *a*, oblique cultivator rake

B *b*, laterally-adjustable plows C C and adjustable supporting wheels and standards *e f*, all combined, constructed, and arranged as herein shown, and for the purpose set forth.

77,177.—Charles De Hass, Washington, D. C.—*Roofing Buildings.*—April 28, 1868.—Over a common, longitudinally-laid, inch sheeting, T-rails, half an inch deep, are nailed, in a lateral direction, 2½ feet apart. The spaces between the rails are filled in with concrete, having lime, 1; hydraulic cement, 1; and sand, 3 parts. The cement is immediately rolled, and an outer coating applied having equal parts of sand and asphaltum.

Claim.—A roof, constructed as herein described.

77,178.—Lewis Donnell, Columbus, Ohio.—*Tuyere.*—April 28, 1868.—The blast passes up an annular space between an outer and inner cylinder, and over the top of the latter. The blast is regulated by screwing the inner cylinder in the outer one.

Claim.—A combination of the screw *p* with the revolving top A, the valve O, the cylinder C and J, and the handle or lever N, constructed and operated substantially as and for the purpose set forth.

77,179.—Nicholas Downes, Syracuse, N. Y.—*Stove Drum.*—April 28, 1868.—The heat radiator is connected by its upper end to the stove, and by both ends with the chimney. The radiator is traversed by vertical air tubes. The pipe connecting the upper part of the radiating drum and chimney has a damper. A pipe passes through the bottom of the drum and discharges air into the upper part thereof. The said pipe has a lid which may be placed on its lower end.

Claim.—The shell B, flues *d d*, pipes C, *e*, *f*, *g*, I, and damper *h*, all constructed and arranged as herein shown, and for the purpose described.

77,180.—Robert Elliott, Chester, Pa.—*Railway Rail Spliee.*—April 28, 1868.—The edges of the plate lie respectively beneath the rail, and outward along the tie. The rebent edge of the plate is folded into four thicknesses, and bolted to the rail. The bolts pass through plates which are bent over the heads and nuts respectively, and the latter plates have rectangular holes serving to prevent the nuts shaking loose.

Claim.—1. The railroad rail joiner, composed of the double flanged plates D and E, of wrought iron, the bolt F, burr *g*, and guards G and H, all constructed substantially as set forth.

2. The guard H, overlapping a series of two or more projecting bolt-heads, *f*, to prevent the bolts F from working out of their places in case of the accidental removal of some of the burrs, *g*.

77,181.—John H. Elward, Chicago, Ill.—*Wrist Pin for Reapers and Mowers.*—April 28, 1868; antedated April 15, 1868.—An octagonal or other angular-sided hole in the rim of the crank-wheel receives a pin of corresponding form, which is secured by a spline key. The wrist pin, to which the pitman rod is connected, may be adjusted toward or from its axis of motion to regulate the length and velocity of its stroke.

Claim.—The combination of the wheel B, provided with an angular recessed or slotted opening *b*, with the wrist pin C, provided with angles corresponding with the said opening, and a key, *a*, all arranged and operating substantially as set forth.

77,182.—George F. Foss, East Boston, Mass., assignor to himself and Samuel C. Hopkins, same place.—*Bean Pot Lifter and Carrier.*—April 28, 1868.—The pot is supported in a wire lifting frame. The lid is upon a stem which passes through the connecting piece beneath the bail, and is secured by a set screw.

Claim.—The bean pot carrier, made substantially as described, that is, of the bottom guard *d*, the wires *a* and *b*, the cover *g*, the connection piece *e*, and the clamp screw *i*, arranged and combined as specified.

77,183.—Stephen Fountain, Silver City, Nevada.—*Amalgamator.*—April 28, 1868.—The pan has a central, hollow column for the passage of the vertical shaft which rotates the muller, and around the said column is a second wall enclosing a steam heated space.

Claim.—Casting the pan with a hub, having an opening through it for the shaft to pass through, and having a double wall around this opening to form a steam chamber for supplying heat to the machine, substantially as described.

77,184.—Joseph S. Godfrey, Leslie, Mich.—*Revolving Mold Board.*—April 28, 1868.—The mold boards are circular, tapering blocks, and are hung so as to turn with the friction of the earth upon them.

Claim.—The combination of the mold boards A A with the cutters B B, the shares C C, the shafts D D, and the frame E, when constructed substantially as described, for the purpose designed and set forth.

77,185.—William Gray and Henry E. Porter, Hebron, Conn.—*Attaching Axles to Vehicles.*—April 28, 1868.—A circular plate attached to the rocker has an outwardly projecting flange which lies under an inside flange of a circular plate attached to the axle.

Claim.—1. As an improved mode of manufacture, a device for securing together the forward axle and rocker of a vehicle.

2. The combination of the plate B, having a round flange, D, plate F, with a corresponding round flange recess and plate G F, which encloses and allows the flange D to work closely and freely therein, by means of the segmental portion H of said plate, and the projections K, for griping the rocker A and axle E, substantially as and for the purpose described.

77,186.—Chauncey O. Geeene, Troy, N. Y.—*Mode of Preventing the Corrosion of Cast Iron Vessels.*—April 28, 1868.—The inner side of the vessel is coated with linseed oil and heat applied thereto to form a permanent coat of the same upon the metal.

Claim.—As a new manufacture, the improved article of cast iron vessels, as described herein, and having their interior surfaces prepared or lined by the application thereto of oil and heat, thereby forming a hard, durable lining coat therein, in the manner substantially as set forth, and by which said vessels are made non-corrodible, as described.

77,187.—Henry R. Hall, Philadelphia, Pa.—*Enameling Machine.*—April 28, 1868.—The driving shaft and pinion wheels give motion to the endless chains. The moldings or other things to be enameled are introduced into the spaces between the chains and are fed forward through the hopper which gives the coating material and the scraper which removes the surplus. The side of the hopper forms the scraper.

Claim.—1. Making the hoppers and scrapers self-adjustable by the application of springs thereto, substantially as shown and described.

2. Feeding the moldings or other objects to be enameled through the scrapers by means of endless chains set edgewise, and provided with flat links to prevent indentation of the moldings, substantially as shown and described.

3. Making the bed plates *b* and b^2, both or either of them, with their chains or other attached parts, adjustable relatively with the fixed bed plate b^1, its chain and other attached parts, to adapt the machine to the various sizes of moldings or other objects to be enameled, substantially as shown and described.

4. The endless chains *k* k^1, their respective ways or lateral bearings *m* m', and the mechanism for giving motion to said chains, in combination with two scrapers or a single scraper, substantially as shown and described, for the purpose specified.

77,188.—John S. Hall, Pittsburg, Pa.—*Plow.*—April 28, 1868.—The mold board and landside are made in one piece, either cast together or subsequently attached. The share and renovator are detachable.

Claim.—A mold board and landside united in one piece, the former having the share and point attached to it, and the latter having the renovator or sole attached to it, and both united to a standard, A, so

as to be readily removed when worn out, and replaced by another mold board and landside, in the manner and for the purpose described.

77,189.—Henry Heath, New York, N. Y., assignor to Fisk, Clark, and Flagg, same place.—*Cloth Drawers.*—April 28, 1868.—The drawers are made of woven cloth. The waistband is depressed and pointed in front so as to fit the abdomen. The leg has a seam behind the knee and terminates in an ankle band.

Claim.—1. The combination of a pointed waistband with a cloth leg, constructed with a seam at the rear of the knee, substantially as before set forth.

2. The combination of the drawers leg, constructed with a seam at the rear of the knee and a band at the lower end of the leg, substantially as before set forth.

3. The combination of the drawers leg, constructed with a seam at the rear of the knee, with both a pointed waistband and an ankle band, substantially as before set forth.

77,190.—Smith S. Henderson, North Cohocton, N. Y.—*Wagon Brake.*—April 28, 1868.—As the tongue oscillates vertically in holding back, the bent bar at its rear end is depressed and draws upon the chain which brings the rubbers against the wheels. To obtain an extra pressure an auxiliary block is brought down parallel with the usual rubber so as to decrease the interval between the rubber and the wheel.

Claim.—1. The arrangement and combination of the wagon tongue or pole I, bent metal bar H, chain F, roller G, and slide bar E, to connect with the brake bar D, for operating in the manner herein described.

2. The brake blocks *c c* and *a a*, hinged together with slotted straps *e e*, as constructed and secured to the hinged brake bar D, the same being connected by levers *d d* with the slide E, by a plate hinge *f*, so as to adjust the pressure of the brakes to the wheels, substantially as and for the purposes set forth.

77,191.—Charles S. Houck, Greenport, N. Y.—*Capstan for Hoisting Machines.*—April 28, 1868.—The ordinary capstan has a lever frame and brakes near the top of the vertical shaft. The brakes are operated from the floor above for the purpose of disengaging the sweep to which the horse is attached, and to regulate the descent of the follower and bottom press.

Claim.—1. The combination of lever H, connecting bar or leg C, lever frame L, yoke K, slide block *b*, long arm or connecting bar *e*, short arm *g*, and rod *f*, or their equivalents, when arranged and employed in the manner or substantially in the manner and for the purpose herein set forth.

2. The combination and arrangement of the lever frame L, or its equivalent, with the brake blocks *d d'* and rim or circle *s s*, as or substantially as and for the purpose herein described, when located with respect to shaft A and to each other, substantially as described.

77,192.—James C. Iden, Buckingham Township, Pa.—*Safety Pocket.*—April 28, 1868.—The hasp, catch, spring, and disengaging thumb piece are constructed as usual. To the thumb piece is hinged a catch piece which shuts down upon one jaw of the hasp and prevents the depression of the thumb piece until the said catch piece is lifted.

Claim.—The catch E, in combination with the thumb piece D, spring C, clasp A A', with the indentation G therein, and hasp B, substantially as set forth, for the purpose specified.

77,193.—Anthony Iske, Lancaster, Pa., assignor to himself and Benjamin Mishler, same place.—*Hospital Bedstead.*—April 28, 1868.—The hinged trap supports the piece which fills the opening in the mattress above the bed pan, and is swung downward before the pan is placed in position by slipping its supporting board on the rods beneath the bed. The rack bars admit vertical adjustment of the head and foot pieces respectively.

Claim.—In combination with my swinging trap L, the sliding table Q, with its grooves *q*, supported on the cross braces I, with the stop *i*, together with the arrangement of the several rack bars D K, when held in pivots, and mode of making and connecting the several segments, all arranged and operating in the manner and for the purpose specified and shown.

77,194.—David A. James, Cincinnati, Ohio.—*Expressing Liquids from Solids.*—April 28, 1868.—The material is placed in the canvas bag which forms a lining to the perforated tube. The tube may be from thirty to fifty feet in length, and the weight of the column above expresses the fluid from the lower portion. A valve allows a portion of the material to pass off below when the operation on the lower part of the column is complete.

Claim.—1. The method of expressing fluids from solids, by the pressure of the material to be acted upon, in a tube or trunk, substantially as described.

2. The perforated trunk, in combination with the cloth or canvas lining, substantially as and for the purposes described.

3. The combination of the perforated trunk with the discharge valve C, substantially as and for the purposes described.

77,195.—Thomas Jenkyn, Thetford Centre, assignor to Bartlett Burr, Fairlee, Vt.—*Sawing Machine.*—April 28, 1868.—The machine is adapted for performing a variety of work, having circular saws and rotary cutters in connection with frames and tables for the presentation of the wood, in slitting, cross cutting, planing, tenoning, grooving, beading, and chamfering. Fences, gauges, and special adjustments are used and varied according to the adjustments.

Claim.—The construction and arrangement of the reciprocating table P, hinged table H, tables Q T V, saw arbors C D, and cutter heads U W, all operating upon the same frame, in the manner and for the purposes herein shown and described.

77,196.—Isaac D. Johnson, Kennett Square, Pa.—*Check Brace for Carriages.*—April 28, 1868.—The check braces connect the upper parts of the springs to the coupling pole or perch. They permit freedom of vertical motion, but oppose horizontal deflection.

Claim.—The combination of the two braces B B, their attachment to the upper half of the springs or spring bars E E, the braces A and C, and the flexible plate B, all constructed, arranged, and employed in the manner and for the purpose herein shown and described.

77,197.—Timothy Keeler and George S. Avery, Danbury, Conn.—*Variable Eccentric.*—April 28, 1868.—The rod is attached by a ring to the collar on the eccentric, and being held at its other end in a socket which is out of the plane of revolution of the eccentric, receives a lateral reciprocation as the eccentric rotates.

Claim.—Connecting the rod C to the eccentric A, whereby an oscillating motion is imparted to the rod C, varying from a line at right angles with the eccentric shaft, and without varying the throw of the eccentric, as herein shown and described.

77,198.—Gideon King, Eminence, Ky.—*Hog Scalding Tank.*—April 28, 1868.—The hog is laid upon a rack which is supported by cords attached to its four corners and drawn up by a windlass journaled to standards at the ends of the trough which is placed over a furnace.

Claim.—1. The bevels R R, and the adjustable sheet iron plates N N, when applied to the tank G, as and for the purpose described.

2. The sheet iron M, with the angle D D, when confined to the tank G, as and for the purpose set forth.

3. The crank T, cog wheels K, windlass H, and rack E, in combination with the shafts F F, when arranged, constructed, and attached to the tank G, as and for the purpose specified.

4. Rope A', pulleys *j j*, pole *w*, and pole *v*, in combination with shafts F F, when constructed and operated substantially as and for the purpose described.

77,199.—William Koplin, New Castle, Pa.—*Spike Machine.*—April 28, 1868.—Improvement on his patent, January 15, 1867. The heated rod rests upon a carriage and is fed to the cutters by an arm on the main rock shaft. The edge of the upper die forms one cutter and the lower cutter recedes as the blank is severed and formed between the two dies; the header is then advanced to complete the operation.

Claim.—1. The cutter *k*, moving in the arc of a circle, in combination with the receding cutter *h*, substantially as and for the purpose set forth.

2. The combination and arrangement of the dies K K′, sliding cutter *h*, pivoted stock *s*, carriage *t*, arm *u*, spring *s′ v*, lever *m*, and shaft *m′*, substantially as and for the purposes described.

77,200.—Augustus Lafever and Ransom K. Laraway, Battle Creek, Mich.—*Equalizer.*—April 28, 1868.—The doubletree is attached by a spring and ease to the hook on the tongue so as to avoid jerks and have an indication of the power employed. The singletree draws upon a bolt which acts in conjunction with a spring behind the doubletree near its end.

Claim.—The combination of a draught indicator, on the draught pole, with an equalizer D, on the doubletree F, substantially as described.

77,201.—W. I. Ludlow, Cleveland, Ohio.—*Fruit Bag.*—April 28, 1868.—The bag is hooked to a limb while being filled, and may be lowered by the picker and the hook disengaged from the bail, so as to empty the bag upon the ground and draw it again into the tree without the descent of the person picking the fruit.

Claim.—The bag or vessel A, when provided with a bail B, and when connected at its under side with a rope or cord, C, to which a double hook, D, or its equivalent, E, is attached, all made and operating substantially as herein shown and described.

77,202.—Paul Marcelin and Joseph Saunders, Green Point, N. Y.—*Pan for Concentrating Sulphuric Acid.*—April 28, 1868.—Each pan overflows into the one next below, and by means of the partial partition and spout the liquid is taken from the bottom of the pan where it is in the most concentrated condition.

Claim.—Providing a pan for concentrating sulphuric acid, with a partition or partitions, *a*, reaching nearly to the bottom of the pan, substantially as and for the purpose herein shown and described.

77,203.—Seth March, Norfolk, Va.—*Plow Frame.*—April 28, 1868.—The trapezoidal iron frame is bolted to the beam and forms a means of attachment for the share and mold board. Openings in the iron frame admit the bolts for attaching the parts together, and the elongation of the slot gives means of adjustment.

Claim.—The frame A, provided with the elongated slots *a′*, for the adjustment of the mold board, and the elongated slot *i′*, for the adjustment of the plow beam, substantially as described.

77,204.—William Hartley Miller, Philadelphia, Pa.—*Packing for Engines, Pumps, &c.*—April 28, 1868.—The calcimine is mingled with the fibrous material used in packing.

Claim.—1. The use of calcimine, china clay, or white clay, or their equivalents, as a substitute for dry-powdered soapstone, and other dry-powdered substances, in their combination with fibrous or other materials in the manufacture of packing.

2. The use of calcimine, china clay, white clay, or their equivalents, for the purpose above described, in the manner above described, or any other practical application thereof, whereby said substances become ingredients of packing for the stuffing boxes of engines, pumps, and for the joints of other machinery.

77,205.—F. I. Norton, Tremont, Ohio, assignor to himself and William H. Cloud, same place.—*Drying Apparatus.*—April 28, 1868.—The steam is conveyed around the building by pipes near the floor and thence into vertical branch pipes, over which are placed perforated articles, such as carriage hubs.

Claim.—1. An apparatus, substantially as described, for discharging steam into the central openings of wagon hub, and other similar perforated articles of wood, for drying the same, as and for the purpose described.

2. The combination of the steam coil C and vertical ejecting pipes *d*, substantially as and for the purpose described.

3. The combination, with a drying chamber, A B, of the steam pipes C *d*, substantially as and for the purpose described.

77,206.—S. E. Oviatt, Richfield, Ohio.—*Grain Separator.*—April 28, 1868.—Instead of a continuous, slatted straw carrier, the conveyor is made in sections. The first receives the matter from the threshing cylinder and delivers to the next above, and so on. Fingers on the bars are so arranged as to take a tangential position in passing over the drums and thus interlap with and clear those of the section next below.

Claim.—1. A grain-separating conveyor constructed in sectional carriers B, provided with bars D and fingers *a*, so arranged that the axis of the lower end of one carrier is below the axis of the upper end of the next lower carrier, substantially as and for the purpose set forth.

2. A conveyor or carrier constructed in sections, with each section provided with bars D and fingers, so arranged that the fingers of one sectional carrier will interlap with the fingers in the adjoining carrier, as and for the purpose set forth.

3. The carrier sections so arranged in relation to each other, when provided with bars D and fingers *a*, that the plane or upper end of one carrier shall be above the lower end of the next succeeding carrier, substantially as and for the purpose set forth.

77,207.—George T. Palmer, Brooklyn, N. Y.—*Mosquito Net Frame.*—April 28, 1868; antedated April 14, 1868.—The canopy is suspended over the center of the bed and has radial slats which are turned around toward the head of the bed to bring the net out of the way.

Claim.—1. A radially folding mosquito net canopy frame composed of folding arms *e e e*, disk or support *d*, and supporting arm C, made substantially as and for the purpose shown and described.

2. Supporting a radially folding canopy frame from under its center by means of the standard B and supporting arm C, when the arm C extends over the bed and the folding frame is pivoted thereon, substantially as shown.

3. The rods *f f* suspended from the folding arms of a mosquito net frame, for the purpose of folding and unfolding the frame, substantially as shown.

4. The pins *a″ a″*, in combination with a radially folding mosquito net frame, whether said pins are affixed to the arms of the frame or fitted in sockets at the ends of the arms, for the purpose described.

5. Supporting the radially folding arms of a mosquito net canopy frame by supporting braces pivoted to the upright *c*, substantially as shown.

77,208.—John T. Parson, Washington, D. C.—*Roadway Pavement.*—April 28, 1868; antedated April 18, 1868.—The brick blocks are octagonal prisms and are set on end; the square intervals occurring on four of their sides are occupied by wooden keys. The block is made of refractory clay requiring great heat, and is a partially vitrified silicate of alumina, tempered without much lime or other flux.

Claim.—1. A paving block, having an octagonal-shaped end, composed of clay treated as described, and for the purpose set forth.

2. A paving block of octagonal or other form, designed and arranged so as, when laid, to leave small holes at regularly recurring intervals, for the purpose set forth.

3. The herein-described baked or burned clay paving block, as a new article of manufacture.

4. The combination, to form a roadway pavement, of paving blocks, having an octagonal or other form, designed and arranged so as, when laid, to leave small holes at regularly recurring intervals, and wooden keys, substantially as described.

77,209.—George W. Parsons, Harrisburg, Pa.—*Straw Cutter.*—April 28, 1868.—The feed rollers are operated by a spur wheel on the crank shaft which engages an inside gear wheel upon the lower feed roller. Motion is communicated from the lower to the upper feed roller by disks which have side teeth having an ovate acuminate section which allows the upper roller a considerable vertical play. The knives on the wheels are counterbalanced by blocks which may be removed and knives substituted to cut the chaff to half the length. The motion is communicated to the fly wheel by a friction device or by wooden pins, so that in case an obstruction passes under a knife the fly wheel may rotate singly.

Claim.—1. The pinion O, on the end of the shaft *e* of the driving gear wheel, in combination with the movable and adjustable brace N.

2. The internal gear wheel H, in combination with the driving gear wheel K, whose shaft is supported by a movable and adjustable brace, as set forth.

3. The movable and adjustable brace N, supporting the large gear wheel K, in combination with the cog pinion I on the knife shaft D.

4. The pinion P, fitting on and over the pinion O, in combination with the shaft *e* and driving gear wheel K.

5. The combination, in a straw cutter, of a feed roller whose shaft moves up and down, with the driving gear wheel K and pinion O, when said wheel and pinion are supported by an outside brace.

6. The employment of detachable counterbalances F F on the arms of the knife shaft D, when combined with a single adjustable rotary knife.

7. Operating the feed roller C′ of a straw cutter by means of the disks R, when constructed with cog teeth *f f f*, disconnected radially from the hubs thereof, in the manner and for the purpose as described.

8. The screw nut T, elastic washer *g* and fixed driving washer S, with radial ribs, in combination with the radial ribs on the hub of the fly wheel, substantially as described.

9. The construction of the hub and fixed driving washer, with holes *h* for the insertion of wooden pins, substantially as described.

10. The construction of the shaft, with a hole, *g′*, for the insertion of a wooden pin, with the slot across the hub of the fly wheel, substantially as described.

77,210.—John Player, Norton, England.—*Manufacture of Balls, Blooms, and Slabs of Malleable Iron.*—April 28, 1868.—When the iron is brought to a malleable condition, instead of balling by hand it is removed to a mold, and subjected to heavy pressure.

Claim.—The forming a ball, bloom, or slab of iron or steel, made malleable by the operation of puddling, by moving the metal out of the furnace where it has been puddled into a mold or form, in which it is subjected to heavy pressure, substantially as described.

77,211.—E. T. Prindle, Aurora, Ill.—*Cutting Tool for Planing and Milling Machines.*—April 28, 1868.—The tool is pivoted in a slot of the holder and forced to its cutting position by a spring. It is set by two screws.

Claim.—The cutting tool, composed of the shank A, cutter B, with the shoulder F and set screws D and G, when constructed in the manner and for the purpose substantially as herein specified.

77,212.—Ivy Atwood Putnam, Mexico, Me.—*Chute for River Navigation.*—April 28, 1868; antedated April 18, 1868.—A chute or canal traverses the shoal place, and the passage of the boat either way is assisted by rollers set in the bed of the stream and journaled in the side timbers of the chute, which is of only sufficient width for the passage of one boat, so as to economize the water and obtain a deeper stream at that point. A dam is built across the river excepting the width of the chute.

Claim.—The construction of a chute for the passage of boats over the shallow or rocky parts or rapids of a river, in the manner substantially as specified.

77,213.—Ulysse Humbert Ramuz, Chaux De Fonds, Switzerland, assignor to Henry Hirsh and Seligman Oppenheimer.—*Self-Winding Watch.*—April 28, 1868.—The cover is connected to a lever which is operated by opening and closing the said cover, and acts through a gimbal joint upon a lever to which a curved ratchet bar is pivoted. The curved ratchet bar engages a ratchet wheel which communicates with the works so as to partially wind the same when the cover is opened to observe the time.

Claim.—1. The rack or ratchet E, operated by the lever D, and connected to the cover A′, and to the works of the watch, substantially as and for the purposes herein set forth.

2. In combination with means substantially as herein specified for winding the watch by the motion of the hinge, the independent button H, shaft *h*, and crown wheel J, arranged and connected with each other, and with the hands, and with means for holding the button within the case when not required, substantially as and for the purposes herein set forth.

77,214.—Franklin Ransom, Buffalo, N. Y.—*Hydraulic Engine.*—April 28, 1868.—The water from an elevated reservoir bears upon the pistons of the pump and engine and operates the pump. The slide valves of the engine and pump are actuated by a lever on the common piston rod, which is tilted by striking the stuffing box.

Claim.—The engine A and pump G, connected to the supply pipe N, by the branches *o* and *p*, so as to operate in the manner and for the purpose substantially as set forth.

77,215.—Charles Reistle, Brooklyn, N. Y.—*Tumbler Holder.*—April 28, 1868.—The holder has a ring at the lower end to receive the tumbler, and a projection at the upper end which extends over the rim of the glass and has a button engaging the same.

Claim.—A tumbler holder, having a handle *b*, ring *c c*, projection *d*, and button *e*, in substantially the manner described and shown, and for the purposes set forth.

77,216.—Jane Riley, Cincinnati, Ohio, administratrix of the estate of John D. Riley, deceased, assignor to Henry G. Dayton, Maysville, Ky.—*Distilling Apparatus.*—April 28, 1868.—The vapors pass up into the doubler by vertical pipes and deflecting tubes, and then pass out at the top of the doubler into a second vessel. From the latter the vapor rises by pipes which pass through the double bottom and lower water jacket of the condenser and thence upward, being again deflected downward by caps and open-bottomed tubes which lead it into the condenser, which as well as the deflecting pipe is cooled by the surrounding water. A pan above supplies water to the lower jacket and also to the water space around the upper tubes.

Claim.—1. A condensing apparatus for stills, consisting of the pan C and vessel D, and receiving the vapors through perforated upright pipes *f* that are covered by the cooling caps *k*, substantially as herein shown and described, the pipes *f* passing through the pan C, in the lower part of which cooling liquid is contained, substantially as herein shown and described.

2. The above, in combination with a doubler, A, made substantially as herein shown and described.

3. The water-distributer E, consisting of a pan, from which a series of pipes *l l* projects downward, to conduct cooling liquid to the lower part of the condenser, substantially as herein shown and described.

4. The arrangement and combination with each other of the doubler A, vessel B, pan C, pipes *f*, condenser D having caps *k*, and of the distributer E with its pipes *l*, all made and operating substantially as herein shown and described.

77,217.—Clark Robinson, Fox Lake, Wis.—*Miter Box.*—April 28, 1868.—The slotted standards are pivoted to blocks made to slide on longitudinal rods and are simultaneously adjusted to form guides for the saw at any angle.

Claim.—1. The combination of standards C, cross bars B, and rod L, constructed to operate substantially as described.

2. The combination of rods N, support S, rod L,

blocks D, and rods K, constructed to operate substantially as set forth.

77,218.—THEODORE F. ROCKWELL, Yorkville, N. Y.—*Blind Slat Fastening.*—April 28, 1868; antedated April 15, 1868.—The perforated plate which is pivoted to the lower end of the slat rod slides in the socket, and is set by a pin traversing both plate and socket piece.

Claim.—The pendent plate C, attached to the slat rod B, and perforated with holes *b*, and an oblong slot *c*, in combination with the bent wire or rod F, and the socket or guide D, all constructed, arranged, and applied to the window blind, to operate substantially in the manner as and for the purpose set forth.

77,219.—SAMUEL C. RUNDLETT, Portland, Me.—*Brace for Bits.*—April 28, 1868.—A slot through the socket admits the transversely sliding latch piece which has an angular, interior edge to engage the notch in the square shank of the tool. A headed pin and spring actuate the catch when not depressed by the thumb to release the tool.

Claim.—The arrangement, in the horizontal slot *b*, of the slide *c*, having the shoulder *h*, slot *d*, edge *e*, rod *i*, spiral *k*, and adjusting thumb piece *j*, as and for the purposes set forth.

77,220.—GEORGE W. SAWIN, Nashua, N. H.—*Attaching Wheels to Axles.*—April 28, 1868.—Spring latches at the butt end of the hub take over a collar upon the axle.

Claim.—The combination of the latches E E′ with the hub A and ring H, made substantially as described and for the purpose set forth.

77,221.—PETER SHELLENBACK and JOHN AUGSPURGER, Middletown, Ohio, assignors to PETER SHELLENBACK and JAMES HUDSON.—*Rotary Steam Engine.*—April 28, 1868.—The central cylindrical hub has four radially sliding pistons, which pack against the inside of the shell. The abutment is formed by one or the other of the pivoted valves, which are brought into action by slotted arms moved by a lever on the outside. Reversing the engine is effected by bringing another valve into action.

Claim.—1. The valves *l l*, constructed, arranged, and applied in combination with the nut A and its sliding pistons *j*, in the manner and for the purpose substantially as described.

2. The combination, in a rotary steam engine, of the slotted block B and lugs *m*, curved slotted arms *n n*, levers *r s*, and their connecting mechanism, for reversing the action of the engine, in the manner and for the purpose specified.

3. The arrangement of the induction orifice D in relation to the exhaust pipe E, and the valves *l l*, and pistons *j*, in the manner and for the purpose described.

77,222.—WILLIAM M. SIMPSON, Davisburg, Mich.—*Bee House and Hive.*—April 28, 1868.—The house contains several brood and honey boxes, with provision for connection. Hinged floors give access below for examination. The front door gives access for removal. Gauze covers to the air holes admit ventilation and exclude moths.

Claim.—The construction of a bee house and hives combined, when constructed, arranged, and operating substantially as and for the purposes hereinbefore described.

77,223.—L. J. SMITH, Hamilton, Ohio, and D. S. KNIGHT, New York, N. Y.—*Car Brake and Starter.*—April 28, 1868.—When the brake is applied the spur wheel on the axle engages one side of the forked rack and draws out the spring, whose force is subsequently applied in starting the car by means of the other side of the rack.

Claim.—1. The slotted and notched or recess plate *g*, when arranged substantially as herein shown and described, for the purpose of throwing the pinion *a* in or out of gear, and also for raising and lowering the rack frame H, substantially as and for the purpose herein shown and described.

2. The plate *g*, when connected with or part of the sliding bar G, in combination with the pawl *d*, carrying a friction roller *j*, and with the clutch *b* and spring *i*, all made and operating substantially as herein shown and described.

3. The slotted sliding plate *g*, when arranged as described, in combination with the slide *r*, fixed frame E, and rack frame H, all made and operating substantially as herein shown and described.

4. The sliding rack frame H, in combination with the pinion *a*, and with the notched bar *l* and spring pawl J, all made and operating substantially as herein shown and described.

5. The device for throwing the spring pawl J off the bar *l*, consisting of the cam *m*, slotted plate *p*, and sliding bar K, having two studs *t* and *u*, all made and operating substantially as and for the purpose herein shown and described.

6. The bar K, carrying the studs *t* and *u*, when hinged to the end of the bar *g*, and when connected with the adjustable swinging bar *r*, all made and operating substantially as herein shown and described.

7. The rack frame H, when provided with the pin or stud *w*, in combination with the sliding bar M and crank *e*, all made substantially as described, and operating so as to automatically throw the clutch off the pinion *a*, when the rack frame is at either extremity of position.

8. The rack frame H, when provided with a notched bar *l*, and when fitted around the pinion *a* and axle B, in combination with the springs I, or their equivalents, all made and operating substantially as herein shown and described.

9. A combined railroad-car brake and starting apparatus, made and operating substantially as described, and connected with vertical shafts F F at the ends of the car, so as to be under complete control of the brakeman, as set forth.

77,224.—PETER J. SMITH, Philadelphia, Pa.—*Brick Machine.*—April 28, 1868.—Clay is pressed by the plunger from the hopper into the mold, which is then drawn back. During this motion the carrier strikes the inclined plane, raising the piston and compressing the brick beneath the top plate. A further motion of the carrier elevates the piston and discharges the brick above. The outer mold is then brought beneath the hopper. The bricks are swept from the plates by clearers.

Claim.—1. The reciprocating double-acting skeleton clearer J, arranged and operating substantially as set forth.

2. The combination, substantially as set forth, of a reciprocating mold, a piston, and an oscillating carrier, with a top plate A^1 and an inclined plane *a′*, whereby the bricks are compressed during the discharge movement of the mold, as set forth.

3. The combination, substantially as set forth, of an open-ended box, a reciprocating mold frame, pistons H, a hopper E, and a plunger D, with a reciprocating clearer, which sweeps off the bricks discharged by the molds.

77,225.—WILLIAM H. SMITH and ROLLIN S. EDDY, La Crosse, Wis., assignors to themselves, SETH DEAN, and HENRY MERRILL.—*Machine for Cutting Key Seats.*—April 28, 1868.—The tool is a saw which cuts on the down stroke, and is reciprocated by a rack and intermittingly-moving pinion. The length of stroke is regulated by adjustable steps on the bar which operates the clutch to change the motion. The guard turns the chips out of the machine.

Claim.—1. In combination with the slotted pin *d*, the cutting tool C, having its front edge provided with saw teeth, and made tapering longitudinally for the purpose of feeding forward in descending and cutting a key seat, substantially as described.

2. In combination with the reciprocating rack bar B, the adjustable collars *g′ g″*, or their equivalents, arranged with the shifting mechanism to operate in the machine, as described, for shortening or lengthening the movement of the cutting tool C, as set forth.

3. The guard U and spring U′, in combination with the cutting tool C, when arranged as herein described, and for the purpose set forth.

4. The combination of the pulley K and pinion L on the same sleeve, the pinion M, wheel G, and pinion I on the same sleeve wheel O and pinion N, wheel

F and pinion E, attached to same shaft *h*, rack B and clutch P, all constructed and arranged as described, for the purpose of giving a reciprocating motion to the cutting tool C, to cut key seats, as set forth.

77,226.—Daniel E. Somes, Washington, D. C.—*Apparatus for Consuming Smoke and Gas, and Increasing Draught in Boiler Furnaces.*—April 28, 1868.—The caloric current arising from a furnace is acted on by a blast current, which returns it to the furnace for more thorough combustion.

Claim.—1. The drawing or forcing, or drawing and forcing, the smoke, gases, vapors, &c., from the fire chamber of a boiler or furnace, or other heating apparatus, and into the same fire chamber again by a current or blast of air, steam, or vapor, or any or all of them, for the purpose and in the manner set forth.

2. The drawing or forcing, or drawing and forcing, the smoke and other products of combustion from the fire chamber of a steam boiler, furnace, or other heating apparatus, by means of a current or blast of air traversing one or more different channels from such products of combustion, for a given distance, and then made to impinge on said products so as to mingle with and drive or draw them through a common flue into the originating fire chamber, substantially as and for the purpose set forth.

3. The drawing or forcing, or drawing and forcing, the products of combustion from the fire chamber or flue of a puddling or other furnace, or steam boiler or other heating apparatus, through the flues of another steam boiler or other heating apparatus, by means of a current or blast of air, or steam or vapor, substantially as set forth.

4. The combination of the shell A, and the flues and flue spaces of a steam boiler, with the chamber D, and its flue openings *a a'*, and an air pump, fan blower, or equivalent device, substantially as and for the purpose set forth.

5. The chamber D, when divided by a partition plate *d d'*, and combined with a steam boiler or other heating apparatus, substantially as and for the purpose set forth.

6. The connection and arrangement of the perforated pipes F and I with the shell A and flue spaces of a steam boiler, or with the chamber D, or with both, substantially as and for the purpose set forth.

7. The combination of the air chambers O O', and pipes P Q, or their equivalents, whether on the outside of the shell of a boiler or other heating apparatus, or extending through the interior of the same, substantially in the manner and for the purpose set forth.

8. The combination of the pipes P Q, or their equivalents, with their interior steam pipes, Fig. 11, for the purpose set forth.

9. The combination of the air chambers O O', and air pipes P, or their equivalents, with the flues of a steam boiler or other heating apparatus, substantially as and for the purpose herein set forth, and shown in Fig. 13.

10. Heating air by forcing or drawing it through pipes or channels, along or around the shell, or through the interior of a steam boiler, substantially as set forth.

11. Oxygenizing gas and smoke, as and for the purpose set forth.

12. The pipes P and Q, substantially in the manner and for the purpose set forth.

13. The smoke and air tubes, substantially as shown in Fig. 12, and for the purpose set forth.

14. Generating steam, as set forth, and for the purposes described.

77,227.—Joseph Warren, Lodi, Ohio.—*Corn Sheller.*—April 28, 1868.—The cobs have a circumscribed passage to give no opportunity to jamb one against another.

Claim.—The case A, having one of its sides provided with a circular depression around the axis of the disk, in combination with the segmental discharging tube J, in the manner and for the purpose specified.

77,228.—G. A. Watkins, Proctorsville, Vt.—*Chair Seat.*—April 28, 1868; antedated April 6, 1868.—The slats are lapped transversely in the rabbet of the frame, and confined by the hoop which fits into the said rabbet.

Claim.—A chair or other seat or bottom, constructed substantially as described, of a web of splints D, secured at their ends by means of a rabbet *a*, made in and around the face of the frame A, in combination with the strips C, held to their places by a strengthening band or hoop E, essentially as specified.

77,229.—Urban A. Woodbury, Morrisville, Vt.—*Looking Glass.*—April 28, 1868.—One glass is hinged to the support, and the other is upon the end of a folding arm hinged to the first. The second glass has oscillatory adjustment, by means of a hinge and ratchet catch.

Claim.—The shaft or pin G, with its arm E and arm I, connected to glass B and to bar D in such a manner that the glass can be revolved or adjusted and held at any desirable angle to the bar D and glass A, as and for the purpose herein set forth.

77,230.—Walter Bentley Woodbury, London, Great Britain.—*Mode of Producing Designs for Paper.*—April 28, 1868.—Improvement on his American patent, February 20, 1866. A relief is first obtained in gelatine, which is mounted or laid on a plate of hard metal, and the paper to be impressed is passed through a press in contact therewith. The portion of the paper pressed against the relief parts of the design is rendered transparent. On looking at the paper by reflected light, a positive will be seen; by looking by transmitted light, a negative will be seen. A metallic intaglio may be obtained by the electrotype process.

Claim.—The peculiar method, hereinbefore described, of producing transparent designs or water marks upon paper from reliefs or intaglios obtained by the aid of photography, and also of producing, by the same means, (with the interposition of paper charged with a greasy substance,) of designs, either directly upon stone, or which may be transferred on to stone, for printing by the ordinary lithographic process.

77,231.—Walter Bentley Woodbury, London, Great Britain.—*Production of Ornamental Surfaces for Jewelry, &c.*—April 28, 1868.—Improvement on his American patent, February 20, 1866.—A metallic mold is produced by the means shown in the said patent, but produced from a transparent positive instead of a negative, and a cast is taken therefrom in white material, such as porcelain, clay, or plaster of Paris. A dark semi-transparent material is then forced into the white cast and the surface ground off level.

Claim.—The production of surfaces to be used for jewelry and other ornamental purposes by the aid of photography, substantially as hereinbefore set forth and described.

77,232.—Walter Bentley Woodbury, London, Great Britain.—*Mode of Producing Surfaces for Printing from Photographs.*—April 28, 1868.—Improvement on his patent, February 20, 1866.—The gelatine relief is obtained according to the aforesaid patent, the solution of gelatine being mixed with coloring matter so that the pictorial effect will be visible when viewed by transmitted light. Before removing the relief from the glass an additional shade or pictorial effect is added by painting upon the glass (while warm) with a solution of gelatine and coloring matter. Clouds, shadows, &c., are introduced in this manner. A metallic reverse or intaglio is taken from the relief which is printed from, (according to former patent,) in semi-transparent ink.

Claim.—1. The method hereinbefore described of improving or adding pictorial effects to the gelatine reliefs by painting thereon by hand with a colored solution of gelatine.

2. Producing such gelatine reliefs entirely by hand, as hereinbefore described.

3. Producing the metallic intaglio from the gelatine reliefs by pressure, substantially as hereinbefore described.

77,233.—Alva Worden, Ypsilanti, Mich.—*Whip Holder.*—April 28, 1868.—The two parts of the

socket are hinged together at mid-height so that the knob at the end of the handle will expand the lower part and draw in the upper part upon the whip stock.

Claim.—Making the clasping extension or extensions a part of one of the jaws of the whip socket, and substantially in the manner and for the purpose herein described.

77,234.—S. V. R. York, Antwerp, N. Y.—*Surcingle.*—April 28, 1868.—The surcingle has a number of rings for passage of running straps passing to the limbs and head.

Claim.—The combination of the series of rings, numbered 1 to 12, inclusive, with the surcingle A and B, long line or rein D, pastern straps C and F, and foot strap E, arranged and applied in the manner and for the purposes shown and described.

77,235.—S. V. R. York, Antwerp, N. Y.—*Bitting Attachment.*—April 28, 1868.—A strap passing around the neck has a ring in each end and has two elastic straps fastened to the sides of the neck strap and ending in cords which pass through a ring beneath the throat and then through the mouth in contrary directions. The rope then passes through the rings in the ends of the strap and through terret rings in the surcingle.

Claim.—The combination, with the neck strap A, provided with the ring B, of the elastic webbing *b b*, cords E E, and bearing rings C C′, arranged, applied, and operating substantially as and for the purposes set forth.

77,236.—Joseph J. Adgate, Liberty, N. Y.—*Animal Power.*—April 28, 1868.—The platform wheel is upon a vertical shaft whose bearings may be inclined so as to incline the wheel more or less. One side of this wheel rests upon a wheel on a horizontal shaft, which latter wheel supports the weight of the animal walking on the inclined platform wheel. Beneath this wheel is a pivoted brake to either end of which a wooden lever may be applied.

Claim.—1. A machine for utilizing and economizing animal power, composed of a platform wheel L, rotating in bearings in a vibrating arm J, adjustable at any required angle by the supporting attachment I, held upon the circular projection K, substantially as shown and described.

2. The rotating supporting attachment I, furnished with notches or teeth a^2, in combination with the circular projection K, and the notches a^1 on the end piece A, substantially as shown and described.

3. The device for tightening the supporting attachment I upon the circular projection K, by means of the bolt e^2, and the opposite inclined faces on the attachment I, substantially as shown and described.

4. The vibrating arm J, formed with the projection *e*, in combination with the movable bearing e^1 and the spindle M, substantially as shown and described, and for the purposes set forth.

5. The slots *e* and a^2, in combination with the bolt e^2, substantially as shown and described, and for the purposes set forth.

6. The manner of joining the end pieces A and A′ with the perch B by mortises or slots, and wedge-shaped and dovetail tenons, substantially as shown and described, and for the purposes set forth.

7. The double acting friction brake G, in combination with the wheel E, substantially as shown and described, and for the purposes set forth.

8. The crank pin O, arranged to be adjusted in a radial slot in a wheel F, and secured in place by means of nut and washers, operating substantially as and for the purpose set forth.

77,237.—George M. Allerton, New York, N. Y.—*Apparatus for Raising Sunken Vessels.*—April 28, 1868.—Flexible bags are connected to the sides of the vessel by casings whose margins are pierced with eyes to receive the spikes which are driven into the planking of the ship. They are inflated by air pipes from above to float the vessel; excess of air escapes below.

Claim.—1. A series of casings, provided with eyes around their edges, to be secured to the vessel by spikes, in combination with separate air bags introduced within said casings, and capable of inflation, as and for the purposes specified.

2. An escape air tube, extending below the air bag, substantially as and for the purposes set forth.

3. A series of air bags, connected to the supply pipe *d* by the tubes *c*, in combination with cocks *c′ d′*, as and for the purposes set forth.

77,238.—Isaiah B. Arthur, Sidonsburg, Pa.—*Combined Corn Plow, Planter, and Cultivator.*—April 28, 1868.—The draw bars are pivoted to the frame at their fore ends and the rear plow beams are connected to a rock shaft, and by turning the rock shaft these plows and the guard plates attached to their standards may be raised from the ground; the fore plow is also vertically adjustable. The seed slide has reciprocation by a bell crank connected by a rod to a short crank shaft receiving motion by gear connection with a ground wheel.

Claim.—The combination and arrangement of the plow F, plows M M, R R, beams J, K K, roller I, lever I′, guards G G, seed box C, slide *c*, lever L, shaft S, and wheel B, when the said parts are constructed, combined, and arranged so as to operate substantially as and for the purpose specified.

77,239.—Solomon S. Avis, Penn's Grove, N. J.—*Lard Press.*—April 28, 1868.—The can has a side chamber with which it communicates by a perforated partition; at the bottom of the side chamber is a discharge spout. Pressure is brought upon the material by a follower, screw, and cross head, connected by links and hooks to the bottom board.

Claim.—The screw D, cross bar E, links *h h′*, follower block G, cylinder I, chamber *m*, spout *l*, and eye plates A, all constructed, combined, and arranged substantially as shown and described and for the general purpose set forth.

77,240.—Benjamin Babbitt, New York, N. Y.—*Quartz Crusher.*—April 28, 1868.—The rotating cam straightens the toggles and brings the movable against the fixed jaws crushing the quartz; the rear end of the toggle has a bearing against slides, backed by elastic material. The crushing cylinder is held to its shaft by means explained in the second claim.

Claim.—1. The toggles C, provided with or connected to the shoes C′, in combination with the slides E, and rubber or other springs F, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The securing of the periphery or shell *u* of the roller J′ to its shaft *g*, by means of the India-rubber heads *r r*, expanded by the fixed collars *q*, loose collars *o*, and the nuts *t*, or their equivalents, all arranged substantially as and for the purpose herein set forth.

3. The eccentrics *d d*, applied or arranged in relation with the slides E of the toggles, substantially as and for the purpose specified.

77,241.—Juan S. L Babbs. New Albany, Ind., assignor to himself and J. B. Ford, same place.—*Machine for making Pegs.*—April 28, 1868.—The block is clamped to a table which admits of turning 90 degrees to allow of furrowing and splitting the block at right angles. The knives are in a head reciprocated by connection to a crank pin on the motive wheel, and are arranged upon each side of a convex-edged, splitting tool so as to operate in both directions.

Claim.—1. The splitting knife *q*, and cutting bits *p p* on the under side of the movable head K in the sliding frame F, when arranged to operate substantially as specified.

2. The arrangement of the table M upon the ways I, screw shaft *w*, ratchet wheel L, double pawls *v v*, levers R and N N, connecting strips P P, and spring T, in combination with the movable frame F, the several parts being constructed to operate substantially as set forth.

77,242.—Jerome Bacon, Medina, Wis.—*Plow Land Side.*—April 28, 1868.—The land side has an adjustable shoe which is secured by rabbet, lugs and bolts, and is removable for repair or renewal as it wears.

Claim.—1. The ears C, attached to the shoe B, by which the shoe is secured to the land side, thus re-

lieving the rear of the land side from all weight and wear, substantially as described.

2. The slots *d*, in the ears C, by which the shoe is made adjustable, substantially as and for the purpose set forth.

3. The adjustable shoe B, applied to a land side, A, in the manner described, and provided with ears C, having slots *d*, adapted to fit over bolts *e*, fixed in the land side A, substantially as and for the purpose herein set forth.

77,243.—James H. Baker, Saratoga Springs, N. Y.—*Floor Clamp.*—April 28, 1868.—The shackle slips upon the joist or scantling and is secured thereto by a pin in the rear and a point beneath the ratchet bar on the face. A pawl on the lever engages the ratchet bar, while the end of the extensible arm is driven against the edge of the board to be clamped.

Claim.—The arrangement of the pivoted arm F, and slotted extension arm F′, both having ratchet teeth, and secured together by a set screw, for forcing one board to another, or two or more boards of different widths, constructed to operate substantially as herein set forth.

77,244.—Charles L. Barritt, Richland, Mich.—*Harvester Rake.*—April 28, 1868.—The eccentric pin on the driving pulley traverses a slot in the rake bar and causes its oscillation. At the end of the effective movement the lower portion of the spring catch rod impinges against the face of the hook so as to spring back the rod, which, as it rubs past, springs behind the retaining lip in such manner that on the return movement the shaft is turned and the rake elevated.

Claim.—1. The arrangement and combination of the driving pulley P′, or equivalent gear wheel, stud pin *p*, and slotted radius bar E, with the rocking shaft F, and connected rake R, substantially as and for the purpose herein described.

2. The stationary arm hook H, in combination with the spring catch rod I, when connected and arranged relatively with the rocking shaft, slotted radius bar, and frame aforesaid, for the elevation of the rake during its return stroke, substantially in the manner as set forth.

77,245.—John Bender, Lonaconing, Md.—*Bitters.*—April 28, 1868.—For treatment of dyspepsia, &c., composed of aloes, zedoary root, serpentaria, saffron, rhubarb, white agaric, gentian, galangal root, cardamom, gum allyrrhae, confect. opii, Thuriacæ, alcohol, and water.

Claim.—A medical compound or composition, formed by combining the above-mentioned ingredients, substantially as described.

77,246.—James Blease, Richmond, Ind.—*Fore Part Irons.*—April 28, 1868; antedated April 25, 1868.—The lip is secured by a screw to the stock of the tool and fits over a flange on the latter so as to be adjustable toward or from the guard, according to the thickness of the sole.

Claim.—1. Adapting the tool *a* to the different thicknesses of the soles by means of the adjustable lips, substantially as set forth.

2. Adapting the tool *a* to the different purposes herein specified by means of the detachable lips, as shown and described.

77,247.—J. Marcus Boorman, Scarborough, N. Y.—*Hay Raker and Loader.*—April 28, 1868.—The described arrangements are for tilting the loading apparatus so as to throw it out of action; or for detaching it. The teeth are made of steel, bent to form two tines and are connected to the belt by a riveted plate having its edges turned up to form lips; the attachment is further secured by studs or rivets.

Claim.—1. So pivoting the apparatus to the vehicle that it may be tilted to bring the driving pinions *m* out of gear with the toothed rims or spur wheels *b* on the rear wheels of the vehicle, substantially as and for the purpose specified.

2. The attachment of the forks *h* to the endless belt by means of the plates *u*, furnished with lips *e″*, and the studs or rivets *f″*, substantially as and for the purpose specified.

3. The transverse rod *n* and pins *s**, in combination with the series of slats *r*, their side frames *s* and the frame A, supporting the carrier belts B, whereby the slats *r*, with their side frames, may be readily detached, substantially as and for the purpose specified.

77,248.—S. Y. Bradstreet, Monticello, Iowa.—*Safety Truck.*—April 28, 1868.—The supplementary safety truck has inclined wheels, having a horizontal tread and vertical flange when in contact with the rail. The upper sides of the wheels run in contact with horizontal brace wheels.

Claim.—1. The combination of the inclined grooved wheels C C with the horizontal bracing wheels F F, substantially as and for the purpose set forth.

2. The spring J, in combination with the sliding plate G, and fixed plate or block H, substantially as and for the purpose set forth.

3. An auxiliary truck, provided with inclined wheels C C, and bracing wheels F F, and sliding vertically in guides H H, in the manner and for the purposes indicated.

4. The combination of the plates G G′ with the wheels C C, F F, the spindles D D, having shoulders *d d*, and the nuts *a a*, substantially as and for the purpose specified.

5. The guide blocks H H, when supported by pivots M M, working in elongated bearings, in the manner and for the purposes described.

6. The rubber cushions *e e*, when used in combination with the auxiliary safety truck above described, in the manner and for the purposes specified.

77,249.—Lewis Brumbach, Reading, Pa.—*Machine for Wool Burring.*—April 28, 1868.—The burr receptacle is hinged to the frame, and is raised by the burrs as they are carried round with the wool by the toothed roller, but will fall before they are acted upon by the slatted roller, being thus in a position to catch them as they are forced from the wool by the latter.

Claim.—The receptacle G, arranged in respect to the slatted and toothed rollers of a wool burring machine, as described, and so balanced that it will be raised by a burr carried beneath it, and will fall with its edge in contact with the fleece before the slatted roller strikes the burr, all as and for the purpose described.

77,250.—Isaac Bullard, Dedham, Mass.—*Vegetable Slicer.*—April 28, 1868.—The tuber or fruit is impaled on the screw, and is sliced by the knife on the revolving disk below, the screw keeping it fed to the knife.

Claim.—The disk C with an opening F, and cutting plate *a*, in combination with the rim A and plate D, and the point E and knife-edge H, all substantially as and for the purpose shown and described.

77,251.—E. P. H. Capron, Springfield, Ohio.—*Farm Gate.*—April 28, 1868.—The gate consists of the usual horizontal and vertical bars, except that they are pinned at the intersections instead of the former being mortised into the latter. The outer end of the gate may be set up when sagged, or in case of snow, and the inclined struts engage ratchets to hold it at this adjustment.

Claim.—1. A gate, consisting of the longitudinal bars A, cross bars B, C, and D, braces E F, connecting bar *a*, and ratchets *e*, constructed and arranged to operate substantially as herein described.

2. In a gate, adjustable as described, the use of a pin *f*, for the purpose as herein set forth, and in the manner described.

77,252.—H. J. Case and F. I. Johnson, Sugar Grove, Pa.—*Washing Machine.*—April 28, 1868.—The larger roller is journaled in the sides of the box, and the smaller ones are journaled in gravitating frames, and rest upon the former. The clothes are passed between them when the lower roller is rotated.

Claim.—An improved washing machine, consisting of a box A, having mounted therein the grooved roller B, in combination with the grooved rollers C and D, mounted respectively in the arms E and F, hinged independently of each other and provided with the cross bars *c* and *d*, all constructed and arranged to operate substantially as herein described.

77,253.—Solon L. Cheyney, Wooster, Ohio.—*Drier.*—April 28, 1868.—The fruit trays are in two tiers in an inner chamber, around which circulates the caloric current from a furnace beneath. Air enters at a pipe beneath, is heated by a chamber immediately over the roof of the furnace, and thence passes into the fruit chamber. The access of air to furnace and chamber and its delivery, direct or circuitous, are controlled by dampers.

Claim.—1. In an apparatus for drying fruit, the arrangement of the furnace D, chamber *s*, drying oven A, pipe *p*, and aperture *s'*, by which the cold air is caused to traverse the whole length of the furnace, in contact with the floor of the drying oven, in order to thoroughly heat it and utilize its heat, substantially in the manner and for the purposes specified.

2. In an apparatus for the purpose specified, the flange *m* and wall *w*, in combination with the aperture *r* and damper r^1, substantially as and for the purposes set forth.

3. The non-conducting beds *t t*, when arranged along the bottom of the drying oven, and leaving the space *u* between them, for the purpose specified.

4. The regulator E, when constructed with the openings *e e*, arranged in the manner and for the purposes specified.

77,254.—George Chinnock, New York, N. Y.—*Lamp Burner.*—April 28, 1868.—The base of the chimney sits upon an annular glass plate, and a conical glass tube partially encloses the burner. The object is to direct the air to the flame, using a material which will not intercept the light.

Claim.—In kerosene and like burners, the detachable annular transparent rim or plate E, arranged in relation to the cone C, perforated disk D, and transparent shell A*, substantially as herein shown and described.

77,255.—D. Chipman and William F. Chipman, Mount Carmel, Ill.—*Machine for Planting Corn.*—April 28, 1868.—The frame is supported by a pair of rollers which follows the planting devices. Cams and ratchets on the inside face of one of the rollers operate the double system of seed slides; one at the boxes to drop the corn from the hopper, and the other nearer to the ground to plant the seed.

Claim.—1. The combination of the loose wheels *b*, provided with cams b^3, ratchet wheel b^1 and spring pawl b^2, arranged and operating substantially as and for the purpose set forth.

2. The combination of the slides *e* c^2, levers D D', and springs *d d'*, arranged and operating substantially as and for the purpose set forth.

3. The hand lever *a'*, pivoted to the swinging arm or standard *a*, and operating substantially as and for the purpose set forth.

77,256.—Jacob Clark, Clarksville, Pa.—*Water Wheel.*—April 28, 1868.—The wheel shaft has radial arms, supporting rims to which the buckets are attached above and below. The buckets are S-shaped in horizontal section, and have cup-shaped ends to receive the percussive force, and tapering ends where the water escapes into the central opening.

Claim.—1. The wheel having the shaft B, the plate B', and the two series of buckets, the latter constructed in the form described, and arranged, one above and one below the plate B', substantially as specified.

2. The buckets *e e'* having the curves *v* and *w*, in combination with the plate B', substantially as and for the purpose specified.

77,257.—James H. Cole, Adrian, Mich.—*Roofing Machine.*—April 28, 1868.—Improvement on the patent of Richardson and Cole, in respect of the supporting of the rolling instrument employed therein, by an arm which reaches to and travels upon ways overhead, so that the operator can travel alongside of the instrument and direct the same.

Claim.—1. Supporting and guiding the rolling instrument A, by means of the ways F F, substantially as and for the purpose set forth.

2. The guide J, when applied at the end of the bed G, substantially as and for the purpose described.

77,258.—Andrew Coleman, Red Bank, N. J.—*Weeding Hoe.*—April 28, 1868.—A "scuffle" or "Dutch" hoe, having connected angular pointed projections at each side, so as to raise and crumble the earth through which it passes.

Claim.—1. A weeding hoe, composed of a succession of connected corrugations, B B B, &c., formed from the same plate of sheet metal, substantially as and for the purpose shown and described.

2. The points D D D, &c., substantially as shown and described, in combination with the corrugations B B B, &c., all as and for the purpose set forth.

77,259.—Jerome B. Cox, San Francisco, Cal.—*Apparatus for Disintegrating Ores.*—April 28, 1868.—The pan is charged with the auriferous earth, and a steady stream of water is poured in. The stirrers agitate the particles against each other, causing mutual attrition. When they become sufficiently disintegrated, they pass through the slots into the pan below. The larger stones are discharged at a slide hole, when the conglomerate or "cement" has been reduced.

Claim.—Disintegrating or reducing any gold-bearing material, by means of agitation and friction with water, so as to permit of the separation of the gold from such disintegrated material, by the ordinary means of sluice-box, amalgamation, &c.

77,260.—Andrew J. Craig, Ashmore, Ill.—*Double Shovel Plow.*—April 28, 1868.—The handles and plow standards are pivoted to the beam, and the latter terminate at their rear in perforated segments, which permit the vertical adjustment of handles and standards.

Claim.—1. Adjustably attaching the plow standards D to the rear ends of the beams A, by means of the vertical cross heads *a'* formed upon the said rear ends of the said beams, substantially as herein shown and described, and for the purpose set forth.

2. Adjustably connecting the handles F to the beams A and plow standards D, by means of the uprights G, constructed and arranged substantially in the manner herein shown and described, and for the purpose set forth.

77,261.—Wellsly W. Crane, Auburn, N. Y.—*Self-Lubricating Box for Shafting.*—April 28, 1868.—The lower box is placed in a case containing oil, and has a depending tube through which the oil may be drawn up by the rotation of the shaft, the oil descending over the edge of the box to the reservoir again.

Claim.—The combination of the loose, hanging interior bearing O, slotted in its center, and provided with a depending tube, C, with the elongated receiver E, having a circumferential groove, and suitable bearings for the journals of the hanger O to rest on, the whole constructed and used substantially as specified.

77,262.—F. Davison, Richmond, Va.—*Nail Machine.*—April 28, 1868.—The depressions in the periphery of the wheel form dies into which the nail blanks are dropped and in which they are consecutively subjected to a descending die which holds them in place while the header is advanced against the protruding portion of the blank and swages it into a head. Headers advance from alternate sides according as the larger end of the blank is presented. The nail plate is fed in through a tube being automatically and intermittingly advanced by a bar, actuated by a cam and spring alternately. A descending cutter severs the blank from the plate, the box through which the cutter works being slightly oscillated before each cut so as to give obliquity to the cut, corresponding to the taper of the nail. Oblique plates remove the nails from the die and allow them to drop.

Claim.—1. The rotary wheel or die I, in combination with the plunger or die J, vibrating cutter L, and box M, all arranged to operate in the manner substantially as and for the purpose specified.

2. The feed tube Q, lined with a suitable non-conducting material, and arranged to operate in connection with the cutter by means of spring bar S and cam F, substantially in the manner as and for the purpose set forth.

3. The combination of the feed tubo R, box M, cutter L, wheel I, plunger or die J, and discharging ledges *f f*, all arranged for joint operation substantially as and for the purpose specified.

77,263.—Henry W. Eastman, Baltimore, Md.—*Toilet Attachment for Bureaus.*—April 28, 1868.—At the rear of the glass is a shelved cupboard and the glass forms a panel in the door framo which closes the cupboard. The glass is hinged below so as to be inclined vertically, and tho door frame is hinged to move horizontally.

Claim.—The toilet attachment for bureaus above described, consisting substantially of the upright cabinet B, provided with horizontal shelves *s*, the frame D swinging on side hinges. and the mirror M hinged to the frame D and provided with an adjusting rod or cord *r*, the whole operating together in the manner and for the purposes specified.

77,264.—Henry H. Elwell, South Norwalk Conn.—*Reversible Knob Latch.*—April 28, 1868.—When the hub on the spindle is moved longitudinally, its lugs are freed from the hooks of the latch stirrup, and the latter is then free to movo so that the beveled end of the latch may be withdrawn and turned 180° to suit it for a door shutting in the reverse direction. This change cannot be made after the lock is attached to the door.

Claim.—1. The hub D, whon adapted to be moved longitudinally with its axis through the lock case, to release the latch and admit of its being turned, substantially as described, for tho purpose specified.

2. In combination with the sliding hub D, the flange *i*, surrounding the hole for the passage of the hub, npon the inside of the case, whereby said hub, when operated to release the latch, will not be displaced laterally, as herein shown and described.

3. The arm *j* of the bar E, arranged as shown, and in snch relation with screw holes *k* as to cause, when the lock is screwed to the door, the arm *j* to bear against the hub D, and prevent the latter from moving longitudinally to release the slido catch, as set forth.

77,265.—John M. Evril, Centre, Pa.—*Mill Bush.*—April 28, 1868.—The inclosing box cover is beveled on the upper side around the spindle, and has a beveled collar secured to it by screws, the two bevels forming a box, the packing in which prevents the entrance of dust. The corners of the enclosing box have compartments communicating by vertical slots with the spindle, and containing fibrous material saturated with oil. Between the compartments are the four sections of the journal box which aro forced inward by the wedges behind them. The wedges ore operated by set screws.

Claim.—The box A, provided with groove J, chambers K, blocks C, wedges *e*, and bolts D, all arranged, combined, and used substantially as and for the purposes specified.

77,266.—Oliver G. Fessenden and Seth G. Fessenden, Stamford, Conn.—*Ticket Holder for Railroad Cars, &c.*—April 28, 1868.—The passenger inserts his ticket through the top of the holder frame, and turns the roller which forces tho ticket down behind the glass. The ticket can bo removed only by unlocking the door of the case.

Claim.—1. The ticket holder, made substantially as described, and its equivalents, for the purposes specified.

2. The roller E, and its equivalents, for tho purposes specified.

77,267.—William D. Field, Providence, R. I.—*Door Lock.*—April 28, 1868.—The arrangement permits the tumblers to be shifted to change the combination, without removing the bolt. The latter has grooved edges and slides in ways being moved by a plate, which is attached to, but separable from the bolt, and when in position, the plate is the means of keeping the tumblers, &c., in their places. The sleeve in which the barrel of the key fits has a projecting arm which strikes against arms projecting from the bolt, so as to move the latter after the wards have raised the tumblers.

Claim.—1. Providing the bolt B with tongued or grooved edges, substantially as set forth, and combining it with the guide plates C C, as described, so that it will remain on the lock when the inner plate of the same is removed, substantially as herein shown and described.

2. Forming the arms *h* and *i*, by means of which the bolt is moved, on a plate E, which is screwed npon the bolt, so that the tumblers are held in place by tho said plate, and can be removed when the same is taken off, substantially as herein shown and described.

3. The bolt B, plate E, oscillating and sliding tumblers D, springs *f*, and revolving tube G, having a projecting arm *l*, all arranged in combination with each other and with the key F having changeable wards, and all made and operating substantially as herein shown and described.

77,268.—Perry Finley, Memphis, Tenn.—*Clothes Pin.*—April 28, 1868.—The metallic spring is coated with rubber to prevent injury to the clothes.

Claim.—A clothes pin, constructed of sheet metal and coated with rubber or gutta percha, in the manner and for the purpose set forth.

77,269.—C. C. Foster, Odessa, Del.—*Fertilizer Attachment.*—April 28, 1868.—The fertilizer is stirred by the pin and the disks which are set upon the shaft in the box; the obliquity of the disks causes them alternately to advance and recede the fertilizer, which is taken from the throats by the polygonal rollers. The faces of the rollers are cleaned by spring scrapers.

Claim.—1. The mode of sowing phosphate, or any like manure, by means of an attachment, constructed and operated as above described, or any other substantially the same.

2. Wings W S, combined with pins P and shaft S′ H′, for the purpose and in the manner above set forth and described.

3. Rollers R M, springs S C P, reversed bearings R V, the whole combined, constructed, and operated in the manner and for the purpose abovo set forth and described.

77,270.—Samuel W. Francis, Newport, R. I.—*Railroad Car Heating and Ventilating Apparatus.*—April 28, 1868.—Air is collected by a hood in front of the locomotive, heated by passage in the vicinity of tho boiler and furnace, and conducted by pipes and coplings to the cars. By isolating the pipe from heating influences it may become the means of ventilating without heating, or the two may be combined.

Claim.—The combination, with the locomotive, of the air tube or conduit communicating with pipes opening into the cars, and a removable heat-confining jacket surrounding the said conduit, under the arrangement herein shown and described, so that the said conduit and pipes may constitute either a ventilating or a heating and ventilating apparatus, as herein shown and described.

77,271.—Charles Fricke, Mobile, Ala.—*Derrick.*—April 28, 1868.—Designed to be erected on the joists of a building to elevato materials. Tho legs are planted on the joists and received in sockets on tho beam from which the tackle is suspended. The nsual winch is employed, and a number of smaller ropes attached to a ring on the lower end of the hoisting ropes affords means for attaching to several parts of an object to be lifted.

Claim.—The arrangement of tho shoes or sockets B B on the horizontal boam A, adjustable legs C C, winding drum H, and cord N, provided with a ring and three small cords *g g g*, at one end thereof, when operated as described, and adjusted on the joists ot a new building, for the purpose of elevating the material therefor, substantially as herein set forth.

77,272.—William Gallagher, Shullsburg, Wis.—*Plow.*—April 28, 1868.—The plow beams are attached to vertical posts secured to the axle, and a plurality of holes in the posts permits adjustment for different depths of plowing. Levers pivoted on the snmmits of the posts are connected by rods to the

rear ends of the beams which are raised when the forward ends of the levers are depressed.

Claim.—1. The combination of the vertical bar E with the axle B and forward end of the plow beam F, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the levers K with the plow beams F and vertical arms or bars E, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the braces O with the axle B and plow beams F, substantially as herein shown and described, and for the purpose set forth.

77,273.—James E. Gedney, Petaluma, Cal.—*Trestle.*—April 28, 1868.—The legs have slots traversed by clamping bolts rendering them extensible, and the brace rods are adjustable to suit the said extension.

Claim.—1. The legs B, attached to the beam A by means of the plates D, bolts E, and thumb nuts F, as herein shown and described, and for the purpose set forth.

2. The combination of the beam A, extension legs C, legs B, removable plates D, having sockets *d'*, and flanges for the passage of the bolts E, the bolts I J, thumb nuts K L, and plates M N, as herein described, for the purpose specified.

3. Securing the extension legs C to the legs B by means of the bolts I and J, thumb nuts K and L, and plates M and N, as herein shown and described, and for the purpose set forth.

77,274.—James W. Gladding, Normal, Ill.—*Clothes Line Holder.*—April 28, 1868.—The line is passed over the pivoted tongue, and when the latter is raised the cord is forced between the jaws. The inner side of the tongue is the thicker, and the space between the jaws widens inward so that the tongue cannot be drawn out by strain upon the cord.

Claim.—The jaws A and the tongue D, constructed, arranged, and operating substantially as shown and described, for the purposes set forth.

77,275.—James Glanding, Philadelphia, Pa., assignor to himself, David H. Wilson, and Edward S. Lowry, same place.—*Manufacture of Packing for Steam Engines.*—April 28, 1868.—The packing, as plaited, is passed through a condensing hole, and vertically over the same is a nozzle from which flows paraffine, stearine, or either of them, mixed with soapstone, to enter the body of the packing.

Claim.—The process, herein described, of applying lubricating material to packing, that is to say, introducing the material among the fibrous strands during the plaiting of the latter together, and at the point where they are being united, substantially as specified.

77,276.—Christopher C. Gleason, Waueonda, Ill., assignor to himself and L. M. Kimball.—*Spring and Body Brace for Vehicles.*—April 28, 1868.—The brace is intended to prevent the lunging forward or backward of the body, and the consequent tipping of the springs, while the latter are yet allowed free vertical motion. The levers are connected by pairs to the bed and to the perch, and also to each other, so as to form a double toggle. The upper levers are connected by straps from their midlength to the lower part of each spring.

Claim.—The levers *a* and *b*, and straps F F, arranged as described, in combination with perch A and body E, the whole arranged and operating as and for the purpose set forth.

77,277.—J. H. Gooch, Cheraw, S. C.—*Cotton Bale Tie.*—April 28, 1868.—The plate has bars to which one end of the hoop is first attached, and after placing in position in the bale, the tongues forming the divided bar admit the entrance laterally of a fold of the hoop without reeving it through lengthways.

Claim.—The plate A, constructed with the depression *a a*, the bars *c* c^1 c^2, the tongues *m n*, and the slots B and C C', the latter slot being constructed with the recesses *e e'*, having the inclined edges *i i'*, and the whole apparatus operating substantially in the manner and for the purposes set forth.

77,278.—M. A. Goodenough, New York, N. Y.—*Feather Duster.*—April 28, 1868.—The head of the flexible central stem gives place for attachment of a bunch of feathers to make up the center, the middle feathers being shorter than those forming the outside.

Claim.—In combination with a feather duster, the elastic stem B, arranged substantially as and for the purposes herein shown and described.

77,279.—Alvah Graves, Marcellus Falls, N. Y.—*Potato Digger.*—April 28, 1868.—The fork is suspended by a chain from a bar in the tripod in the act of raising the hill of tubers.

Claim.—The suspending frame A and flexible or swinging connection *c*, in combination with the fork B, substantially as shown and for the purpose described.

77,280.—John L. Hadden, Philadelphia, Pa.—*Water Cooler.*—April 28, 1868.—The bottom of the cooler is made conical and radially corrugated to prevent injury from dropping ice.

Claim.—A sheet metal water cooler, having the bottom B of its inner cylinder A made of sheet metal, raised and corrugated substantially as described and shown, for the purpose specified.

77,281.—J. H. Hawes, Boston, and George H. Bliss, West Stockbridge, Mass.—*Machine for Cleaning Emery.*—April 28, 1868.—A serpentine rubber is rotated in a vertical cylinder, through which the impure emery is passed. The object is to finely pulverize any foreign matter contained, so that it may be subsequently removed by sifting.

Claim.—1. The combination, with the cylinder A, of the rotating rubber D, of serpentine form, substantially as specified.

2. The combination of the plate or disk E with the cylinder A and rubber D, for operation together as described.

77,282.—Jacob H. Hawes, Boston, and George H. Bliss, West Stockbridge, Mass.—*Belt Clasp.*—April 28, 1868; antedated April 25, 1868.—The edges of the belt are rebent and inserted beneath the rebent edges of the clasp. The spring slip is then inserted between the ends of the belt and the clasp, the serrated edges of the slip holding it to place.

Claim.—1. The clasp, constructed with the leaves *a* and internal lips, serving conjointly to hold the ends of the belt, substantially as herein set forth.

2. The detachable spring slip B, constructed with the toothed lips *b**, and arranged within the shell of the clasp, substantially as and for the purpose specified.

77,283.—Smith Head, Halifax, Pa.—*Shingle Machine.*—April 28, 1868.—The machine has two carriages and two sets of saws, and cuts a shingle at each forward and backward motion of either carriage. By means of an armed, central, vertical shaft the saws are shifted on both sides of the machine at once, bringing two into action and removing two out of action, the aprons retaining their relative position to the saws to which they belong. The shingles are edged on both sides at once by a pair of saws adjustable in distance, the axis of one slipping in the sleeve which forms the axis of the other.

Claim.—1. The arrangement, in a sawing machine, of the four saws C C^1 C^2 C^3, the two mandrels *a a'*, each bearing two of the four saws, and the oscillating arms L L', for the purpose of communicating a reciprocating motion to the mandrels, when used in connection with two bolt carriages D D', one on each side of the machine, and the whole being constructed and operating substantially in the manner and for the purposes specified.

2. The combination of the shaft F, the cranks G G, the pitman H H', the arms I I', moving the carriages D D', and the oscillating post or shaft K, having the lateral arms M M' and the longitudinal arms L L', all the parts being constructed, combined, and operating together substantially as and for the purposes set forth.

3. The edging apparatus, above described, consisting of the mandrel R, working in the sleeve mandrel R', and adjusted therein by the set screw *s*, the man-

drels bearing the auxiliary saws *r* and *r'*, when constructed and operated substantially as and for the purpose described.

77,284.—Frederic Hewitt, Newark, N. J.—*Pulley.*—April 28, 1868.—In order to obviate slipping the pulley onto the shafting, longitudinally of the latter, and of removing some pulleys to replace the faulty one, the pulley has a divided rim and a removable section to the hub. The tire is secured to the rim and spans the break.

Claim.—1. The pulley, constructed with the divided hub and the detachable rim, substantially as herein set forth, for the purpose specified.

2. The combination of the divided rim, the wrought-iron arms formed with connecting parts *ax*, and the divided hub, substantially as herein set forth, for the purpose specified.

77,285.—William F. Holske, New York, N. Y.—*Tubular Structure.*—April 28, 1868.—The rings have grooved edges to receive the ends of the staves of the adjoining sections, and are themselves fastened together by longitudinal bolt rods. At one point in each ring the continuity of the circle is broken and the interval is spanned by a loop which forms a bridge piece for the insertion of a wedge-shaped tightening stave to complete the cylindrical form.

Claim.—1. The rings A, formed with a groove *a* on each side, and provided with breaks *b* and ears *d'*, substantially as and for the purpose described.

2. In combination with the above, the staves B, tongued and grooved, and formed with tenons, substantially as and for the purpose set forth.

3. The combination of rings A, staves B, and tie rods C, all constructed and arranged substantially as described.

4. The rings A, when provided with loops D, substantially as and for the purpose set forth.

77,286.—Charles Hodge Hudson, Roxbury, Mass.—*Apparatus for Diffusing Liquids.*—April 28, 1868.—The air is forced from a lower chamber by the introduction of water from an elevated reservoir, and a steady blast thus furnished which draws the atomizing liquid from the vessel.

Claim.—1. In an apparatus for atomizing liquids, the use of a hydrostatic blower, substantially as described, in combination with an adjustable reservoir for supplying a head of water which will produce more or less pressure in the air vessel or blower, as may be required.

2. The combination of the cans A and B and tube D, constructed and operating substantially as described.

3. In an apparatus for applying hydrostatic pressure to produce a current of air to operate an atomizer, a regulating device, substantially as herein described, acting automatically, to adapt the apparatus to the use of an excessive head of water without affecting the strength or evenness of the air current.

4. In an apparatus for applying hydrostatic pressure to produce a current of air to operate an atomizer, a regulating stop cock in the tube leading from the air vessel to the atomizer, to vary or stop the flow of air, substantially as described.

77,287.—Edward Hunter, Philadelphia, Pa.—*Spectacles.*—April 28, 1868.—The nose piece is detachable, the shanks being adjustable in sockets in the frames. The bridge piece is thus adjustable in position, and the glasses in relative distance.

Claim.—The nose piece C, adapted to projections *b* on the frames of the spectacles, for the adjustability of the same, substantially in the manner set forth.

77,288.—Peter H. Jackson, New York, N. Y.—*Steering Apparatus.*—April 28, 1868.—The tiller-wheel shaft has a right and left handed screw which passes through nuts which are connected by arms to the gudgeons of the rudder head. The rotation of the shaft draws the nuts simultaneously toward or from the rudder, and rotates the latter on its axis.

Claim.—The right and left-handed screw shaft *c*, set in vertical sliding boxes, in combination with the arms *l* that are jointed in pairs to the nuts *m*, and extend to the gudgeons *i* of the rudder head, as and for the purposes specified.

77,289.—Abiezer Jameson, Trenton, N. J.—*Vise.*—April 28, 1868.—The lower plate is slotted and is secured to the bench. The upper plate or base piece of the vise is horizontally adjustable and is fastened in the desired position by a set bolt. The jaws slide on their base and are mutually approached by a right and left handed screw shaft.

Claim.—1. The combination of a plate, B, jaws A A', and screw F, connecting the said jaws, the whole being arranged and operating substantially as and for the purpose specified.

2. The combination of the said sliding jaws A and A', movable plate B, and lower permanent plate D, the whole being constructed and arranged for the lateral and longitudinal adjustment of the jaws, substantially as herein described.

77,290.—John C. Johnson, Louisville, Ky.—*Crystal Fountain.*—April 28, 1868; antedated April 17, 1868.—Water is supplied from an elevated reservoir to the cylinder and passes thence by pipes to points of junction with tubes which admit air. The mingled water and air are then conducted to the fountain device, where they issue in a jet.

Claim.—The crystal fountain above described, having the cylinder A, supply pipe B, pipes C D, faucets E F, valves G H, and bent pipes I K, communicating with the fountain jet, the whole apparatus being constructed, combined, and arranged substantially in the manner and for the purpose specified.

77,291.—Amasa C. Kasson, Milwaukee, Wis., assignor to himself and Nelson C. Gridley, same place.—*Tea and Coffee Pot.*—April 28, 1868.—The infusion of coffee is made in the upper chamber, being heated by the water bath below. The steam from the lower chamber rises and mingles with the contents of the upper one until the water falls below a certain level, when it rises through the central pipe and sounds the whistle.

Claim.—1. A tea or coffee pot, consisting of an upper chamber for the tea or coffee, and a lower chamber, B, for hot water, with an outer central tube, C, attached, and cover D, with tube E, whistle F, and hood I, all constructed and arranged substantially as described.

2. In combination with the hot water chamber B and central tube C, the cover D, with hood I and tube E, when constructed and arranged substantially as herein described.

3. The cover D, with the tube E and conical deflecting tube or hood I, attached substantially as described.

77,292.—I. J. Kidd, Young's Settlement, Texas.—*Cotton Scraper.*—April 28, 1868.—The machine is supported on two wheels and straddles the row. The shares are intermittingly reciprocated across the row so as to make gaps therein and leave the plants in hills. This is performed by cams on the inner faces of the wheels which actuate rods attached to the share beam, causing it to oscillate transversely and horizontally.

Claim.—The cams C C, in combination with the horizontal bars H H, beam L, and plows or scrapers P P, when constructed, arranged, and used substantially as and for the purpose specified.

77,293.—I. J. Kidd, Young's Settlement, Texas.—*Cotton Chopper.*—April 28, 1868.—The machine is supported on two wheels and has a plow to run on each side of the row. Motion is communicated from the rotary axle by bevel wheels to a revolving head having oblique cutters which chop gaps in the row of plants as the machine progresses.

Claim.—1. The knives K K, secured to the disks H H and shaft C, when constructed and operated substantially as and for the purpose specified.

2. The arrangement of the shafts or axles B and C, and their cog wheels D and E, disks H H, and knives K K, with the frame A, provided with cross bar *h*, longitudinal pieces *g g*, and the plows L L, substantially in the manner as and for the purpose specified.

77,294.—Henry F. Knapp, New York, N. Y.—*Collar Machine.*—April 28, 1868.—Improvement on

his patent, November 6, 1866. Additional longitudinal cutters are applied for securing both a straight and curved longitudinal cut in collars or other articles.

Claim.—The knives or cutters I, M, K, cutting block D, and cutter L, arranged for operation together, essentially as herein set forth.

77,295.—C. W. Theodore Krausch, Philadelphia, Pa.—*Belt Coupling.*—April 28, 1868; antedated April 21, 1868.—The claws upon the hinged jaws are placed in the lace holes and the jaws brought together by the nuts of the screw bolts passing through the jaws.

Claim.—1. An adjustable belt or band clasp, (coupling,) by means of which also the degree of tightness of a belt or band can be effected.

2. A belt clasp, combined with belt tightener, substantially in the manner as and for the purpose set forth.

77,296.—Elisha Leffingwell, Sempronius, N. Y.—*Machine for Trimming Teazle.*—April 28, 1868; antedated April 16, 1868.—The upper ends of the tubes are flaring and toothed, and around them revolve cutters which trim off the burr ends of the thorns or sword leaves of the teazles which are inserted in the tubes. The reciprocating cutters play close to the lower ends of the tubes and cut the stalks to equal lengths.

Claim.—1. The tubes J J, constructed substantially as described, and used with the pulleys K K, and their revolving blades *c e*, as and for the purpose set forth.

2. The cutter bar *o*, with its cutters *s s*, in combination with the tubes J J, as and for the purpose set forth.

77,297.—John Macy, Pine, Oregon.—*Tire Shrinker.*—April 28, 1868.—The tire is clamped in the fixed and sliding jaw, and the latter forced toward the former by a lever cam.

Claim.—The fixed bed B, provided with the fixed and adjustable clamps *a a'*, in combination with the sliding plate C, actuated by the cam lever D, and the clamps G G' fitted to the uprights E E, F F, when all said parts are constructed and arranged in the manner substantially as and for the purpose set forth.

77,298.—James W. Mahlon, Brooklyn, N. Y.—*Gas Meter.*—April 28, 1868.—Intended for withdrawing the water of condensation from the measuring or bellows portions of dry gas meters; separate escapes are provided to a water-receiving chamber below, provided with discharge valves operatable from the exterior.

Claim.—1. The combination, with the measuring or working chambers, of separate water escapes or outlets and lower receiving chamber or compartment, with valve or valves, for operation in such manner as that the several chambers making up the body of the meter may be relieved of water collecting in them without disturbance or removal of the meter, and when the valves are closed, without establishing communication between the several chambers to interfere with the operation of the meter, substantially as specified.

2. The combination with the supply chamber, to which gas is admitted from the measuring compartment, of a water escape pipe or outlet, lower water-receiving chamber and valve controlling said outlet within the latter compartment, essentially as herein set forth and whereby a single water escape may serve to relieve both the supply chamber and inlet and outlet pipes; also, whereby the meter is better protected against being tapped of gas drawn from the inlet pipe, as specified.

3. In combination with the several nozzles or outlets to the water-escape pipes, or their equivalents, from the several gas chambers that compose, or mainly so, the body of the meter, a valve or valvular device arranged to simultaneously control said outlets, essentially as described.

4. The hollow and perforated water-discharging screw or its equivalent, in combination with the valve or valvular device that controls the water nozzles or outlets to the several gas chambers, or certain of them, of the meter, substantially as specified.

5. The combination with the water-discharging screw, or its equivalent, and valve or valvular device controlling the outlets from the several chambers of the meter, of an elastic or spring-like connection interposed between said screw and valve, essentially as herein set forth.

77,299.—H. Collins Mapes, Rushville, N. Y.—*Horse Hay Fork.*—April 28, 1868.—The tines are attached to the end of a lever and are thrust into the hay in manner of a common fork. The lever is pivoted to the hoisting bail and to the clamping tine, which latter is drawn down upon the hay by depression of the lever, and is set by the pawl entering a notch in its upper side.

Claim.—The catch *g* and the clamping tine *f*, formed with notches *f'*, arranged in relation with each other, and with the bail *d*, tines *a*, and handle *b*, substantially as and for the purpose specified.

77,300.—L. J. Marcy, Newport, R. I.—*Magic Lantern.*—April 28, 1868.—The cylindrical box and chimney are double, and a current of air is induced in the space between the shells by the upward current of air through the annular space surrounding the flue space of the chimney.

Claim.—1. Forming the box or body of a magic lantern, or other lens lanterns, with a double shell, A D, and double chimney C E, substantially as shown and described, and for the purpose set forth.

2. The slider plate K, lever G, grooves *d d* and *f f*, and tube plate Q, all constructed and operating substantially as shown and described, and for the purpose set forth.

3. The double cylinder A D, caps I and G, chimneys C E, and lens J J, all constructed and operating together, substantially as shown and described, and for the purpose set forth.

4. The cylindrical form of the box or body A of a magic or signal lantern, when the diameter of the same is just sufficiently large to contain the condensing lens or bull's eye, (or a reasonable approximation thereto,) substantially as shown and described, for the purpose of rendering the said lantern more portable, in combination with a sheet metal chimney and condensing lens or bull's eye J J, all as set forth.

77,301.—Jacob Martin, Cairo, Ill.—*Steam Slide Valve.*—April 28, 1868.—The quadrangularly-shaped valve has its top and bottom removed. The valve is covered by a flat plate suspended from a piston rod whose piston is fitted to a vertical cylinder in the back of the steam chest and fits steam tight to the upper face of the valve. The exhaust steam passes into the vertical cylinder above its piston, the pipe being continued from the opposite side of the cylinder to the condenser. The steam admitted to the chest has pressure upon the under side of the piston of the vertical cylinder and upon the plate attached thereto, and the area of the piston is less than that of the plate within the open back of the valve which is there exposed to the exhaust steam.

Claim.—1. The combination of the steam chest B, exhaust pipe M, and cylinder J, substantially as herein set forth.

2. The combination of the suspended plate I, piston K, piston rod N, and spring L, substantially as shown and described.

77,302.—M. H. Matson, Horseheads, N. Y.—*Water Wheel.*—April 28, 1868.—Combined with the eccentric chutes of the curb are horizontal partitions which divide the water space into compartments. The gates are so applied that all in a series shall have simultaneous action, but that each series shall be operated separately. The wheel is suspended from the top and its lower side is held in position by a guide.

Claim.—1. The water space of the curb and wheel, each divided into compartments, 1, 2, 3, &c., by the partitions *b b*, *b' b'*, when combined with the eccentric chutes *a a*, the whole arranged and operating in the manner and for the purposes herein set forth.

2. The combination with the above of the series of gates *d*, and the arrangement of the hoop C, arms *g*.

and lugs *f*, for operating the gates, in the manner and for the purposes specified.

3. The combination of the convex bearing block *l*, bearing *n*, with upturned edges, to retain the oil, and the adjusting nut *m*, the whole so operating as to suspend the wheel, and allow its vibration from an axial line, as set forth.

4. The combination of the clamping disks *t t* and bolts *u u* with the globe-coupling S, operating in the manner and for the purpose herein set forth.

77,303.—REUBEN B. MATTHEWS, Fitchburg, Mass.—*Machine for Facing Grindstones.*—April 28, 1868.—The carriage slides on horizontal ways, carrying a bar of iron at right angles to its path of movement, the alternating movements and feeding being effected by bevel gears and a screw. The turning of the crank causes the tool to traverse from right to left across the periphery of the stone, and vice versa. The carriage is advanced by a sliding tubular shaft.

Claim.—1. Applying the carriage A, and its above-described mechanism, to the shaft *a*, in such manner as to be enabled to effect its horizontal adjustment, or angle of departure from a horizontal line, substantially as before described.

2. The combination and arrangement, with the carriage A, of the tubular screw *k*, hollow shaft *m*, and beveled gear *q*, the whole being arranged and operating as before set forth and explained.

3. In combination with the carriage A, screw *k*, shaft *m*, beveled gear *q*, and shaft *b*, the screw *v*, as supported upon the adjustable post *w*, and provided with the beveled gear *s*, in manner and operating as before set forth.

77,304.—JOHN A. MCCLELLAND, Louisville, Ky.—*Material for Dental Plates and for other Purposes.*—April 28, 1868.—To collodion is added gum copal, coloring matter, and a small quantity of phosphate of ammonia or other matter to render it uninflammable. The matter after settling may be dried and powdered, and worked into a solid material for dental plates or other things.

Claim.—1. The methods of preparing and working collodion and its compounds to form an improved material, substantially as herein described.

2. Forming dental plates of the improved material, prepared as herein described.

77,305.—GEORGE R. MCINTIRE, Houghton, Mich.—*Apparatus for Measuring Cloth.*—April 28, 1868; antedated April 16, 1868.—The cloth is passed between rollers connected with a register.

Claim.—1. The combination and arrangement of the three rollers B, B, C, with the cam *e*, hinged dog *d*, ratchet wheel *r*, dial D, index *f*, and movable frame *a*, the whole operating substantially in the manner and for the purposes indicated.

2. The cloth measuring instrument above described, consisting of the parts referred to in the first clause of this claim, in combination with the shafts M M′, screw N, guides G G, and board H, all constructed, arranged, and combined, substantially as and for the purposes specified.

77,306.—L. C. MILLER, Humphrey, N. Y.—*Spring Brace for Carriages, &c.*—April 28, 1868.—The brace is designed to be used with elliptic springs, and its duty is to hold the spring perpendicular to the plane of the wagon and protect it from being wrenched.

Claim.—An improved brace, A, for carriage and other springs, constructed substantially as herein shown and described, that is to say, consisting of a longitudinal bar or stem, a^1, having two inclined or curved arms or branches a^2 projecting from one end, and having two arms a^3 projecting from its opposite sides, as and for the purpose set forth.

77,307.—CHARLES E. MOORE, Elizabethport, N. J.—*Fluid Meter.*—April 28, 1868.—The liquid runs into the pan, and as soon as the amount overbalances the weight, the pan tips, cutting off the supply, discharging the liquid, and by means of a pawl actuates a ratchet which is connected by a train of gearing to a registering device.

Claim.—The combination of the hinged meter-pan K, arm I, weight J, cock *d*, pawl *i*, ratchet wheel *k*, and any suitable registering dials, all constructed and operated substantially as shown and described, and for the purpose set forth.

77,308.—CHARLES MUDGE, Ovid, Mich.—*Builders' and Painters' Scaffold.*—April 28, 1868.—The platform is supported on vertically suspended bars, and is adjustable thereon by means of pawls which engage notches on the bars, whose lower ends are held out from the building by struts. The platform bars are suspended from roof bars which are held in slides dogged to the roof.

Claim.—1. The slide bars M, the supports N, standard braces Z, the plates C, provided with slots E, spur hooks D, the vibrating rods and springs P, when arranged and operating in connection with hanger plates F.

2. The standards G, the platform supporters H, projections 3, pawl or clip X, operated by ropes R and Q, pulleys T, and rod K, when constructed and operating substantially as and for the purposes set forth.

3. The combination of the foregoing-named parts with the adjustable hook plates I and braces L, when arranged, constructed, and operating substantially as herein shown and described.

77,309.—H. E. MURRAY, Chester, N. Y.—*Clamp for Vehicle Seats.*—April 28, 1868.—For fastening the seats of vehicles in position on the top of the bed or box. The clamp link has a foot catch which engages beneath a cleat on the inside of the wagon bed, and the ring at its upper end is engaged by a lever to draw the catch into the holding position.

Claim.—1. The plate C, with its rack extension D, with its pawl E, the lever B, hook K, and link H, with its foot catch I, all constructed and operating together, substantially as shown and described, and for the purpose set forth.

2. The rubber spring Q, hollow head *a*, and hook K, in combination with the link H, lever B, and pawl, all substantially as and for the purpose set forth.

77,310.—JOHN O'MAHONY, Savannah, Ga.—*Dray Saddle.*—April 28, 1868.—Blocks are secured beneath the leather cover and serve to keep the pads in shape.

Claim.—In a dray saddle, the beveled blocks C C, secured to the leather covering A, in combination with the pads D and grooved bar B, said blocks C being secured to the pads at their centers, for the purpose of preventing such pads from flattening upon the back of the animal, under the weight of the dray, as herein shown and described.

77,311.—F. C. PAYNE, New York, N. Y.—*Folding Bed.*—April 28, 1868.—The bed folds together into a cubical form for transportation.

Claim.—The bed, composed of the central frame A and two end frames B, beveled at their continuous ends, and connected by the slotted hinges *c d*, in such manner that, with the mattress attached thereto, they may be brought or folded into rectangular form without outwardly-extending or excrescent parts, substantially as herein set forth.

77,312.—WILLIAM H. PECKHAM, New York, N. Y.—*Machine for Bending Rings.*—April 28, 1868.—The blank is placed between an upper and under-grooved roller, and two under rollers attached to slides are brought against the blank to bend it into a circular form.

Claim.—1. The combination of the revolving axles B C, adjustable friction rollers D D, upon the concentric bearing plates *d*, concentric guides *c*, connecting rods *e*, and gear wheels *f f*, as herein described for the purpose specified.

2. The device herein shown and described of operating the friction rollers D D, consisting of the guides *c c*, slides *d d*, rods *e e*, and wheels *f f*, all made and operating substantially as herein shown and described.

3. Adjusting the friction rollers D D around the larger roller C, and with relation to the upper adjustable roller B, by means of the curved plates *d*, operated in concentric guides around the roller C, by

the connecting rod *e* and gear wheels *f f*, as herein described.

77,313.—F. J. PERKINS, Salem, Mass.—*Button.*—April 28, 1868.—The stem of the button is circumferentially grooved and is engaged by a slotted disk which has two lips to engage a slotted locking plate, the said disk and plate being placed inside the garment.

Claim.—The disk *b*, formed with parallel lips *b'*, in combination with the plate *d*, having parallel straight sides, and each slotted, as described, for application to the circumferentially-grooved stem *a* of the button, essentially as shown and set forth.

77,314.—EDWARD L. PERRY, New York, N. Y.—*Gas Tube.*—April 28, 1868.—The paper tubing is lined with rubber, or vice versa.

Claim.—As a new article of manufacture, impervious flexible gas tubing, composed of rubber and paper tubes, substantially as and for the purpose described.

77,315.—M. PIERCE, Winona, Minn.—*Clothes Wringer.*—April 28, 1868.—The lower roller is journaled in a yoke extending over the top of the main frame, and resting by a set screw upon wooden springs.

Claim.—1. The yoke frame G H applied to the main frame A, and carrying lower roller of machine, substantially as described.

2. Extending the shaft F of the upper roller D at one side of the wringer, and the shaft E of the lower roller D at the other, so that a crank handle may be applied to one or both at the same time, substantially as described, and for the purposes specified.

3. The wooden spring J, when constructed, arranged and applied, substantially as and for the purpose described.

4. Making the upper roller D of larger diameter than the lower roller, when the shafts of both rollers are extended and in opposite directions, so that the power may be applied to the smaller roller, when it is only desired to use one crank, substantially as described and represented.

77,316.—CHARLES R. M. POHLÉ, Richmond, Va.—*Envelope.*—April 28, 1868.—The four flaps are all perforated to allow passage to a tongue whose gummed ends are folded over and attached.

Claim.—The manner I connect the different parts, and close the whole.

77,317.—ALEXANDER POPE, Jr., Dorchester, Mass.—*Preventing Horses from Dragging Weights.*—April 28, 1868.—The hitch strap is fastened to the end of a lever secured by snaps to the bit rings, and having a bar resting against the under side of the horse's jaw.

Claim.—1. The bar or lever A B, provided with a cross piece, *c*, or its equivalent, in combination with cross bar D, substantially as and for the purposes specified.

2. The swiveled bar D, provided with the fastenings *d s*, as and for the purpose set forth.

3. The attachment to a horse's bit of the lever A B and swiveled cross bar D, as and for the purpose described.

77,318.—WARREN B. POTTER, Boston, Mass.—*Check Rein Slide.*—April 28, 1868.—The slide is a metallic plate doubly slotted, and is placed upon the check rein. In use it is run up to the check hook.

Claim.—The check rein slide, constructed as described, as a new article of manufacture.

77,319.—A. PUDIGON, Charleston, S. C.—*Gathering Turpentine.*—April 28, 1868.—The spout is made in a V form, and is driven into the tree to form the bottom of the "boxing" chopped out to collect turpentine.

Claim.—The V-shaped sheet-metal gutter *b*, substantially as shown and described.

77,320.—JOSHUA PUSEY, Philadelphia, Pa.—*Toy.*—April 28, 1868.—The limber monkey is pivoted to the top of a rod and agitated by a sliding stem.

Claim.—A toy, arranged, constructed, and operating in the manner as above set forth and described.

77,321.—AMOS RANK, Salem, Ohio.—*Platform Bridge for Railroad Cars.*—April 28, 1868.—The bridge has side recesses which receive the uprights of the guard railing of the platform.

Claim.—A bridge or footing B, constructed with recesses *c c*, or their equivalent, in its side edges, and adapted to be applied between railway cars which are coupled together, substantially as described.

77,322.—GRANVIL RICH, Smithville, Mo.—*Mechanical Movement.*—April 28, 1868.—The motive levers have straps attached to the peripheries of the loosely turning wheels. A belt extends from the same point of the peripheries to pulleys which turn on a countershaft in one direction, but are connected to the said shaft by pawl and ratchet, to cause the rotation of the shaft when the pulleys are rotated by the movement of the levers. The return rotation of the pulleys when the levers are released is caused by coiled springs.

Claim—1. The combination of the lever I, rope or strap K, wheel C, rope or strap L, and wheel E, all as shown and described.

2. The combination of the wheel E, constructed with the hub *c* on one side, and having on the other side a pawl G and spring *b*, with the ratchet wheel F, all as shown and described.

3. The combination of the wheel E, constructed with the hub *c*, pawl G, and springs *b* and *d*, all as shown and described.

77,323.—GRANVIL RICH, Smithville, Mo.—*Compound for Tempering Cast Steel.*—April 28, 1868.—Composed of tallow, 3½ lbs.; beeswax, 1 lb.; sweet oil, 1½ pint; pulverized sal ammoniac, 1½ oz.; sweet spirits of niter, 1½ oz.; and cream of tartar, 1 oz. The steel is hardened by immersion in the mixture while red hot, and the temper is then drawn.

Claim.—1. The compound, as described, and for the purposes specified.

2. The process of tempering steel by the use of said compound, as described.

77,324.—CONRAD FRIEDRICH L. RISCH, Huntingburg, Ind.—*Heliometer.*—April 28, 1868.—For ascertaining the solar time in all latitudes, and for ascertaining the latitude when the apparatus is set at noon according to the date. Also, for ascertaining the date and length of day, sunrise and sunset, other conditions being established. Also, the differences of time between two places, the position of the earth's axis in relation to the level at the point of observation, &c., &c. It does not admit of a brief description.

Claim.—1. A heliometer, constructed and arranged to operate in the manner herein shown and described.

2. The arrangement of the northern and southern polar surfaces on opposite sides of the revolving cube C, substantially as herein shown and described.

3. The revolving dial plates *h*, when arranged within the stationary dial plates *d* and *c*, and when arranged within the circle on which the degrees of longitude are marked, substantially as and for the purpose herein shown and described.

4. The semi-cylindrical sun-dial D, when arranged as set forth, and when provided with a gnomon *i*, substantially as and for the purpose herein shown and described.

5. The semi-cylindrical sun-dial D, when arranged as set forth, in combination with the double polar surfaces of the revolving cube C, upon which the dials for the northern and southern hemispheres are respectively arranged, substantially as and for the purpose herein shown and described.

6. The triangular plate E, provided with a hand or pointer K, when connected with the revolving cube, and when combined with the semi-annular arc *c*, substantially as and for the purpose herein shown and described.

7. The flange around the plate E, when provided with a hole at *m* for a ray of light to fall upon the opposite arcs, substantially as and for the purpose herein shown and described.

8. The curved block *l*, when attached to the re-

volving plate E, and when combined with the arc *e*, and when graduated, substantially as and for the purpose herein shown and described.

9. The plate F, when arranged in combination with the cube C and arc *e*, all made and operating substantially as herein shown and described.

10. The arrangement of the hour lines, latitude lines, and diagonal lines on the plate F, as set forth.

11. The plate F, when arranged as set forth, and in combination with the stationary day and night divider *n* on the arc *e*, made as described.

12. The plate F, when arranged as described, in combination with the plate E and arcs *c c*, and with the cube C, all made and operating substantially as herein shown and described.

13. The plates E and F, in combination with the sun-dials on the revolving cube C, made as described.

77,325.—ABRAHAM K. SANDERS, Brooklyn, N. Y., assignor to himself and JOHN H. BURTIS, New York, N. Y.—*Heater Range.*—April 28, 1868.—Designed to supply warm air to rooms above when the range is not in use for cooking, or while cooking is in progress to direct only the waste heat to the rooms above. In the former case the air which is heated in the ovens is united with that in the surrounding casings and carried to the apartments; in the latter case only that in the surrounding chamber is so used. Dampers effect the changes in direction.

Claim.—1. The arrangement of the flues *o o* and dampers 7, at the sides of the range, in the air space *d*, in combination with the flues *g*, to the ovens *h h*, as and for the purposes specified.

2. The heating chamber *k*, provided with the plates 8 and 9, in combination with the flues *o o*, *i*, and *p*, and ovens *h h*, the parts being arranged and operating in the manner and for the purposes set forth.

77,326.—THOMAS SHAW, Philadelphia, Pa.—*Washer.*—April 28, 1868.—The washer is cut through obliquely so as to form two pawls which engage respectively the nut and the bar.

Claim.—The washer *d*, constructed as described.

77,327.—MORRILL A. SHEPARD, Bridgeport, Ill.—*Boiler upon Stove Pipes.*—April 28, 1868.—The first link of the stove pipe is made tapering and it is surrounded by an upwardly-flaring water heating vessel.

Claim.—1. The cone-shape pipe A, connected with the vessel S, as shown and described.

2. The inverted cone-shape pipe B, attached to the pipe A, for the purpose set forth, as specified and described.

77,328.—PATRICK, JOHN, and FRANCIS SLEVIN, New York, N. Y.—*Whistle.*—April 28, 1868.—The whistle is placed in the mouth with the reed next to the teeth. The reed is secured around the edges of the bow but is left free at one edge to the action of the tongue and lips.

Claim.—The combination of the bow-shaped holder and reed, substantially as and for the purpose described.

77,329.—JAMES P. SMITH, Cherry Hill, Pa.—*Excavating Vehicle.*—April 28, 1868.—An annular trough covers the rear side of the wheel, and spades are arranged to slide radially outward and entering the earth to travel around inside the trough with the earth detached by the spades and the excavator at the mouth of the trough. On arriving at the top the spades are drawn downward by the eccentric, and the earth scraped from the wheel and deposited in the wagon.

Claim.—1. The combination of the shovels D, provided with friction rolls, with the eccentric F, and wheel B, said eccentric being adjusted by means of a rod *a*, and lever H, all constructed, arranged, and operating as and for the purpose herein shown and described.

2. The hollow band C, provided with a scraper K, in combination with the wheel B, when said band is adjustable simultaneously with the eccentric F, by means of the rod *f* and lever H, all constructed and arranged as described, and for the purpose specified.

77,330.—A. M. SOUTHARD and W. J. HOBSON, Savannah, Mo.—*Stone Drilling Machine.*—April 28, 1868.—Improvement on their patent, September 3, 1867. The drills are raised successively by the cams which are set spirally on the rotary shaft. On a lower bar are a series of water cans whose contents trickle through a spout to the drill bars. When not in use or moving, a supporting plate is slipped beneath each drill bar.

Claim.—1. The arrangement of the cans V upon the slotted brace W, by the bands *z* and bolts *y*, for adjusting the same to operate with bars L L, as set forth.

2. The slotted plates *x' x'*, when constructed and used in combination with the bars L L, for the purposes described.

77,331.—THOMAS S. SPEAKMAN, Camden, N. J.—*Pipe Coupling for Railroad Car Heaters.*—April 28, 1868.—A rigid bell-mouthed tube is attached to one car, and a flexible self packing tube attached to the adjoining car slides into the former forming a coupling joint between the steam or heated air passages of the cars in the railroad train.

Claim.—1. A pipe F, having a bell mouth at one end, arranged beneath a car as described, and adapted for the reception of a flexible tube G, which communicates with a reservoir beneath another car, and slides in the pipe F, all as set forth.

2. The reservoir B, communicating with the tubes H and G, and having a recess for the reception of a coupling pin D, substantially as specified.

77,332.—H. C. STORRS, New York, N. Y.—*File Handle.*—April 28, 1868.—The shank turns in the capped ferrule and is screwed into the nut, which in turn screws into the socket.

Claim.—The internally and externally threaded nut C, in combination with the chambered handle A, for holding the shank *c* of the tool B, substantially as specified.

77,333.—AUGUSTUS THAYER, Albany, N. Y.—*Combined Screen and Shovel.*—April 28, 1868.—The bottom of the scoop is removable to expose the screen.

Claim.—1. A combined scoop and screen, provided with a removable bottom or slide, and a removable or sliding screen, arranged in the manner substantially as shown and described.

2. The flap or door C, arranged with a spring to operate in the manner substantially as and for the purpose specified.

3. The combination of the screen and removable bottom with the flap or door C, all constructed, arranged, and applied to operate in the manner substantially as and for the purpose set forth.

77,334.—R. S. TITCOMB, Gloversville N. Y.—*Folding Bedstead or Crib.*—April 28, 1868.—Improvement on his patent, December 17, 1867. The parts are hinged so as to be folded together when expanded, a bar pivoted to the central portion is brought into horizontal position and interlocks with plates on the posts.

Claim.—1. The combination of the plates F, attached to the bars D of the bed frame, with the plates E, secured to the posts A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the plates F, attached to the bars D of the bed frame, with the plates G, secured to the stationary part C of the end boards, substantially as and for the purpose specified.

77,335.—FREDERICK TRAUB, Philadelphia, Pa.—*Operating the Harness in Looms.*—April 28, 1868.—The harness is operated by an upper and lower series of levers which are actuated by cams on two shafts above and beneath the upper series of levers so that the motion is steady and positive.

Claim.—In the combination with the frame B F, the upper and lower series of levers, and the mechanism for operating the same, arranged as herein set forth and described.

77,336.—JOSHUA TUFTS, Athens, Ohio.—*Steam Pumping Engine.*—April 28, 1868.—The piston rod is tubular, and a plunger secured to the rear head of the cylinder traverses the piston and occupies the

hollow portion so as to cause the alternate injection into and ejection of water therefrom. The cavity of the rod communicates with a valve chamber in the cross head, and the said chamber communicates with the tubular plungers of the induction and eduction ports of the feed-water pump of the boiler.

Claim.—The provision, in a steam cylinder, of the hollow piston and rod F and B, communicating with the feed water of the boiler, in the described combination, with a stationary plug C, substantially as set forth.

77,337.—E. D. TYLER, Gibson, Pa.—*Felloe Dowel Pin.*—April 28, 1868.—The contacting faces of adjacent felloes are united by a tubular metallic dowel.

Claim.—A tubular metal felloe dowel pin, employed substantially as herein described.

77,338.—HENRY S. VROOMAN, Boston, Mass.—*Support for Passengers in Cars.*—April 28, 1868.—The ends of the strap are held apart by a spreader, or the strap is cut sufficiently wide at top to give it an extended bearing.

Claim.—A double-acting flexible passenger support in horse railroad cars, constructed substantially as and for the purpose herein shown and described.

77,339.—CHARLES WALKER, Chester, Vt.—*Bed Bottom.*—April 28, 1868.—The longitudinal slats are attached to spiral springs which rest removably in two cross bars near the ends. Each of the cross bars is connected at its middle to an upturned transverse spring upon whose ends it rests through medium of spiral springs.

Claim.—The spring bed bottom, constructed as described, and consisting of the transverse supports C, spring cross slats D, blocks E, springs B F, slotted slats A, and loose cross bars G, provided with pins H, all constructed, arranged, and operating substantially as and for the purposes specified.

77,340.—J. T. WHEELER, St. Charles, Ill.—*Washing Machine.*—April 28, 1868.—The stirrer has reciprocating rotation by a horizontal pinion at its top which is engaged by a vertical segment gear oscillated by a lever.

Claim.—A washing machine, consisting of the box A, lever F, gear wheel C and D, and stirrer E, provided with the spreading pin *e*, when constructed and arranged as herein described and for the purpose set forth.

77,341.—WILLIAM J. WOODSIDE, Zanesville, Ohio.—*Animal Trap.*—April 28, 1868.—The bait is upon a barbed hook inside a hole through which the animal reaches to secure the bait. The bait hook is upon the arm of a rock shaft connected to the trigger rod so that when the bait is drawn forward the trigger is withdrawn and the weight shaft makes one rotation, throwing down the portcullis and raising it again.

Claim.—1. The combination of the perforated plate D, knives L, sliding block J, connecting rod I, crank H, and shaft E, with each other, whether said shaft is operated by a weight or spring, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the bait hook N, short shaft *o*, crank P, and trigger bar Q, with each other, and with the cam M upon the shaft E, for the purpose of tripping the trap, substantially as herein shown and described.

3. The combination of the bent or hook lever R with the cam M and trigger bar Q, for the purpose of setting the trap, substantially as herein shown and described.

77,342.—DAVID YOUNG, East Topsham, Vt.—*Sugar Pan Derrick.*—April 28, 1868.—The hoisting cord is attached to a frame from whose four corners depend hooks for engagement of the rings at the corners of the pan. From the center of the frame arises a sliding upright which passes through the derrick to steady the frame.

Claim.—1. The steadying staff G and frame *a b b*, substantially as shown and described, in combination with the cord I and derrick A B D, all as and for the purpose set forth.

2. The block E, bearing the pulley *e*, and held between the arms B of the derrick, when said block is slotted for the passage of the vertical bar G, which steadies the pan as it is elevated by the cord I, as herein shown and described.

3. The arrangement of the steadying bar G, frame *a b b*, pulley *e*, slotted block E, arms B, and elevating cord I, with relation to the derrick A D, whereby a series of pans in a row is elevated in a vertical line without removing the derrick, as herein shown and described.

77,343.—ROBERT ALEXANDER, Eugene City, Oregon.—*Medical Compound.*—April 28, 1868.—For treatment of cancer, composed of 1st. Caustic potash and chloroform in form of ointment. 2d. Caustic potash, 75 grains; nitrate of silver, 25 grains; to which is added a mixture of chloroform, 75, and nitric acid, 25 parts. 3d. Decoction of poke evaporated to a salve. 4th. Powdered Indian turnip.

Claim.—The combination of the foregoing mixtures of medicines, to be used for the cure of cancer in the human system.

77,344.—WILLIAM H. ANDREWS, New Haven, Conn., assignor to BURTON MALLORY, same place.—*Attaching Door Knobs to Spindles.*—April 28. 1868.—A portion of one edge of the spindles is flatted off, making a surface for the end of the set screw to impinge against as the knob is set out or in.

Claim.—Forming upon one angle of the spindle a flat surface parallel with the axis of the spindle, combined with a set screw in the neck of the knob, so as to secure the knob to the spindle, substantially as set forth.

77,345.—DAVID M. BAILEY, Carlisle, Pa.—*Wagon Brake.*—April 28, 1868.—The rubber block is held between the clamping jaws that are drawn inward upon the block by insertion into the V-shaped mortise in the bar.

Claim.—The manner of securing rubber blocks to a bar in a wagon brake, substantially as specified.

77,346.—SELDON A. BAILEY, Woonsocket, R. I., assignor to BAILEY WASHING AND WRINGING MACHINE COMPANY, same place.—*Wringing Machine.*—April 28, 1868.—The peculiar form of the flanged teeth is for the purpose of enabling them to adapt themselves to the variation of distances between the centers of the rolls as clothes pass between the latter. The flanges keep them from engaging too deeply. The adjustment of the rods which stiffen and support the rubber covering of the rolls is to give them firmness and elasticity without endangering their breaking.

Claim.—1. Flanged teeth, with their extremities enlarged, and nearly circular in form, and with shanks diminishing toward the hub, substantially as shown and described.

2. A gear having a separate flange on each tooth, as and for the purpose set forth.

3. The collars D, constructed to admit and retain the stiffening rods of the rolls, substantially as described.

4. The stiffening rods *d*, so fitted and held in the collars so as to allow end play, substantially as and for the purpose set forth.

77,347.—ALBERT B. BEAN, New Haven, Conn. assignor to himself and W. T. SCRANTON, same place.—*Nut Machine.*—April 28, 1868.—Improvement on his patent, March 19, 1867. A spring is placed upon the face of the cam to insure the making of a perfect nut when the metal is rather small in quantity, and to give way when a surplus of metal enters the mold and thus prevent the fracture of the machinery.

Claim.—The arrangement of a spring or springs *f* upon the face of the cam, so as to yield at the point of pressure, and relieve the strain upon the machine, substantially as herein set forth.

77,348.—WILLIAM E. BEMAN, Portland, Me.—*Jib Boom.*—April 28, 1868.—The jib boom is hinged at its rear end, and held by a hinged strap to the fore end of the bowsprit so that the strap may be loosened

and the boom raised into a vertical position without disconnecting the stays.

Claim.—The jib boom *a*, when hinged to the bowsprit in the manner herein set forth, and for the purpose specified.

77,349.—Elijah W. Bigelow, Worcester, Mass.—*Spit for Roasting Meats.*—April 28, 1868.—The frame supports the dripping pan and its standards hold the spit, which has a square shape at one of its bearings so as to hold its position even though the meat be not balanced. It is slightly raised before turning it.

Claim.—1. The frame A, with standards C C′, constructed as described, so as to receive the dripping pan B, and support the spit D, for the purpose set forth.

2. The spit D, provided with the rectangular portion *h*, in combination with the slot *i*, of proper size to fit said rectangular portion, as set forth.

3. The detachable standards C C′, constructed as described, in combination with the lugs *a a*, as and for the purpose set forth.

77,350.—John W. Blake, Jefferson, Wis., assignor to himself and Amaziah T. Howes, same place.—*Sled Knee.*—April 28, 1868.—The bench and runner are connected to the upright and the inclined brace; additional plates resting upon the sole and beneath the bench.

Claim.—The metallic sled knee, consisting of the upright A, and brace or braces B, with their extensions *a*, *b*, and *x*, each made and arranged as described, and combined with plates D and E, in the manner herein shown and specified, the whole arranged and operating as and for the purposes set forth

77,351.—John M. Blessing, Jeffersonville, Ohio.—*Corn Planter.*—April 28, 1868.—The seed cavity is made through the boss, near the middle of the seed slide. The slide plays between an upper and lower pair of anti-friction rollers.

Claim.—The arrangement of a reciprocating feed bar, J, having the boss *j*, in combination with the rollers I I′ G G′, and openings *h*, as and for the purposes set forth.

77,352.—Caleb H. Bradley, Coatesville, Pa.—*Churn.*—April 28, 1868.—The air collected in the buckets is forced through the air flues and beneath the coverings to mingle with the cream.

Claim.—The construction of flues or passages of escape for the air from the buckets or chambers, with the projecting covering for the mouth of the flues, as and for the purposes herein described and set forth.

77,353.—Jarius Brown, Portland, Mich., assignor to himself and Theodore B. Hubbard, same place.—*Reel.*—April 28, 1868.—The frame is clamped to a table edge; the reel shaft may be put in vertical position to act as a swift, or placed horizontal to act as a reel. In the latter case a worm upon the shaft turns the snap mechanism.

Claim.—The combination of the adjustable sleeves H and J, arms L, bars M, braces N, bar D, having a screw thread, E, and being hinged at C with the holder A, wheel F, and spring G, all constructed and arranged substantially as and for the purposes described.

77,354.—J. C. Center, Bath, Ill.—*Adjustable Harrow.*—April 28, 1868.—The lateral bars are hinged to the central bar, and the outer bars on each side are also hinged. By adjustment of their hinging point upon the central bar, the width of the harrow is regulated.

Claim.—1. The harrow, consisting of one or two draught beams, A A′, and frame beams B B′ and C C′, hinged together as described, and arranged and operating substantially as set forth.

2. The hinges D D′ and G G′, constructed as described, in combination and connection with the parts of the harrow, substantially as herein described and specified.

77,355.—B. B. Choate, Springfield, Vt.—*Mop Wringer.*—April 28, 1868.—The bars are pivoted together, and one of them hooks over the side of the bucket. The pressure of the foot on the upper bar brings the two together, and closes the rollers against the mop.

Claim.—The bars A and B, pivoted together, and curved as represented, bar A being provided with the hooks *d d*, and the two used in combination with the rollers C and D and a mop-pail, as and for the purpose set forth.

77,356.—W. B. Coates, Philadelphia, Pa., assignor to David Lyman, Middlefield, Conn.—*Starching Apparatus.*—April 28, 1868.—The starch is inclosed in a portable case, having a soft bottom which serves as a strainer. By rubbing the porous surface over the linen the starch is uniformly distributed.

Claim.—The starching device herein described, consisting of a rigid vessel A, closing means B, and a strainer C, constructed and adapted to operate substantially in the manner and for the purpose herein specified.

77,357.—Andrew J. Cochran, Indianapolis, Ind.—*Tenoning Chisel.*—April 28, 1868.—The two chisels are connected by steady pins and a key to the stock, and are adjusted into exact parallelism by two right and left-handed set screws.

Claim.—The combination of the bits B B with the stock A C, key D, and right and left screws E, when constructed and arranged to operate substantially as described.

77,358.—Daniel C. Colby, Washington, D. C. assignor to Josiah Humphery, same place.—*Dust Pan.*—April 28, 1868.—The dust is swept up the inclined plane, falls into the box, and then the incline is brought over to form a lid.

Claim.—A dust pan, provided with the part B, so arranged as to serve for the incline on which to receive the dust, and also as cover to the box part A, for the purposes specified and set forth.

77,359.—Lewis Colwell, New York, N. Y.—*Valve for Sugar Pans.*—April 28, 1868.—The valve chest is globular, and has an opening at one side with a poppet valve. On a continuation of the valve stem is a plunger, which breaks the crust of sugar accumulated in the neck of the pan.

Claim.—1. In combination with a sugar pan, a valve, inclosed in a globular chest, arranged so as to concentrate the sugar into a solid stream as it issues from the chest and pan into the receiver.

2. The use of a poppet valve inclosed in a chest, in combination with a sugar pan, substantially as described.

3. The use of the breaker *c* on the end of the valve stem, to break the crust of the sugar, and clear the neck of the pan or nozzle of the valve chest, and allow a free exit for the sugar, substantially as described.

4. Arranging the valve stem guide *e* in the chest, substantially as described, by which it, the valve stem and breaker, can be removed out of the chest, by simply taking out the screw in the end of said valve stem guide.

77,360.—John B. Cook, Lyons, Iowa.—*Wagon Brake.*—April 28, 1868.—When the team holds back on the neck yoke, it vibrates the lever on the end of the tongue, and draws upon a rod beneath the tongue, which brings the brake into action. When the team pulls on the doubletree, a chain relieves the pressure of the brake on the wheel.

Claim.—Tongue C, yoke piece B, lever A, rod K, chains L L and O O, lever J, brakes H H, and doubletree D, all arranged and operated as and for the purpose described.

77,361.—George Crompton, Worcester, Mass.—*Loom.*—April 28, 1868.—Instead of fixing the hand lever of the shipper in place by notches in its slotted guide piece, it is held by a horizontally turning spring latch, having at its inner end a segment gear, which meshes with a rack bar, having at its outer end a fork straddling the shipper lever. When the lever is thrown out, the above mechanism causes the latch to swing back. To enable the shipping to be effected at either end of the loom, the rack bar

is connected by a rigid bar to a hand lever placed at the opposite side of the frame.

Claim.—1. In combination with the shipper lever, the swing latch *t*, arranged to hold the lever in position, substantially as set forth.

2. In combination with a swing latch for holding the shipper lever, the fork *x*, rack gear *w*, and segment gear *v*, operating together, substantially as described.

3. Combining the shipper lever latch mechanism with the hand lever *z*, at the opposite end of the loom, substantially as and for the purpose set forth.

4. The shipper fork, mounted on the rocking arm, and connected, substantially as described, with the shipper lever.

77,362.—L. J. Crow and G. Sanderson, Fredericksburg, Ohio.—*Drier.*—April 28, 1868.—The box has drawers for the fruit, and is heated by fire in the tubular furnace below.

Claim.—The metallic furnace B, when made cylindrical on its upper face, and tapering from its mouth to the smoke pipe C, and arranged under the box A, with its drawers and ventilating openings, whereby the flow of heat to the fruit is equally distributed, in the manner as specified.

77,363.—Joseph Dalton, Brooklyn, N. Y.—*Knitting Machine.*—April 28, 1868.—By the action of the jacquard cards or plates, the point slides receive a reciprocating motion toward and from the needles in addition to their tilting and traversing motion, in such a manner as to facilitate the narrowing of the knit fabric. The special details cannot be enumerated within admissible limits.

Claim.—1. The point slides C C, arranged in a tilting frame C′, and reciprocated toward and from the needles by the direct action of the jacquard plates, substantially as and for the purpose described.

2. The spiral stop A, with its ratchet gear or equivalent, operating with the thread guide and needles, as described, in combination with jacquard cards B B and point slides C C, controlled by said cards for the purpose of narrowing the goods, substantially as herein specified.

3. The ratchet cam D, in combination with the spring guide F, stationary pawl G, and pawl H, substantially as and for the purpose herein set forth.

4. The suspended reciprocating pawl H, in combination with the ratchet cam D and spiral stop A, and its ratchet wheel I, substantially as and for the purpose herein described.

5. The perpendicular slide bar J, operated by the shoe K and cam L, or their equivalents, and acting in combination with the thread guide M, and moving, by means of its pawl H, the spiral ratchet, all substantially as herein described.

6. The sliding thread guide, attached to the regular thread guide, in combination with the horizontal lever, which acts directly on the upright slide thread guide, and is operated by the upright shaft that drives the spiral ratchet gear, substantially as and for the purpose set forth.

7. The point slide traverse stay bar S, turning in contact with the point slides in the direction opposite to its forward movement, substantially as and for the purpose herein set forth.

77,364.—F. Deming, Bridgeport, Conn., assignor to John B. Atherton and Henry A. Wheeler, same place.—*Horse Hitching Device.*—April 28, 1868.—The ring or strap is held in the hook by the spring, which forms a mousing.

Claim.—In combination with the hook A, formed upon the plate B, the spring C, having one end fixed and the other bearing upon the surface of the plate and curved so that the surface of the spring bears upon the end of the hook, and so as to close the same in the manner described, and with this combined the ring D, as and for the purpose specified.

77,365.—Rufus A. Fish, Worcester, Mass.—*Fish Hook.*—April 28, 1868.—The line is secured to the hook by a loop bend near the end of the blank portion, so as to turn the hook sideways when pulled upon.

Claim.—1. The method of adjusting the line to the hook, as shown in Fig. 3.

2. Leaving the end of the wire A in such position that by pressure it will turn the point of the hook C either up or down, causing it to hook the fish either in the upper or lower jaw, thus overcoming the difficulty of the old-style hook, which often slips flatwise from the mouth of the fish without hooking, constructed substantially and for the purpose shown and described.

77,366.—Andrew Flannigain, Trappe, Md.—*Ice Breaker.*—April 28, 1868.—The finger beams being in advance rest upon the ice, and keep the saw teeth in the required position upon the upper and under surfaces of the ice. The cake is then raised by the double incline and broken, or laterally displaced so as to leave the canal open. The apparatus is attached to a frame placed in front of the bows of a steamboat.

Claim.—Projecting finger beams D D, combined with the front edge *w*, of an inclined frame A, on either side thereof, and with cutting-blades arranged at their intersection with said frame, and operating to cut the ice on the upper and lower sides thereof, all substantially as and for the purpose herein set forth.

77,367.—Ransom Fleming, Victory, N. Y.—*Double Sliding or Turning Gate.*—April 28, 1868.—The traveler grasps the cord suspended from the post, and draws open the gate which slides on rollers. After passing through, a pull upon the cord on the other side of the gate closes it. The cords run over pulleys supported by posts.

Claim.—1. In combination with said gate, and as a component part thereof, the pulleys O and T, and the pulley Q in the stand R, as above set forth.

2. The five posts, in combination with the cords W and cords A′ and B, when all are constructed in the manner used as and for the purpose specified.

77,368.—Jacob J. Fouts, Middletown, Ohio.—*Machine for Slaughtering Hogs.*—April 28, 1868.—One end of the scalding platform is adjustably hinged to the windlass frame, and the other is placed on the edge of the scalding tub. The windlass cord has a hook by which the hog is raised.

Claim.—The construction, combination, and arrangement of the frame A B, extended rails C, pulley supporter E, with the adjustable platform I and windlass H, in the manner and for the purpose described.

77,369.—Martin Gardner, Sr., Carlisle, Pa.—*Expanding Mandrel.*—April 28, 1868.—The radial gibs of an expanding mandrel are moved out or in by an interior screw shaft and inclined planes operated from the exterior of the mandrel.

Claim.—In combination with the mandrel for chucking wheels, pulleys, washers, and other articles, the arrangement of the radial "gibs" and their inclined planes, the longitudinally moving screw cylinder and its inclined planes and the screw D, all constructed and arranged as described.

77,370.—George F. Green, Kalamazoo, Mich.—*Pneumatic Tooth Burr and Drill.*—April 21, 1868.—The engine case contains two counterpart pistons which rotate together by the action of compressed air, and the spindle which forms one of their shafts is extended to receive the burr or drill that is screwed therein.

Claim.—1. The combination of a rotary engine, operated by means of compressed air, with a burr and drill, in the manner and for the purposes set forth and described.

2. The mode of attaching the burr or drill to the holder in combination with an engine, as set forth and described, in the manner and for the purpose specified.

3. The mode of attaching the burr or drill holder to the shaft of the engine, in the manner and for the purpose specified.

4. The combination of burrs or drills, rotating in one direction with an engine, as set forth and described in the manner and for the purpose specified.

77,371.—C. S. S. Griffing, Unionville, Ohio.—*Portable Fence.*—April 28, 1868.—The frame consists

of a sill, two posts, two braces, and an upper tie piece; and on a hill side the former is oblique with the posts while the braces are of unequal length.

Claim.—1. The post for a portable fence composed of the pieces A, B, C, and D, arranged in relation to one another, substantially as and for the purpose set forth.

2. The post when constructed with side braces B B of unequal length, and an inclined sill piece, A, substantially as set forth.

77,372.—Benjamin F. Hancock, Monroe, Wis., assignor to himself and Charles A. Lytle, same place.—*Animal Trap.*—April 28, 1868.—A descending part of the floor is connected to the trigger so as to cause the descent of the door when the animal steps upon it. The trap is reset by the entrance of the animal into the inner chamber.

Claim.—The door F, rod or trigger *h*, spring *m*, platform G, and rods *d* and *e*, all constructed, arranged, and operated substantially as and for the purpose described.

77,373.—Dexter D. Hardy, Cincinnati, Ohio, assignor to Henry J. Behrens, Henry C. and Edward Dart, New York, N. Y.—*Rotary Engine.*—April 28, 1868.—Each piston is a portion of an annulus, revolving in an annular space between the stationary, inner, concentric block, and the outer case. The central blocks are recessed on the approaching sides to complete the annular piston way. The pistons are attached to disks, which are upon the shafts, and turn in recesses of the head of the case.

Claim.—1. The concentric fixed hubs, recessed substantially as described, in combination with the two geared shafts, their attached pistons, and the cylinder or case, substantially as set forth.

2. The pistons attached to the facing sides of the two disks, secured to their respective shafts, and so arranged that the piston or pistons of one shaft work against the face of the disk of the other shaft, substantially as herein described.

77,374.—Silas Hewit, Seneca Falls Village, N. Y.—*Flour Packer.*—April 28, 1868.—The barrel is placed on the follower, and being raised by the cam is allowed to descend suddenly to jolt the flour together.

Claim.—The combination of the weighing receiver T, provided with its hinged bottom, the vertical shaft E, follower D, and cam G, all constructed, arranged, and operated substantially as and for the purposes herein set forth.

77,375.—David Hicks and Sidney Doty, Pontiac, assignors to themselves, Jerome B. Sweetland, Charles E. Adams, Samuel N. Bronson, and Alonzo Barbour, Oakland, Mich.—*Rafter Hook for Hoisting Apparatus.*—April 28, 1868.—The lever is fulcrumed to the lower end of the hook, and its upper end lies up the outside of the other hook bar so as to hold them firmly inward by the action of the weight suspended from the lower end of the lever.

Claim.—The combination of the hooks A and B with the lever D, the latter constructed as described, and pivoted between the plate C and lower end of the hook A, in such a manner that its outer end is extended up the side of the hook B, and made to force said hook against and penetrate the rafter as specified.

77,376.—L. B. Hoit, Cedar Falls, Iowa.—*Milking Stool and Pail Holder.*—April 28, 1868.—The milking stool has a forwardly projecting arm, which bears a circular frame into which the pail is set.

Claim.—As a new article of manufacture, a combined milking stool and pail holder, constructed substantially as described.

77,377.—W. W. Horton, Katonah, N. Y.—*Rack for Hats and Dishes.*—April 28, 1868.—The pegs on the frame, when it is laterally expanded, may receive articles of clothing. When the frame is collapsed the pegs are brought near together and into line so that they form shelves or a support for shelves.

Claim.—The combination of the feet A, standards B slotted at E, and an expansion frame, composed of divisions D jointed to each other, and having parallel rods 1 2, as specified.

77,378.—W. Storer How, Cincinnati, Ohio.—*Vial.*—April 28, 1868; antedated April 22, 1868.—The vials are intended for liquids drawn in small quantity at a time, such as scents, hair oil, or the stronger medicines.

Claim.—Providing the neck of a bottle, vial, or jar with one or more apertures *d d'*, which are so located as to be closed when the cork or stopple is completely inserted, and to be opened when the said stopple is partially withdrawn, as and for the purpose herein described and set forth.

77,379.—A. Y. Hubbell, Elmira, N. Y.—*Manufacture of Sad Irons.*—April 28, 1868.—Improvement on his patent, Oct. 1, 1867.—The top or hollow portion is cast with rivets, to which is cast the bottom part of the iron, the chamber being filled with a non-conducting substance.

Claim.—Casting the top or hollow parts with rivets, upon which is cast the lower part of the iron, the intervening space or chamber being either supplied with a filling or a vacuum, created substantially for the purpose described.

77,380.—Josiah Humphery, Washington, D. C.—*Sad Iron Holder.*—April 28, 1868.—Three slips of metal, punctured and roughened as a grater, are backed by pasteboard, which is covered by two or more thicknesses of cloth.

Claim.—The combination of the three pieces A B A, lined with pasteboard, or some other non-conductor of heat, punctured and made rough on their under surface, and riveted to a covering of cloth or other cheap material, for the purpose of holding and handling flat-irons, tailors' irons, and for use about stoves, ranges, furnaces, forges, &c., the whole being constructed substantially in the manner and for the purposes described.

77,381.—A. G. Hunter, Flint, Wales.—*Manufacture of Carbonate of Soda and Potash.*—April 28, 1868.—The sulphate of soda or potash is mixed with a solution of bicarbonate of lime, whereby sulphate of lime and alkaline bicarbonate are produced.

Claim.—The process of converting sulphate of soda or sulphate of potash into the corresponding carbonate by double decomposition with bicarbonate of lime, substantially as described herein.

77,382.—Hosea B. Hurd, Aurora, Ill., assignor to himself, John N. and Samuel Hurd, same place.—*Carriage-Pole Support.*—April 28, 1868.—Beneath the tongue is a spring bar, whose rear end rests in a socket in front of the axle, and the front bears, by a spring, against a bracket on the tongue, to keep the latter elevated.

Claim.—The combination and arrangement of the tube *b*, spring *e*, bar F, spring *d*, shoulder *h*, and lip *g*, with the axle B and pole A, in the manner herein set forth.

77,383.—George L. Jones, Chicopee, Mass.—*Bread Cutter.*—April 28, 1868.—The knife has a pin near its half, which travels in a guide groove, while the end of the blade is free to protrude beneath the bar which forms the fulcrum. The adjustable guide determines the thickness of the slices.

Claim.—1. The combination of the knife B, having its end free, with the eccentric guide C and projecting plate D, substantially as and for the purpose described.

2. In combination with the device above claimed, the reversible gauge, consisting of the piece G and pins *f*, arranged as described.

77,384.—H. A. Kephart, Fletcher, Ohio.—*Flood Gate.*—April 28, 1868.—The posts are hinged at their foundation, but remain vertical under ordinary circumstances. The gate is fastened by staples to the post, and slips up and down thereon with the changes in the depth of the water, so as to arrest passing drift. The hinged board opens under pressure, to allow passage of water.

Claim.—The hinged posts A A, in combination

with the sliding gate B *c*, and the valve C, in the manner and for the purpose set forth.

77,385.—James L. Knick, Lexington, Ill.—*Implement for Extracting Hedge Plants and Weeds.*—April 28, 1868.—The two jaws are hinged at their rear ends, and are forced apart between the hand and the jaws by a helical spring. The jaws are padded with rubber, to prevent injury to the young plants.

Claim.—1. An instrument which is adapted for the extraction of plants and weeds, consisting of handle portions *a a* and jaws *b b*, united together by a spring strap *g*, and provided with a slotted strap *d* and spring *e*, substantially as described.

2. In such an instrument, the elastic lining *g' g'* applied to the jaws *b b*, substantially as described.

77,386.—Andrew F. Lapham, New York, and Frank E. Pratt, Mott Haven, N. Y., assignors to Malcom C. Turner.—*Clothes Wringer.*—April 28, 1868.—The four compressing bars are held together by two swivel links, and have, at their forward ends, two wringing rollers, and at their rear ends two rubber balls, which act as springs and yield to pressure as the rollers are parted by passing clothes. Thumb nuts on the bolts of the swivel links adjust the pressure.

Claim.—A clothes wringer, composed of the compressing bars A B, link C, with its thumb nut *a*, springs E E, and rollers D D, all constructed, arranged, and operating in the manner and for the purposes herein specified.

77,387.—William H. Laubach, Philadelphia, Pa.—*Valve for Gas Engines.*—April 28, 1868.—The engine is driven by an explosive mixture of air, 90, and gas, 10 parts. The air has adjustable flow into the mixing chamber. The gas passes beneath a valve when the same is raised by cams upon a sleeve which has longitudinal adjustment on a prismatic shaft, from which it has motion. The cams act upon a shoulder of the vertical valve stem. The cams gradually narrow from end to end, so that the amount of gas is regulated by the position of the cam sleeve upon its motive shaft.

Claim.—The devices herein described, consisting of the sliding sleeve *m*, provided with the cams *k*, constructed as described, the lever *n*, shaft *l*, valve *d'*, and stem *d'''*, with its tooth *k'*, for regulating the flow of a combined current of gas and air, alternately with air alone, into the cylinder of a gas engine, in such a manner that the former current shall continue to flow until the closing of the induction port and the moment of the ignition of said gas, substantially as described.

77,388.—John A. and Reuben Lighthall, Brooklyn, N. Y.—*Manufacture of Glue.*—April 28, 1868.—The spissated glue is placed in a tank beneath two vertical flues. An endless belt carries a number of metallic plates projecting rectangularly from it, and is so hung that the plates become immersed in the tank and carry a coat of the same around, up one flue and down the other. In the first flue the glue is subjected to an upward blast of cold air, and in the other to an upward blast of heated air. The latter completely dries the glue and causes it to separate from the metallic plates and fall into the discharge trough.

Claim.—1. The combination of the series of plates with the belt and driving pulleys, as and for the purpose set forth.

2. In combination with the series of plates, attached to the belt, as before named, the arrangement for blowing a blast of cold air on the said plates after they have been dipped into the reservoir, for the purpose of preventing the drip from the same, so that the glue attached to the plates shall be preserved of an equal and uniform thickness.

3. In combination with the series of plates, attached to the belt, as before named, the arrangement for blowing a blast of hot air on the said plates on the descending side of the apparatus, for the double purpose of removing from the glue attached to said plates any moisture that may remain in it, and for removing the finished glue from the plates, as set forth.

77,389.—William Henry Lockwood, Brooklyn, N. Y.—*Ventilating Show Case.*—April 28, 1868.—The show case for vegetables, fish, &c., has perforated sides and bottom, and a drip drawer.

Claim.—1. The combination, in a show case, of the ventilating sides or walls A A, with the vertical partitions C C parallel to a transparent front, E, substantially as and for the purpose specified.

2. A false bottom B, and a sliding pan F, in combination with a show case with ventilating sides or walls A A and vertical partitions C C, substantially as herein described and specified.

77,390.—Austin Z. Mason, Adrian, Mich., assignor to himself and Richard B. Robbins, same place.—*Vise.*—April 28, 1868.—The moving jaw is ball-jointed to the standard so as to accommodate itself to the wedge-shaped object.

Claim.—1. The adjustable ring C, constructed with oblique faces *x y*, and a handle *h*, for turning it on its axis, to adapt it to impart any desired set to the face plate D', in the manner and for the purposes set forth.

2. In combination with the adjustable ring C, the washer plate B, and the face plate D', with its spherical bilge D, all constructed in the manner set forth and described.

77,391.—John M. May, Janesville, and Winslow M. Colton, Stoughton, Wis.—*Mop Wringer.*—April 28, 1868.—The wringer has two loose rollers and is clamped upon the bucket top by two thumb screws. The moving roller is brought in contact with the other by a treadle bail.

Claim.—The combination of the base B, and lever E, with rollers C D and thumb screws F, substantially as and for the purposes specified.

77,392. — William McKee, Neponset, Ill.—*Signal Box.*—April 28, 1868.—Intended for displaying day or night signals, by operation from a distance. The flag or lantern is contained in a tube and suspended by a cord which lowers it into a position where it is visible, or withdraws it from sight into the tube. A guide block runs on ways in the tube.

Claim.—1. The combination of a box, M, tubes C D, provided with ways H, blocks E F, with lips *e f*, cords and pulleys I I, arranged and operating as and for the purposes set forth,

2. The combination of the box M, tube C, block E, cord and pulley I, and the ventilator or draught-inducer for the lantern, arranged as described, and for the purposes specified.

3. Providing the tube C with a glass, or its equivalent O, when used in combination with the block E and lantern, in the manner and for the purposes set forth and shown.

4. The combination of the box M, tubes C D, guides H, blocks E F, with their lips *e f*, cords and pulleys I I, ventilator L, and glass O, all arranged and operating in the manner and for the purposes specified and set forth.

77,393.—Thomas McLaughlin, Millville, N. J.—*Shield for Nipples.*—April 28, 1868.—The cap may be of horn, and the nipple shield is a fine elastic perforated membrane of India-rubber.

Claim.—The shield or covering A, with the small holes B, in combination with the cap C, constructed and arranged as and for the purpose set forth.

77,394.—George Meader, Prairie Centre, Ill.—*Corn Harvester.*—April 28, 1868; antedated April 19, 1868.—The machine may be attached to the side of an ordinary wagon or may be used singly, and is intended to pick and husk the ears of corn, and deliver the same into the wagon. The stalks pass between the gatherers, the ears are severed by the knives, and the husks torn off by the spur-faced disks.

Claim.—1. The combination of gatherers J, cutters *n*, and pickers I, arranged and operating substantially as and for the purposes set forth.

2. The combination of said gathering arms J with a rock shaft, L, or its equivalent, for rendering said gatherers adjustable, substantially as described and set forth, and for the purpose of adapting the machine to corn of different heights.

3. Providing said gatherers with the partitions *m*, substantially as and for the purposes set forth.

4. Providing said gathering fingers J with the depressions *c*, in the manner specified.

5. The arrangement of the cutters *n* immediately behind the shoulders *c*, as and for the purposes set forth.

6. In combination with said gatherers J and pickers I, the adjustable husking plates or wheels M, arranged and operating substantially in the manner and for the purposes set forth.

77,395.—JOHN J. D. MEINCKE, Milwaukee, Wis.—*Forward Gear for Carriages.*—April 28, 1868.—The fore axle and body are connected by a fifth-wheel frame formed of metal and having two forwardly-extending arms to which the pole couplings are secured.

Claim.—Draught irons C C and bottom and top pieces D and E, in combination with king-bolt F, substantially as described.

77,396.—GEORGE MERCER and JOHN HINTON, St. Louis, Mo.—*Apparatus for tempering Saw Plates and Similar Articles of Steel.*—April 28, 1868.—The saw is clamped between two perforated plates which run upon a rail track leading down to the bath. The carriage is operated by cords or chains actuated by crank handles. The upper plate is hinged to the lower and is raised by a windlass.

Claim.—1. The carriage B B^1, when constructed of perforated plates, and the trussing ribs b^2 b^3, substantially as shown and described.

2. The combination and arrangement of the cap B^1, rope or chain D, clevis *d*, and pin d^1, and crab d^2, all arranged and operated as described and set forth, for the purpose of clamping and straightening the plates E.

3. The cap B^1, when combined eccentrically with the carriage B, by means of the eccentric shaft B^2, and operated by the chain or rope F, roller F′, and crank *f*, for the purpose of exposing the whole surface of the plate to the action of the tempering fluid.

4. The springs H, when arranged in combination with the bath tub A, as herein described and set forth.

5. The set screw G, when employed in connection with the tub A and carriage B B^1, as described and set forth.

77,397.—J. H. MOORE and WILLIAM JOHNSON, New Haven, Conn., assignors to HENRY HALE & CO., same place.—*Window Holder for Carriages.*—April 28, 1868.—The holder is intended for the doors of landau carriages, and is elevated to support the sash when it is raised, but is otherwise folded down upon the top of the door.

Claim.—The arrangement of the two parts D and D, hinged to and combined with the holder A, the whole constructed in the manner substantially as herein described.

77,398.—THOMAS M. MOORE, Newton, N. J.—*Car Coupling.*—April 28, 1868.—The construction of the coupling allows it to become detached by a certain deflection of the cars, as, for instance, when a car is thrown from the track. The rear of the draw head has an enlargement which catches behind projections on the front of the sliding box and becomes disengaged by extreme lateral deflection.

Claim.—The arrangement of the notched plate *d* on the rear of the head *m*, in combination with the sliding box *j*, with its projections *c c*, and the interior pivoted plate *f*, and spring *k*, all constructed and operating substantially as specified.

77,399.—F. B. MORSE, New Haven, Conn.—*Packing for Carriage Shackle.*—April 28, 1868.—Between the clip and the thill iron is an interposed block of elastic material, whose duty is to prevent rattling. It is kept in position by two flanges on the clip which embrace the protuberance on the rear of the said block.

Claim.—The packing herein described, as an article of manufacture, and consisting of block E, with the projections F and lip *f*, as set forth.

77,400.—H. WALKER NEAL, Sidney, Ohio.—*Fruit Gatherer.*—April 28, 1868.—The fruit pouch is attached to a block which slides on a guide rod and is raised by a cord which passes over several pulleys, which are so proportioned as to raise it rapidly to the hook at the upper end, when the cord is pulled.

Claim.—1. The slide D attached to the basket of the fruit-gatherer, and working up and down upon the guide E.

2. The combination of the cord *h* and multiplying pulley G, for the purpose of rapidly elevating the basket.

3. The combination of the cords *f* and *h*, basket C, and hook B, arranged and operating as described, for the purpose set forth.

77,401.—P. M. PAPIN, St. Louis, Mo.—*Quartz Stamp Mill.*—April 28, 1868.—Each sub-battery has two stamps, a round one, whose shoe is made to rotate by a pawl acting on its serrated upper surface, and a square one, working in a box having a somewhat lower level, and divided from that of the round stamp by a partition which may be raised to allow the partially crushed ore to pass beneath it. The stamps are raised by inclines on a rotary drum, which pass beneath the roller-armed pins projecting horizontally from their stems. The pulverization may be completed by the arrastras in the central part of the machine.

Claim.—1. The stamp B, its serrated shoe B^2, and the spring pawl *d*, when arranged and operated as herein described and set forth.

2. The stamping boxes E E′, when constructed with the floor of one higher than that of the other, and arranged as herein described and shown.

3. The friction brake H, when applied to the rod B or B^1, as and for the purpose set forth.

77,402.—PHINEAS PARDEE, New Haven, Conn.—*Apparatus for Discharging Bilge Water.*—April 28, 1868.—A suction is formed in the open mouth of the flexible tube which draws the water out of the vessel.

Claim.—The combination of the flexible tube B, and its open mouth C, together constituting a portable apparatus, and constructed and arranged so that the said tube will lead from the hold of the vessel out through any convenient opening, or over any convenient point above the water line to the said open month, so as to suspend the said mouth from the vessel, and so that the vessel passing through the water, or the water passing the vessel, will create a draught through the said mouth and tube, and by such draught cause the water in the hold to pass through the said tube and out at the said mouth, all as herein set forth and described.

77,403.—HUGH M. PHINNEY, Cambridgeport, Mass.—*Register.*—April 28, 1868.—The box frame is made in four plates, which are secured together at their corners and which have provision for securing the wall plates. The blades are journaled directly on the box plates. A spiral spring is inserted between an extension of the slide and the under face of the wall plate, which bears upon the slide to set the blades to any position in which they may be placed.

Claim.—1. The sectional frame *b*, made in parts connected together and to the register plate *a*, substantially as described.

2. In combination with the slide *r*, the spring *w*, inserted beneath and bearing against the plate *a* and against an extension *v*, from the slide, substantially as set forth.

77,404.—DAVID H. PRIEST, Watertown, Mass.—*Ready Solder.*—April 28, 1868.—Composed of muriatic acid, 1 pint; zinc, ½ lb.; rosin, 1-6 pint; sal ammoniac, 1-6 pint; and water, 33 per cent. The part to be soldered is moistened with the mixture (which is kept in a corked vial) and the solder wire melted in a flame and applied.

Claim.—1. The above described composition for soldering metals, prepared and compounded substantially as described, and in about the proportions specified.

2. Putting up the above claimed composition in bottles having solder wire wound around them, convenient for use and transportation, substantially as described.

77,405.—Homer Rexford, Sandy Hill, N. Y.—*Canal Lock Gate Step.*—April 28, 1868.—The gate pivot has a side lug which enters a vertical groove in the socket of the box in the bottom of the heel post, and the said lug turns in a horizontal groove in the socket.

Claim.—The construction and arrangement of the step B, with its pivot A and feather F, when combined with the metallic box C, constructed with its annular slot D, in the manner and for the purposes herein described.

77,406.—Ezra S. Robertson and Austin B. Collins, Mount Liberty, Ohio. — *Lifting Jack.* — April 28, 1868.—The lifting bar has a roller at its lower end which bears upon a curved wedge-shaped cam that runs upon another roller and is operated by a lever hinged to its end.

Claim.—The combination and arrangement of the lifting bolt B, having a groove *d*, and pulley *e*, with the standard A, lever F, curved wedge C and thumb screw E, the whole when constructed and operating in the manner and for the purpose as herein shown and described.

77,407.—Henry J. Ruggles, Poultney, Vt.—*Mowing Machine.*—April 28, 1868.—The draught chains are attached to a bar sliding beneath the tongue, and to a series of links upon the swinging frame; by adjustment on the latter the chains have more or less tendency to raise the cutter-bar from the ground, being arranged according to the weight of grass upon it.

Claim.—1. The combination and arrangement of the swinging frame E, adjusting rings *t t t*, or their equivalents, on the sides of the frame, the draught chains *s s* and sliding draught hook L, substantially as and for the purposes herein specified.

2. The suspending hook T, arranged and operating substantially as herein specified.

77,408.—William G. Schmidlin and Jeremiah W. Driscoll, New York, N. Y.—*Reflector.*—April 28, 1868.—To increase the area illuminated by the conical polygonal reflectors, concave-dome reflectors are attached to the sides of the former.

Claim.—The concave dome reflectors, introduced in the sections or sides of the conical polygonal reflector, as and for the purposes set forth.

77,409.—George H. Sellers, Phœnixville, Pa.—*Wrought Iron Roof Truss.*—April 28, 1868.—The rafter has an annular flange at top and a rounded bulged edge at bottom. The lath bars are notched into the top flange of the rafter. The skew back has two angle pieces which are bolted to the plate and to the rafter near its lower end. The struts embrace the rounded enlargement at the lower edge of the rafter and are fitted to the same to take a firm grasp with the help of rivets.

Claim.—1. A bulb-beam A, or a rafter, having a bulb *b*, below, instead of a flange, for the purpose of uniting the struts and tie-rods thereto, without deflecting them from a straight line, substantially as described.

2. Securing the purlines to the rafter, by means of notches in each at the points where they meet, and thus make a firm and simple union between them without the use of bolts, or rivets, or other fastenings, and allowing room for expansion or contraction without separating, substantially as described.

3. A skew-back, made of angle brackets *d*, bolted or riveted on each side of the web of the beam, as and for the purpose herein described and represented.

77,410.—John H. Sharp, Wortsville, N. J.—*Corn Sheller.*—April 28, 1868.—The corn is shelled from the cob by passage between the spiral series of teeth on the cylinder and the yielding bars which form a concave above it.

Claim.—The employment of a series of yielding bars C C, suspended over the inclined roller B by means of springs *d d* and rod *e*, when all are arranged as and for the purpose described.

77,411.—Joseph R. Smith, Bethel, Conn., assignor to himself and Winfield S. Shaw, Buffalo, N. Y.—*Lock Nut for Axle and Skein Boxes.*—April 28, 1868.—The nut has internal lips and the end of the axle box has external lips. The spaces between the lips in the nut correspond to the lips on the axle, and vice versa; so that the nut being applied to the axle the lips may be passed beyond each other and by a slight turn be made to interlock. A key hinged to one side of the nut drops into the recesses in the nut and box so as to prevent the rotation of the nut.

Claim.—1. The internal lip on the nut and the external lip on the axle or skein box to secure the nut on the axle or box, as set forth.

2. The combination of the key F, with the spring catch and the intervening lips of the nut and axle, as and for the purpose specified.

77,412.—Gideon and Jonas Smoker, Smithville, Ohio.—*Hand Truck and Sack Holder.*—April 28, 1868.—The truck being placed in vertical position the sliding platform is accommodated to the mouth of the bag, which is fastened upon the hooks and the springs; the device acting as a "bag holder" as well as a truck.

Claim.—The combination of the hand truck A, with sliding platform D, arranged to slide in grooves in the sides of the truck frame, said platform being provided with springs C C and rods F F, upon which are spiral springs *e e*, all arranged as and for the purpose set forth.

77,413.—Otis W. Stanford and Selden S. Scoville, Lebanon, Ohio.—*Washing Machine.*—April 28, 1868.—The box has a number of compartments, some of which have false spring bottoms formed of rollers journaled in frames. The beater mechanism is secured to the lid which is hinged to a block sliding upon the side of the box so as to bring the beaters into action in either compartment. A furnace is placed beneath those compartments having false bottoms, and the flue passes beneath the other compartments.

Claim.—1. A washing machine, consisting of the yielding bed or frame *g* I, rollers G, battens J J′, stems *j j′*, rock shaft K *k k′*, and link L, the whole being combined and operating substantially as herein described and set forth.

2. The devices J J′, *j j′*, K *k k′*, and L, when attached to the sliding lid N, and adapted to be operated in either of the chambers C, D, or E, as explained.

3. The devices P Q V *v*, for enabling the shifting of the lid N, and for securing it at any desired position, for the purpose described.

4. In combination with the sliding lid N, and its described accessories J J′, *j j′*, K *k k′*, and L, the chambers C, D, E, and F, for the object explained.

5. In a washing machine constructed substantially as above set forth, the shiftable wringer rest T U *u*, as described and set forth.

77,414.—James Sutliff, East Boston, Mass.—*Steam Generator.*—April 28, 1868.—A hollow chamber forms the fire bridge and is connected by pipes with the water and steam spaces of the boiler. It also has a feed water pipe and is traversed by tubular bolts which allow passage of the flame.

Claim.—The hollow steam bridge wall C, the sides braced by the hollow bolts *g g*, and connected to the boiler pipes *f* and *d*, constructed and arranged substantially as and for the purpose set forth.

77,415.—Noah H. Tilman and David G. Good, Areanum, Ohio.—*Table Fan and Caster Stand.*—April 28, 1868.—From the center of the caster stand rises a post, supporting a box with gearing which rotates the fly brushes.

Claim.—The arrangement of the frame E outside of the box D, and the stationary caster standard B, said frame being perforated as described, whereby the fans F F may be adjusted to operate as herein specified.

77,416.—Edwin J. Toof, Fort Madison, Iowa.—*Comb Cleaner.*—April 28, 1868; antedated April 17, 1868.—Thin, elastic, converging, metallic slips are secured in a head and are adapted to be passed between the teeth of a comb to clean the teeth.

Claim.—The arrangement of converging elastic

strips *a* with a head, A, whether said head be provided with a brush, B, or not, as and for the purposes specified.

77,417.—Newton Trowbridge, Tully, N. Y.—*Washing Machine.*—April 28, 1868.—The pounder is vertically reciprocated by attachment to a crank shaft resting on the chimb of the barrel. The face of the pounder has wedge-formed blocks and it is reciprocated by the reaction of the water and clothes against an incline on the face of the pounder.

Claim.—1. The combination of the barrel A and reciprocating pounder B, constructed with wedge-formed projections B^1 and an inclined projection, B^2, substantially as and for the purpose set forth.

2. The combination of the barrel A, the pounder B, the shank C, rod D, and crank E, spring lug E^2, pinion F, spur wheel G, and lever H, all arranged to operate substantially as set forth.

77,418.—Newton Trowbridge and Edward Richardson, Tully, N. Y.—*Roofing Cement.*—April 28, 1868.—Crude India rubber, 8 lbs.; resin, 40 lbs.; and crude petroleum, 1 gall.; are melted over a slow fire; then add resin, 120 lbs.; petroleum, 3 galls.; sulphur, ½ lb. After melting and mixing add water-lime, 1 peck; and sand, 2¾ bushels.

Claim.—The composition, compounded of the ingredients, and in the manner substantially as and for the purpose set forth.

77,419.—James S. Upton, Battle Creek, Mich.—*Grain Separator.*—April 28, 1868.—The straw and grain from the cylinder pass over a set of backwardly inclined "screens" which have a compound vertical and longitudinal vibration.

Claim.—1. The screens D D′ D″, combined with the cylinder B, and operating in the manner set forth for separating the grain from the straw, substantially as specified.

2. The vibrating spout C, in combination with a threshing cylinder, and the series of screens D D′ D″, when used substantially as and for the purpose set forth.

77,420.—Oscar A. Wagner, Davenport, Iowa.—*Artificial Slate Surface.*—April 28, 1868.—To alcohol, 98 per cent. proof, add as much gum shellac as it will dissolve. To this mixture 50, add drop black, 5, pulverized pumice stone, 25, and iron filings 20 parts. Grind in a paint mill and apply with a brush.

Claim.—A composition of matter for forming an imitation of the surface of slate, compounded from the ingredients named, substantially in the manner set forth.

77,421.—H. S. Walcott, Boston, Mass., assignor to Boston Shoe Stud and Button Company.—*Boot and Shoe Stud.*—April 28, 1868.—The studs have rounded heads with a circumferential groove beneath. The inner end of the stud is tubular and its edge is turned out forming a flange around the inner side of the hole.

Claim.—A shoe stud, formed of a solid piece of metal, and having a head and a shoulder or flange, with a groove between them of sufficient size to permit the lacing to move freely therein, and having a tubular stem, by which it can be secured to the shoe, as herein shown and described.

77,422.—Albin Warth.—Stapleton, N. Y.—*Pen Holder.*—April 28, 1868; antedated April 19, 1868.—The end of the stick is triangular and fits a similar socket in the pen or brush, and the portion grasped by the fingers is triangular or has one or more flat sides.

Claim.—A pen or brush holder, the finger part of which is made triangular to fit the space between the fingers grasping the same, and which is provided with a triangular end, that is twisted in regard to the finger part, and made to fit the V-shaped or triangular socket of the pen or brush, substantially as and for the purpose described.

77,423.—Rebecca Weaver, Washington, D. C.—*Trunk.*—April 28, 1868.—The trunk is cylindrical in form and is circumferentially ribbed. It may be made of sheet metal or other material, and contains cylindrical and segmental receptacles sliding out at the ends. The heads are locked in by a series of radial bolts.

Claim.—1. A rolling trunk, constructed as herein described, as and for the purposes specified.

2. The construction of the tills B B, having rims *d d*, with hinged or other props *f f*, so that they may be set up or collapsed at pleasure.

3. The jack-up cleats C, in combination with the tills B and the cylindrical or rolling trunk A, substantially as and for the purposes herein set forth.

4. The manner of constructing the cover or lid D and cap E, for protecting the lock, and securing the trunk water tight, substantially as herein set forth.

5. The manner of constructing the folding cover or lid K K with the hinged bolts and overlapping cap, substantially as and for the purposes herein set forth.

6. Placing drawers H within the cylinder A, to be drawn out at the end, thus giving double security to the contents when closed, as herein described.

77,424.—William N. Weeden, Boston, Mass.—*Tag Fastening.*—April 28, 1868.—Improvement on the patent of E. A. Locke, May 24, 1864. The anchor is bent to give it strength and its sides are carved around the stem and secured therein by clinched wire or nuts.

Claim.—The improved anchor, as made with the hook *e*, the encompassing fingers *d d*, and the angularly-formed barb *f*.

77,425.—George M. Wells, Chicago, Ill., assignor to Moses D. Wells, same place.—*Last Holder or Jack.*—April 28, 1868.—The shank of the last is a frustum of a pyramid and rests in the socket of the ball upon which the carrier is cast. The ball turns in the carrier which has recesses to receive one side of the shank when in various inclined positions. When vertical the end of the shank enters a recess in the bottom of the carrier.

Claim.—1. The rotary block or ball A, as constructed, with a shank recess socket *d*, and combined with a carrier B, formed to receive such ball, as set forth.

2. The carrier B, as cast with an opening through its bottom, and in one piece, on the rotary block or ball, provided with a shank socket, as set forth.

3. The carrier B, as cast in one piece, upon the rotary block or ball, and with an opening through its bottom, and a fastening flange projecting from its sides, all as specified.

77,426.—Ralph C. Whitehouse, Boothbay, Me.—*Clevis.*—April 28, 1868.—The end of the tongue has a drop block which engages the yoke ring when the cattle are drawing. The block is forced downward by a spiral spring, but may be raised to uncouple the ring.

Claim.—The combination of the clevis box *a*, having its pivoted clevis *b*, hold-back *e*, either with or without the helix *f*, and to be attached as and for the purposes set forth.

77,427.—Edward P. Whitney, Stamford, Conn.—*Instrument for Drawing Nails.*—April 28, 1868.—The heel of the claw is hinged to a block which retains its level position on the bearing surface when in use and is returned to its normal position by a spring.

Claim.—1. The combination of the claw-head A and shoe B, constructed and operated substantially as and for the purpose herein specified.

2. A spring, C, in combination with the claw-head A and shoe B, substantially as and for the purpose specified.

77,428.—A. W. Wilcox, New Haven, Conn.—*Bellows for Reed Musical Instruments.*—April 28, 1868.—The air is exhausted from the wind chest, and the air enters through the reeds. A valve chamber is placed within the reservoir and the valves are placed in the vertical side thereof so as to close lightly by their own weight.

Claim.—1. The arrangement of the valve chamber D within the reservoir B, by the construction of the wall E therein, with the openings *e* and valves *d* thereon, substantially in the manner and for the purpose specified.

2. The construction of a recess in the floor G of

the exhaust, beneath the openings *f*, substantially in the manner and for the purpose described.

77,429.—GEORGE D. WILCOX, Providence, R. I.—*Mucilage Brush.*—April 28, 1868.—The mucilage is applied with a curved spatula of gutta-percha.

Claim.—The improved instrument for spreading mucilage or adhesive compositions, substantially as herein described.

77,430.—JOHN F. ZACHARIAS, Leesburg, Va.—*Machine for Attaching Labels to Newspapers, &c.*—April 28, 1868; antedated April 11, 1868.—Improvement on his patent, Aug. 13, 1867. The papers are placed in the hopper and fall one at a time into the cavities of the endless carrier. They are carried beneath the label-attaching device by which labels are cut off and attached to the papers.

Claim.—1. The combination of the sliding gate L and the scissors M M, of an automatic labeling machine, with the eccentric J, the transmitting devices P and T, giving proper periods of rest to the carrying bands C′ C′, all arranged and combined substantially as set forth.

2. The slotted connecting rod P, having a compound reciprocating and oscillating motion upon the fulcrum pin P″ for the purpose of transmitting a rotary motion from one crank to another, in combination with the other devices of the machine, substantially as set forth.

3. The combination with the said devices, or their equivalents, for transmitting rotary motion, of the auxiliary slot V in the connecting rod T, for permitting a rest for the carrying bands C′ C′, at every revolution of the roller B, as and for the purpose set forth.

77,431.—CHARLES H. ELLIOTT, York, Pa.—*Churn.*—April 28, 1868.—The dasher has a vertical and rotary reciprocation, the former induced by the motion of the gate to which it is attached and which is driven by cranks. The latter, or reciprocal, rotary motion is induced by its spirally grooved shank traversing against projections in the frame above the churn. A perforated disk dasher and sleeved dashers on the radial arms agitate the cream.

Claim.—1. Communicating a vertical reciprocating motion to the dash rod N, at the same time giving to this rod right and left rotary motions, by means of a vertically moving sash, C, a spirally grooved portion *f*, and fixed but adjustable teeth *e e*, arranged and applied within a frame, and driven from a shaft, E, substantially as described.

2. The movable head-piece D′, arranged over the churn vessel, and provided with adjustable toothed plates J J, in combination with sash C and a spirally grooved portion, *f*, on the dash rod, substantially as described.

3. The churn vessel K′, seated into a fixed base ring, L, in combination with the movable head piece D′, and the means, substantially as described, for operating the dash rod.

4. The perforated dasher P, and dash rod N, provided with perforated or imperforated radial wings, *g* or *h*, constructed and applied substantially as described.

5. The rotary wings *j*, applied to rods *i*, projecting radially from the dash rod, substantially as described.

77,432.—OBADIAH MARLAND, Boston, Mass.—*Construction of Safes.*—April 28, 1868.—The alternate steel and iron plates are fitted and welded together throughout their adjacent surfaces. Their attaching bolts are made of concentric tubes of iron and steel alternately, and are spread after insertion so as to resist withdrawal. The miter joints at the safe corners are guarded by a peculiar presentation of the steel.

Claim.—1. A safe or bank vault, the boundaries of which are made up of, or are protected by, entire compound plates, each of which is constituted of plate layers of iron and steel welded together, the steel layer or layers of each laminated plate being hardened, substantially as shown and described.

2. The formation of the joints at the corners of the safe and at the edges of the door, so that the bottom of each section of joint is covered by steel, substantially as shown and described.

3. The bolts *k*, made of alternate tubes of iron and steel, drawn and welded together, substantially as set forth.

4. Inserting the bolts *m* into holes prepared, substantially as described, for their reception, and then changing the form of the bolts by pressure or percussion, so that thereby, and with the conjoined action of a spreader, *p*, the bolts *m* will hold in their sockets, substantially as described.

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